Key West Pipeline Company

Facility Response Plan

&

Spill Prevention, Control, and Countermeasures (SPCC) Plan

December 2010

KEY WEST PIPELINE COMPANY

FACILITY RESPONSE PLAN

AND

SPILL PREVENTION, CONTROL, AND COUNTERMEASURE (SPCC) PLAN

In Compliance with:

USEPA Facility Response Plan and Spill Prevention Control and Countermeasure (SPCC) Plan Regulations in 40 CFR 112,

U.S. Coast Guard Facility Response Plan Regulations under 33 CFR 154, and Department of Transportation Facility Response Plan Regulations under 49 CFR 194

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INTRODUCTION

Key West Pipeline Company (KWPC) has developed a combined Facility Response Plan (FRP) and Spill Prevention, Control, and Countermeasures (SPCC) Plan for the KWPC facility located at the Trumbo Point Tank Farm, Trumbo Point Naval Annex, Naval Air Station Key West, Key West, Florida. This combined FRP and SPCC Plan (Combined Plan) has been prepared in accordance with the requirements of United States Environmental Protection Agency's (USEPA's) regulations set forth in 40 CFR 112, United States Coast Guard's (USCG's) regulations set forth in 33 CFR 154, United States Department of Transportation's (DOT's) regulations set forth in 49 CFR 194, and the Oil Pollution Act of 1990 (OPA 90). The Combined Plan covers the prevention practices and response measures that have been established to prevent discharges and to respond to any oil spill incident that may occur at the KWPC facility. Site-specific information addressing components of the SPCC portion of the Combined Plan are provided in this section and in Section IX of the Combined Plan.

The purpose of the FRP within the Combined Plan is to:

- Provide guidance and information to the personnel that would be called upon to respond to oil spill incidents that may occur at the KWPC facility.
- Provide a description of the KWPC facility and associated pipelines, and local environmental conditions that may influence the movement of spilled oil and/or the efficacy of response operations.
- Provide members of the KWPC facility's Onsite Response Team (ORT) & Spill Management Team (SMT) with information on KWPC's Emergency Response Organization.
- Provide members of the KWPC facility's ORT & SMT with information on their roles and responsibilities.
- Detail internal and external notification procedures that would be followed during emergency response operations.
- Provide members of the KWPC facility's ORT & SMT with information that would be needed to organize and carry out oil spill response operations.
- Provide information on the local resources that would be available to respond to Level I (small), Level II (medium), or Level III (worst case) incidents.

- Enhance employee knowledge and understanding of the safety and health risks associated with an oil spill.
- Describe the training that members of the ORT & SMT would receive to ensure they are prepared to carry out their responsibilities during an oil spill incident.

The purpose of the SPCC Plan within the Combined Plan is to:

- Describe existing prevention measures designed to contain or prevent released oil from the KWPC facility from reaching surface waters.
- Provide a physical description of the KWPC facility.
- Describe the KWPC facility's oil storage provisions, potential to discharge, secondary containment system, and drainage system.
- Describe tank truck unloading/transfer procedures.
- Detail the KWPC facility's inspection procedures.
- Discuss KWPC's discharge prevention and response training program to ensure KWPC personnel are prepared to carry out their responsibilities during an oil spill incident.
- Describe site security procedures.

This Combined Plan has been validated to be consistent with the National Contingency Plan, the USCG Sector Key West Florida Keys Area Contingency Plan and the USEPA Region 4 Contingency Plan.

RESPONSE PLAN COVER SHEET &
GENERAL FACILITY INFORMATION SUMMARY FORM

Facility Name:	Key West Pipeline Company
Address:	Building D-19 Trumbo Point Naval Annex, Naval Air Station Key West P. O. Box 2276
City:	Key West
County:	Monroe
State:	Florida
Zip Code:	33040
Telephone Number:	(305) 294-4812
Facsimile Number:	(305) 294-0844
(b) (7)(F)	[redacted]
Facility Owner & Operator:	Key West Pipeline Company (Owner) Pipeline & Terminal Management Corp. (Operator) Mark Rauch, President, Pipeline & Terminal Management Corp. P.O. Box 270415 Houston, Texas 77277-0415
Telephone Numbers: (Owner & Operator)	(713) 627-1700 Business hours (713) 829-0065 Mobile (Mark Rauch) (b) (6) [redacted]
Qualified Individual:	Daniel Silvestro, Terminal Manager (305) 294-4812 Office (305) 522-9826 Mobile (b) (6) [redacted]
Qualified Individual: (Alternate)	David Gonzalez (305) 294-4812 Office (305) 522-0252 Mobile
Qualified Individual: (Alternate)	David Hahn (305) 294-4812 Office (305) 522-8009 Mobile
Qualified Individual: (Alternate)	C.J. Behrans (305) 294-4812 Office (305) 522-0421 Mobile
Date of Oil Storage Start-up:	1964

Current Operation:	The Key West Pipeline Company (KWPC) operates a terminal, bulk fuel storage and pipeline facility at United States Coast Guard (USCG), Sector Key West and Trumbo Point Naval Annex, Naval Air Station Key West (KWNAS), in Key West, Florida. The KWPC facility receives JP-5 jet fuel from tankers that moor at Pier D-2, located at USCG Sector Key West. The fuel is transferred via a 12-inch pipeline to one of three aboveground storage tanks located at Trumbo Point Tank Farm, Trumbo Point Naval Annex, where the product is stored for future transshipment via a 4-inch pipeline to a bulk fuel storage facility (not owned by KWPC) located at Naval Air Station Key West,(KWNAS) on Boca Chica Key. The KWPC facility also has a tank truck loading/unloading rack should it be necessary to transfer fuel by truck; the KWPC facility also transfers fuel to Coast Guard and United States Naval vessels on Pier D-2 when requested.
Pipeline Response Zone:	Key West to Boca Chica Key, Florida

(b) (7)(F) [redacted]

KWPC owns and operates a 4-inch JP-5 pipeline from the Trumbo Point Tank Farm to KWNAS on Boca Chica Key. The pipeline runs underwater in an easterly direction, north of Key West. The pipeline enters the water at Fleming Channel, just east of Fleming Key Bridge, leaves the water on the east side of Cow Key Cannel, and crosses Stock Island underground. The pipeline re-enters the water at Boca Chica Channel, just west of Boca Chica Bridge, leaves the water just east of Boca Chica Bridge, and then runs underground on Boca Chica to the KWNAS tank farm. A discharge from the pipeline system could potentially reach the boundaries of the Key West National Wildlife Refuge and the Great White Heron National Wildlife Refuge. In addition, there are reef areas along the Florida Keys, which have National Marine Sanctuary status. These areas are within Monroe County, Florida.

Line Sections within Response Zone:	The total length of the pipeline is 7.1 miles and the complete linear distance of the pipeline falls within this response zone.
Wellhead Protection Area:	Monroe County has confirmed that the KWPC facility is not in or near a wellhead protection area
SIC Code:	5171
Dun and Bradstreet Number:	00.895-7172
Date(s) and Type(s) of Substantial Expansion(s):	With the exception of an approximate 1-mile extension of the KWPC underground pipeline on Boca Chica in 1990, no substantial expansions have occurred since the KWPC facility began operation in 1964.
Date of last update:	December 2010

(b) (7)(F) [redacted]

Tanks:	Three

Worst Case Discharge Amount:	(b) (7)(F) [redacted]
Orientation to Facility:	KWPC facility located adjacent to Fleming Channel part of the Gulf of Mexico in Key West, Florida.

Facility Distance to Navigable Waters: Mark the appropriate line.

0-1/4 mile	¼-1/2 mile	½-1 mile	>1 mile
X			

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LIST OF FIGURES

LIST OF TABLES

APPLICABILITY OF SUBSTANTIAL HARM CRITERIA

Does the facility transfer oil over-water to or from vessels and does the facility have a total oil storage capacity greater than or equal to 42,000 gallons?

Yes X No _____

Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and, within any storage area, does the facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation within any aboveground oil storage tank area?

Yes _____ No X

Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula in Appendix C-III to this appendix or a comparable formula) 1) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments?

Yes X No _____

Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula in Appendix C-III to this appendix or a comparable formula) such that a discharge from the facility would shut down a public drinking water intake?

Yes _____ No X

Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and has the facility experienced a reportable oil discharge in an amount greater than or equal to 10,000 gallons within the last 5 years?

Yes _____ No X

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining information, I believe that the submitted information is true, accurate, and complete.

Signature: M. C. Rauch

Name (Please type or print): MARK RAUCH

Title: PRESIDENT, PIPELINE AND TERMINAL MANAGEMENT CORP

Date: 12/10/2010

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P.E. CERTIFICATION

I hereby certify that I have examined the Key West Pipeline Company SPCC Plan, and attest that: I am familiar with the requirements of 40 CFR 112; that I or my agent has visited and examined the facility; that the plan has been prepared in accordance with good engineering practices, including consideration of applicable industry standards, and with the requirements of 40 CFR 112; that procedures for required inspections and testing have been established; and that the Plan is adequate for the facility.

MICHAEL K. MILLER

Printed Name of Registered
Professional Engineer

_____

Signature of Registered
Professional Engineer

1-17-11	34313	Florida
Date	Registration	State

P. E. SEAL
1-17-11

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FACILITY CERTIFICATION & MANAGEMENT APPROVAL

As the owner and operator of the Key West Pipeline Company (KWPC) facility, I hereby certify that the KWPC has prepared a combined Facility Response Plan and SPCC Plan (Combined Plan) that has the full approval of management with authority to commit the necessary response resources to fully implement the Combined Plan and to expeditiously respond to a release of oil up to a worst case discharge. I also certify that the plan is in effect at the facility, and that facility personnel are trained in the implementation of the plan. I further certify that the availability of private personnel and equipment necessary to respond, to the maximum extent practicable, to a worst case discharge or substantial threat of a discharge is ensured by contracts or other approved means.

The SPCC Plan contained within this Combined Plan is a carefully thought out plan, prepared in accordance with good engineering practices and the requirements provided in 40 CFR 112.7 and 112.8. The SPCC Plan will be implemented as described herein, and it will be reviewed and evaluated in accordance with 40 CFR 112.5 (b). The SPCC Plan will be amended whenever there is a change in facility design, construction, operation, or maintenance, which affects the facility's potential to discharge oil to navigable waters. Each amendment will be certified by a registered professional engineer and placed in Appendix B.

Key West Pipeline Company intends to fully support the provisions of this Combined Plan and will activate this Plan according to the guidelines set forth herein. All personnel with responsibilities covered by this Combined Plan are required to act in accordance with its provisions. The terminal manager is the designated facility representative responsible for oil spill discharge prevention and Mark Rauch, President, Pipeline & Terminal Management Corp. is the person designated to follow through on KWPC's commitments for manpower, equipment, and material in the event of a discharge.

Company Representative:	Mark Rauch
Signature:	
Title:	President, Pipeline & Terminal Management Corp.
Date:	12/10/2010

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SPILL PREVENTION CONTROL AND COUNTERMEASURE COMPLIANCE INSPECTION PLAN REVIEW PAGE

In accordance with 40 CFR 112.5(b), a review and evaluation of this SPCC Plan is conducted at least once every five years. As a result of this review and evaluation, KWPC will amend the SPCC Plan within six months of the review to include more effective prevention and control technology if such technology has been field-proven at the time of review and will significantly reduce the likelihood of a discharge from the facility. Any technical amendment to the SPCC Plan shall be certified by a Professional Engineer within six months after a change in the facility design, construction, operation, or maintenance occurs which materially affects the facility's potential for the discharge of oil as defined in 40 CFR 112.1(b).

I have completed a review & evaluation of the SPCC Plan for the KWPC facility. The Plan will be amended or not as indicated below.

	Review Dates	Signature	Plan will be Amended	Plan will Not be Amended
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

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PLAN UPDATE

To update your Combined Plan, turn to the designated section and remove the pages listed in the "Discard" column. Next, insert the pages listed under the "Add" column.

DISCARD	ADD	DESCRIPTION OF REVISION

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RECORD OF REVISIONS

DATE OF REVISION	DATE REPLACED	PAGES	DESCRIPTION OF REVISION	INITIALS OF PERSON MAKING REVISION
Change 1: 12/2010		All	Reformatted and revised FRP to include SPCC Plan.	

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USEPA – FACILITY RESPONSE PLAN		
CROSS REFERENCE INDEX		
Rule Citation 40 CFR 112 APP. F	**Description of Rule**	**Location**
1.0	Model Facility Specific Response Plan	
1.1	Emergency Response Action Plan	Section I
1.2	Facility Information	Preface & Section II
1.3	Emergency Response Information	Section I
1.3.1	Notification	Sections I & III
1.3.2	Response Equipment List	Section I & App A
1.3.3	Response Equipment Testing/Deployment	Sections XI.K & XIII.B
1.3.4	Personnel	Sections I, III, IV & V
1.3.5	Evacuation Plan	Sections I & VII.J
1.3.6	Qualified Individual's Duties	Sections I & IV.C
1.4	Hazard Evaluation	Section XII
1.4.1	Hazard Identification	Section XI.B
1.4.2	Vulnerability Analyses	Section XI.C
1.4.3	Analysis for the Potential for an Oil Spill	Section XI.D
1.4.4	Facility Reportable Oil Spill History	Section XI.E
1.5	Discharge Scenarios	Sections VII & IX
1.5.1	Small and Medium Discharges	Sections VII.A & IX.B/C
1.5.2	Worst Case Discharge	Sections VII.A& IX.D
1.6	Discharge Detection System	Sections VII.L & XI.E
1.6.1	Discharge Detection by Personnel	Sections VII.L & XI
1.6.2	Automated Discharge Detection	Sections VII.L & XI
1.7	Plan Implementation	Sections I,VII & XIV
1.7.1	Response Resources for Small, Medium, and Worst Case Spills	Section I, VII.A & App A
1.7.2	Disposal Plans	Section X
1.7.3	Containment and Drainage Planning	Sects XI.D/G & XII.E
1.8	Self-Inspection, Drills/Exercises, and Response Training	Sects XI.J/K, XIII & APP F
1.8.1	Facility Self Inspection	Sect. XI.J/K & App C
1.8.1.1	Tank Inspection	Sect. XI.J/K & App C
1.8.1.2	Response Equipment Inspection	Sect XI.K & App C
1.8.1.3	Secondary Containment Inspection	Sect XI.K & App C
1.8.2	Facility Drills/Exercises	Section XIII & App F

USEPA – FACILITY RESPONSE PLAN		
CROSS REFERENCE INDEX		
Rule Citation 40 CFR 112 APP. F	**Description of Rule**	**Location**
1.8.2.1	Qualified Individual Notification Drill Logs	Section XIII & App F
1.8.2.2	Spill Management Team Tabletop Exercise Logs	Section XIII & App F
1.8.3	Response Training	Section XIII & App F
1.8.3.1	Personnel Response Training Log	Section XIII & App F
1.8.3.2	Discharge Prevention Meeting Log	Section XIII & App F
1.9	Diagrams	Section I
1.10	Security	Section XI.L
2.0	Response Plan Cover Sheet	Preface
3.0	Acronyms	Appendix G
4.0	References	Appendix G

SPCC PLAN COMPONENTS		
CROSS REFERENCE INDEX		
Rule Citation	**Description of Rule**	**Location**
§112.7	General requirements for SPCC Plans for all facilities and all oil types.	Preface, Section XI
§112.7(a)	General requirements; discussion of facility's conformance with rule requirements; deviations from Plan requirements; facility characteristics that must be described in the Plan; spill reporting information in the Plan; emergency procedures.	Sections I, II, III, VII, X, & XI, App C
§112.7(b)	Fault analysis.	Section XI.H
§112.7(c)	Secondary containment.	Section XI.D
§112.7(d)	Contingency planning.	N.A. Site has FRP
§112.7(e)	Inspections, tests, and records.	Section XI.K, Appendix C
§112.7(f)	Employee training and discharge prevention procedures.	Section XIII
§112.7(g)	Security (excluding oil production facilities).	Section XI.L
§112.7(h)	Loading/unloading areas (excluding offshore facilities).	Section XI.C
§112.7(i)	Brittle fracture evaluation requirements.	Section XI.J
§112.7(j)	Conformance with State requirements.	Section XI.F
§112.8	Requirements for onshore facilities (excluding production facilities).	
§112.8(a)	General and specific requirements.	Sections I, II, III, VII, X, & XI, App C
§112.8(b)	Facility drainage.	Section X.G
§112.8(c)	Bulk storage containers.	Sects X.B/D/E/F

§112.8(d)	Facility transfer operations, pumping, and facility process.	Section X.C

USCG – FACILITY RESPONSE PLAN CROSS REFERENCE INDEX		
Rule Citation 33 CFR 154 154.1030	**Description of Rule**	**Location**
154.1035	Specific Requirements for Facilities that Could Reasonably be Expected to Cause Significant and Substantial Harm to the Environment	
(a)	Introduction and Plan Content	Preface
(a)(1)	Facility Name and Address	Preface & Sect I
(a)(2)	Facility's Location	Preface & Sect I
(a)(3)	Procedures for Contacting Owner or Operator on a 24-hour basis	Preface/Sect III
(a)(4)	Table of Contents	Preface
(a)(5)	Cross-Index	Preface
(a)(6)	A record of changes	Preface
(b)	Emergency Response Action Plan	Section I
(b)(1)	Notification Procedures	Sections I & III
(b)(1)(i)	List of Contacts	Tables I-2 & I-3
(b)(1)(ii)	Spill Notification Form	Sections I & III
(b)(2)	Facility's Spill Mitigation Procedure	Sects I & VII
(b)(2)(i)	Spill Scenarios	Section IX
(b)(2)(ii)	Prioritized Procedures	Sections I & VII
(b)(2)(iii)	List of Equipment and Responsibilities of Facility Personnel to Mitigate an Average Most Probable Spill	Sections I, IV, V, VII & App A
(b)(3)	Facility's Response Activities	Sect. I & VII
(b)(3)(i)	Facility Personnel Responsibility to Initiate a Response	Sections I & VII
(b)(3)(ii)	Responsibility of Qualified Individual	Sections I & IV.C
(b)(3)(iii)	Organizational Structure Used to Manage Response Action	Section IV
(b)(3)(iv)	Identification of Oil Spill Response Organization	Sections I, IV, III & App A
(b)(4)	Fish and Wildlife and Sensitive Environments	Section VIII
(b)(4)(i)	Identification of Areas of Environmental Importance	Sections I & VIII
(b)(4)(ii)	Describe Potential Impacts to Environmental Areas and Mitigation	Section VIII
(b)(4)(iii)	Identify equipment available from OSRO	Section I &App A
(b)(5)	Disposal Plan	Section X
(c)	Training and Exercises	Section XIII
(c)(1)	Training Procedures	Section XIII.A
(c)(2)	Exercise Procedures	Section XIII.B
(d)	Plan Review and Update	Section XIV

(e)	Appendices	
(e) (1)	Facility Specific Information	Sect. I, II, III & App A & E
(e) (2)	List of Contacts	Sections I & III
(e) (3)	Equipment Lists and Records	Sect VII & App A & C
(e) (4)	Communications Plan	Section VII.F
(e) (5)	Site-specific Safety and Health Plan	Appendix E
(e) (6)	List of Acronyms and Definitions	Appendix G
(e) (7)	A geographic-specific appendix for each zone in which a mobile facility operates	Not Applicable

DOT PHMSA		
CROSS REFERENCE INDEX		
Rule Citation 49 CFR 194	**Description of Rule**	**Location**
194.103	Significant & Substantial Harm: Operator Statement	Preface (Pg VI), Sect II.A (Pg II-1&2 & II-7)
194.105	Worst Case Discharge Determination	Preface & Section II.B
194.107	**General Response Plan Requirements**	
194.107(a)	Procedures & List of Resources to Respond to a Worst Case Discharge	Preface, Sects I, IV & VII & App A
194.107(b)	Consistency with NCP & ACP • Understanding of federal response structure • Protection of responders • Procedures for use of alternate response strategies • Removal of WCD & mitigation of WCD threat • Identification of environmentally sensitive areas • Describe responsibilities of operator & Gov. agencies in removal of WCD or mitigation of WCD threat • Expedited decision on use of dispersants	Preface IV.E App E N.A. Group I Oil Sect VII Sect VIII Sect IV N.A. Group I Oil
194.107(c)(1)	Core Plan Addressing the Following Elements:	
194.107(c)(1)(i) 194.113	Information Summary • Name & address of operator • Description of response zone • Qualified Individual Information • List of line section(s) • Basis for significant & substantial harm determination • Type of oil & volume of WCD	Preface & Sections I & II
194.107(c)(1)(ii)	Immediate Notification Procedures	Sections I & III

DOT PHMSA		
CROSS REFERENCE INDEX		
Rule Citation 49 CFR 194	**Description of Rule**	**Location**
194.107(c)(1)(iii)	Spill Detection & Mitigation Procedures	Sections I & VII
194.107(c)(1)(iv)	OSRO Contact Information	Sections I & III
194.107(c)(1)(v) 194.115	Response Activities & Response Resources Response Resources (OSRO Contract)	Section VII & App A
194.107(c)(1)(vi)	Agency Contact Information	Section I & III
194.107(c)(1)(vii) 194.117	Training Procedures Training Requirements/Records	Section XIII & App F
194.107(c)(1)(viii)	Equipment Testing	Section XI.K
194.107(c)(1)(ix)	Drill Program	Section XIII & App F
194.107(c)(1)(x) 194.121	Response Plan Review & Update Procedures	Section XIV
194.107(c)(2)	Response Zone Summary & Information	Preface & Sects I & II
194.107(c)(3)	Description of Response Management System	Sects IV, V & VI

KEY WEST PIPELINE COMPANY

FACILITY RESPONSE PLAN

EMERGENCY RESPONSE ACTION PLAN

CORE PLAN

FACILITY CONTACT PERSON:
Daniel Silvestro
Terminal Manager

(305) 294-4812 (Office)
(b) (6)
(305) 522-9826 (Mobile)

FACILITY OWNER & OPERATOR:
KEY WEST PIPELINE COMPANY (OWNER)
PIPELINE & TERMINAL MANAGEMENT CORP. (OPERATOR)

MARK RAUCH
President, Pipeline & Terminal Management Corp.
(713) 627-1700 (Office)
(713) 829-0065 (Mobile)

SECTION I: EMERGENCY RESPONSE ACTION PLAN

A. IMMEDIATE RESPONSE ACTIONS

In case of an uncontrolled release of oil onto the ground or into surface water, contact the following after initial control measures have been implemented (stop source, deployment of containment, or absorbent materials).

In case of an uncontrolled release of JP-5 onto the ground or into surface water, the initial control measures listed below are to be implemented.

Immediate steps to be taken by the Spill Observer/First Responder include the following:

1. **Make an immediate assessment of the incident.**

2. **Stop the discharge & shutoff ignition sources, if safe to do so (e.g., act quickly to secure pumps, valves, motors, open flames, etc.).** If the incident is clearly the result of an operation that the Spill Observer/First Responder can control safely, take immediate steps to correct the operation.

3. **Warn personnel** – Notify all Key West Pipeline Company (KWPC) personnel at or near the incident scene and the QI (terminal manager). Also, contact Naval Air Station Key West (KWNAS) Officials for assistance **(i.e., OOD, Fire Department, & Security).** Complete all notifications in Table I-3 below as appropriate. Call for medical assistance if an injury has occurred.

4. **Serve as the OSC/QI** until relieved by higher authority. **Take steps deemed necessary to minimize threats to public health and safety and to reduce the severity of the incident by.**

   - With assistance from Fire Department, determine if spill is safe to respond to and whether evacuation procedures should be instituted. Coordinate evacuation procedures with KWNAS Security and KWPD if required.

- Activate all necessary response organizations (i.e., KWPC & KWNAS Oil Spill Response (OSR) Team & spill response contractor)
- Isolate the spill area and establish hazard control zones.
- Don appropriate PPE & initiate spill containment – Place containment or sorbent boom around the area as appropriate.
- Supervise spill containment and cleanup procedures until relieved by a higher authority.

TABLE I-1
INITIAL INCIDENT ASSESSMENT CHECKLIST
____ Status of all personnel
____ Possible health or fire hazards
____ Time of the spill
____ Type of product spilled & estimated of amount of product spilled
____ Cause of the spill and whether the source is controlled or continuing
____ Location of the tank or pipeline involved
____ Whether the product is contained or not
____ The status of response operations
____ On-scene weather conditions
____ An initial assessment of whether the spilled oil can be contained and cleaned up with onsite equipment, or whether additional equipment is necessary

B. DUTIES OF QUALIFIED INDIVIDUALS

All discharges in, around, or near the KWPC facility are immediately reported to the terminal manager, who is the designated qualified individual (QI) or one of the alternate QI's as listed in Table I-2 below (Note: The QI's & the alternate QI's also serve as members of the facility response team). The QI and alternate QI's have full authority to implement removal actions, including the ability to commit company resources in the event of an oil spill. The duties of the QI and Alternate QI begin with:

- The activation of internal alarms and hazard communication systems to notify facility personnel of a discharge event.
- Next, appropriate notifications, based on the discharge scenario, are made to the KWNAS OOD, KW Fire Department, Sector Key West, KWNAS Security, KWNAS OSR Team, response contractor, Mark Rauch, and other federal, state, and local authorities as provided on the Emergency Notification Phone List in Table I-3. The character, source, volume, weather, time, and location of the discharge is relayed to each notified identity.
- To the extent known by KWPC, a hazard assessment pertaining to mixing of the discharged material with water or other stored materials and direct and indirect impacts to human health and the environment is made at the scene and responding personnel are notified of that assessment.
- The QI also assesses, coordinates, and implements those portions of the Combined Plan required for prompt containment and removal of the discharged material.
- The QI obtains authority to access KWPC funds if required to ensure cleanup activities.
- Finally, the QI utilizes the Incident Command System to direct cleanup activities until relieved by a higher authority. The other response team members maybe assigned any of the duties listed above as delegated by the QI.

TABLE I-2 KWPC QUALIFIED INDIVIDUAL				
PRIMARY		**ALTERNATE**		
Name	Dan Silvestro	David Gonzalez	David Hahn	C.J. Behrans
Position	Terminal Manager	Terminal Employee	Terminal Employee	Terminal Employee
Work Address	Key West Pipeline Company Bldg D19 Trumbo Point Naval Annex Key West, FL 33040	Key West Pipeline Company Bldg D19 Trumbo Point Naval Annex Key West, FL 33040	Key West Pipeline Company Bldg D19 Trumbo Point Naval Annex Key West, FL 33040	Key West Pipeline Company Bldg D19 Trumbo Point Naval Annex Key West, FL 33040
(b) (7)(F) [redacted]				
Work Phone	(305) 294-4812 Fax (305) 294-0844	(305) 294-4812 Fax (305) 294-0844	(305) 294-4812 Fax (305) 294-0844	(305) 294-4812 Fax (305) 294-0844
(b) (6) [redacted]				
Mobile Phone	(305) 522-9826	(305) 522-0252	(305) 522-8009	(305) 522-0421
Response Time onsite to Tank Area	Less than 5 minutes	Less than 5 minutes	Less than 5 minutes	Less than 5 minutes
Response Time to Terminal	20-25 minutes	30-45 minutes	30-45 minutes	30-45 minutes
Training – Experience	40 Hour Hazwoper	40 Hour Hazwoper	40 Hour Hazwoper	40 Hour Hazwoper

C. SPILL REPORTING & NOTIFICATIONS

In the event of a discharge, the QI or Alternate QI is responsible for the following notifications listed in order of priority. The telephone is the primary method of communication by which these notifications are made. However, if phone lines are down, cellular phones are used as a secondary communication method. The Emergency Notification Phone List and Response Notification form (Table I-4) are posted next to each telephone at the facility and are included in Section III of the Plan.

(Note: Immediate notification is required to the National Response Center for any spill that threatens to enter or enters navigable waters. Do not wait to obtain all information before notifying the NRC).

TABLE I-3 EMERGENCY NOTIFICATION LIST	
CONTACT	**TELEPHONE NUMBER**
1. Report the spill immediately, day or night, to Naval Air Station Key West (KWNAS) Officer of the Day (OOD) at (305) 293-2268. The OOD will contact the environmental protection specialist in the Public Works Engineering Environmental Branch who will report to the spill site, assess the situation and contact KWNAS Oil Spill Response Team to respond, if necessary.	(305) 293-2268
2. KWNAS Fire Department	(305) 293-3333
3. Coast Guard Sector Key West	(305) 292-8727 / 8809
4. KWNAS Security	(305) 293-2531
5. KWNAS OSR Team	(305) 293-5374
6. Eagle/SWS Oil Spill Removal Organization (OSRO) Immediately contact Eagle/SWS day or night, for any spill from the KWPC facility in which KWPC personnel need assistance in stopping, containing and/or recovering the product.	1-800-852-8878 or 1-954-957-7271 6900 NW 12 Ave. Ft. Lauderdale, FL 33309
7. Mark Rauch - KWPC Houston Office: Report any spill immediately to the Houston office of KWPC	(713) 627-1700 Office (b) (6) (713) 829-0065 Mobile
8. U. S. Coast Guard (USCG) National Response Center	(800) 424-8802 (24 hours) (202) 267-2675 (24 hours)
9. Florida Department of Environmental Protection - State Warning Point FDEP Marathon Office	(800) 320-0519 (24 hrs) (850) 413-9911 (305) 289-2310
ADDITIONAL CONTACTS AS NEEDED	
10. Key West Fire Department	(305) 292-8179
11. Key West Police Department	(305) 809-1000
12. Monroe County Emergency Management	(305) 289-6018
13. Monroe County Fire Department	(305) 292-2797
14. Monroe County Sheriff's Department	(305) 296-2424
15. National Weather Service Key West	(305) 295-1316
16. Key West Port Director	(305) 293-6481
17. Aerial Surveillance National Response Corporation (Aircraft Provider & Trained Aerial Observers)	1-800-899-4672 or 1-612-290-1747 (Jason Desantis)
18. Defense Fuel Region America	(713) 718-3886 ext. 120, 129 (800) 286-7633 (24 hours)
19. Wells Fargo Insurance	(713) 507-4706
20. Bill Pence	(407) 649-4095 Office (b) (6) (407) 421-4660 Mobile

TABLE I-4 SPILL RESPONSE NOTIFICATION FORM									
REPORTING PARTY INFORMATION									
INITIAL NOTIFICATION TO NRC MUST NOT BE DELAYED PENDING COLLECTION OF ALL INFORMATION									
REPORTER'S LAST NAME:		FIRST:		M.I.:					
PHONE NUMBERS: DAY:	(305) 294-4812	EVENING:		MOBILE:					
COMPANY:	Key West Pipeline Company								
ORGANIZATION TYPE:	Petroleum Terminal								
YOUR POSITION:									
ADDRESS:	Building D-19 Trumbo Point Naval Annex								
CITY:	KEY WEST	STATE:	FLORIDA	ZIP:	33040				
WERE MATERIALS DISCHARGED? (Y/N):		CONFIDENTIAL (Y/N)							
MEETING FEDERAL OBLIGATIONS TO REPORT? (Y/N):		DATE CALLED:							
CALLING FOR RESPONSIBLE PARTY? (Y/N):		TIME CALLED:							
INCIDENT DESCRIPTION									
SOURCE AND/OR CAUSE OF INCIDENT:									
DATE:		TIME OF INCIDENT:		AM/PM					
INCIDENT ADDRESS/LOCATION:									
NEAREST CITY:	KEY WEST	STATE:	FL	COUNTY:	MONROE	ZIP:	33040		
DISTANCE FROM CITY:		UNITS:	MILES	DIRECTION FROM CITY:					
SECTION:		TOWNSHIP:		RANGE:					
CONTAINER TYPE:		TANK CAPACITY:		UNITS:					

(b) (7)(F) [redacted]

(b) (7)(F) [redacted]

TABLE I-4 SPILL RESPONSE NOTIFICATION FORM

MATERIAL RELEASED (CHRIS Code)	RELEASED QUANTITY	UNIT OF MEASURE	MATERIAL RELEASED IN WATER	QUANTITY	UNIT OF MEASURE

RESPONSE ACTION

ACTIONS TAKEN TO CORRECT, CONTROL OR MITIGATE INCIDENT	

IMPACT

NUMBER OF INJURIES:		NUMBER OF FATALITIES:	
WERE THERE EVACUATIONS? (Y/N):		NUMBER OF EVACUATIONS:	
WAS THERE ANY DAMAGE? (Y/N):		DAMAGE IN DOLLARS (APPROX.):	

MEDIUM AFFECTED:	
DESCRIPTION:	
MORE INFORMATION ABOUT MEDIUM:	
ANY INFORMATION ABOUT THE INCIDENT NOT RECORDED ELSEWHERE IN THE REPORT:	

TABLE I-4 SPILL RESPONSE NOTIFICATION FORM					
ATMOSPHERIC AND WATER CONDITIONS					
ATMOSPHERIC			**WATER**		
WIND SPEED:		MPH	STATE OF TIDE:		
WIND DIRECTION FROM:			CURRENT SPEED:		KNOTS
AIR TEMPERATURE:		ºF	CURRENT DIRECTION FROM:		
VISIBILITY:		MILES	WAVE HEIGHT:		FEET
PRECIPITATION:			WATER TEMPERATURE:		ºF

CALLER NOTIFICATION			
	YES/NO	**WHO**	**TIME/DATE**
KWNAS OOD (305) 293-2268			
KWNAS FIRE DEPARTMENT (305) 293-3333			
COAST GUARD SECTOR KEY WEST (305) 292-8727/8809			
KWNAS SECURITY (305) 293-2531			
KWNAS OSR TEAM (305) 293-5374			
EAGLE/SWS 1 800 852-8878			
MARK RAUCH (713) 627-1700 Office (b) (6) (713) 829-0065 MOBILE			
NATIONAL RESPONSE CENTER (NRC) 1 800 424-8802 (24 HRS)			
FDEP State Warning Point (800) 320-0519 (24 hrs)			
FDEP Marathon Office (305) 289-2310			
OTHERS			

Qualified Individual/On-Scene Commander	**Date**

D. FACILITY RESPONSE EQUIPMENT AND LOCATION

The KWNAS OSR Team is the first responder to an oil spill incident, occurring at the KWPC facility. Eagle/SWS is the secondary responder and is KWPC's designated Oil Spill Removal Organization. A listing of response equipment immediately available to the KWPC is listed below.

Oil Spill Response Equipment

Table I-5
Key West Pipeline Company Response Equipment

Equipment Type	Quantity	Location
Sorbent Materials		
Absorbent pads	Three bundles	Pump house
Absorbent boom	Thirty feet (ft)	KWPC office building
Speedy Dry	Sixty pounds	KWPC office building
Recovery Equipment		
Shovel	Two	KWPC office building
Rake	One	KWPC office building
Hoe	One	KWPC office building
Axe	One	KWPC office building
Pick	One	KWPC office building
Wheelbarrow	One	KWPC office building
Miscellaneous Equipment		
Hand tools	One set	KWPC office building

Spill Kits		
Equipment Type	**Quantity**	**Location**
Sorbent pads	2 bags 17in x19in 100 pads	Spill kits are located at the following locations: 1. KWPC pump room 2. Stock Island block valve 3. Boca Chica block valve 4. Boca Chica filter station
Sorbent socks	12 – 3in X 4ft	
Sorbent pillows	6 18in x18in	
Disposable bags	6	
Light sticks	4-6inch	
Emergency response guide book	1	
Tyvek coverall	6 (XXXL & XL)	
Nitrile gloves	6 pair	
Body guard gloves	6 pair	

Spill Kits		
Equipment Type	**Quantity**	**Location**
Heavy rubber gloves	6 pair	
Dust masks	9	
Goggles	4 pair	
Hand cleaner	1 bottle	
Drum	1	

KWNAS OSR Team maintains a large stockpile of oil spill response equipment, which is available to respond to the KWPC facility if needed. KWNAS maintains approximately 13,150 ft of boom, seven response and boom deployment vessels, three miscellaneous vessels, two 2,000-gallon vacuum trucks, miscellaneous adsorbent materials, and access to heavy equipment. A complete list of materials and equipment available to the KWNAS OSR Team is provided in KWNAS Facility Response Plan, which may be requested through the KWNAS Public Works Engineering Environmental Branch. A partial listing of their response equipment is provided below.

Table I-6
Key West Naval Air Station Partial Response Equipment List

Equipment Type	Quantity	Location
Containment Boom		
Harbor Boom	1,000 Ft	Boca Chica
Harbor Boom	12,150 FT	Truman Annex building 284
Response Boats		
30 -19FT	Seven	Outer mole pier
Miscellaneous boats	Three	Outer mole pier
Recovery Equipment		
Vacuum trucks 2,000 gal capacity with weir skimmers	Two Vac trucks with a total of 10,080 gallons/day (de-rated) effective daily recovery rate	Outer mole pier
Absorbent materials	Miscellaneous	Outer mole pier
Front End Loaders, Graders, Dump Trucks	Miscellaneous	Boca Chica

The following additional response equipment is available in a trailer and cargo container, maintained by SWS and located on the Trumbo Point Tank Farm just

west of KWPC Tank 1. A list of additional equipment to be provided by SWS is included in the emergency response contract, which is included in Appendix A.

Table I-7
Eagle/SWS Emergency Response Trailer

Equipment Type	Description	Quantity
Response Boat		
Jon boat	16 Foot	1
Outboard boat motor	Yamaha	1
Bow hook	Each	1
Fire extinguisher	Each	1
Containment Boom		
Harbor boom	1,000 ft.	1
Sorbent Materials		
Soft boom	Bails	10
Sorbent pads	Bundles	7
Chemical absorbent pads	Bundles	2
Gray absorbent chemical carpet	Roll	1
Lay absorbent	Bags	10
Personal Protective Equipment		
Hard hats	Each	2
Tyvek suits (XXL)	Box	1
Chicken boots	Pairs	6
Work gloves	Pairs	12
Nitrile gloves	Pairs	12
Vinyl gloves	Box	1
Petroleum gloves	Pairs	12
Safety goggles	Box	1
Duct tape	Rolls	2
First aid kit	Each	1
Recovery Equipment		
Hand pump	Each	1
Drums	55-gallons	10
Plastic buckets with covers	Five gallons	2
Flat shovels	Each	3

Table I-7 Eagle/SWS Emergency Response Trailer		
Equipment Type	**Description**	**Quantity**
Plastic bags	Rolls	2
Visquene	Rolls	2
Miscellaneous Equipment		
Push brooms	Each	3
Degreaser	Gallons	5
Portland cement	Pounds	80
Pump spray bottle	Each	1
Shop rags	Bag	1
Metal folding chairs	Each	2
Potable water	Cases	2

Facility Response Equipment Inspection & Testing

Response equipment inspections are conducted during monthly preventative maintenance schedules and during equipment deployment drills. All equipment is maintained in good operating condition in accordance with manufacturer's recommendations. The KWPC Terminal Manager is responsible for maintaining and testing all response equipment located at the KWPC facility. SWS is responsible for maintaining and testing all response equipment located off-site as well as any equipment mobilized to the site by SWS. A copy of the oil spill equipment inspection and testing form is provided in Appendix C.

Fire Fighting Equipment

KWPC maintains twelve 30-lb dry chemical fire extinguishers, which are located throughout the KWPC facility. The location of each fire extinguisher is provided in the table below.

Table I-8 Key West Pipeline Company Fire Extinguishers	
Location	**Type**
Truck loading/unloading rack	Dry Chemical - 30 Lbs
Manifold building at Trumbo Point tank farm	Dry Chemical - 30 Lbs
Manifold building at Boca Chica tank farm	Dry Chemical - 30 Lbs
Base of stairs on Tank 1	Dry Chemical - 30 Lbs
Base of stairs on Tank 3	Dry Chemical - 30 Lbs
KWPC office (four extinguishers)	Dry Chemical - 30 Lbs
Skid Mounted Fueling Station No. 1 (Pier D-2)	Dry Chemical - 30 Lbs
Skid Mounted Fueling Station No. 2 (Pier D-2)	Dry Chemical - 30 Lbs

The KWNAS Fire Department also has two fire trucks with pumpers at Trumbo Point Annex and additional fire fighting vehicles at Boca Chica available for emergency response at the KWPC facility. All trucks are equipped with aqueous film-forming foam units (AFFF).

E. FACILITY & SURROUNDING COMMUNITY EVACUATION PLANS & PROCEDURES

The QI, with support from other facility personnel, is responsible for assessing the incident situation and determining the need for evacuations. The QI is also responsible for directing evacuations of the storage facility and immediate vicinity around the terminal. The Evacuation Plan will become effective upon verbal notification by the QI or designated personnel. Evacuation activities will proceed in accordance with routes identified in the site evacuation diagram Figure I-4 and the procedures set forth below.

Table I-9 EVACUATION PLANS	
TOPIC	**DESCRIPTION**
• **Location of stored materials**	Limited quantities of materials are stored and used onsite. The bulk of the hazardous materials are JP-5 (petroleum hydrocarbon), and ethylene glycol (methyl cellosolve) a fuel system ice inhibitor. All other chemicals are used and stored in consumer size quantities. Locations of the storage tanks are shown in Figure I-3A.
• **Hazard imposed by spilled materials (MSDS)**	Material Safety Data Sheets are maintained onsite. Health hazards associated with JP-5 fuel and ethylene glycol are: • Inhalation, ingestion and skin contact hazards from potential exposure to benzene, toluene, xylene & PAH's.

Table I-9 EVACUATION PLANS	
TOPIC	**DESCRIPTION**
	• Combustibility hazard (flash points 125°F or above) • Possible cancer hazard (PAHs - Polynuclear Aromatic Hydrocarbons)
• **Spill flow direction**	See Table XI-4 for a prediction of spill flow direction. Actual direction is also dependent upon: • Wind • Immediate Area Drainage • Air and Fuel Temperature • Immediate Physical Barriers • Surface characteristics (soil, asphalt, etc.) • Location of release • Condition of release (line pressure, location of break, etc.)
• **Prevailing wind directions and speed**	Call Weather service (see Emergency Notification Phone List) for current conditions.
• **Water currents, tides, or wave conditions (if applicable)**	KWPC is adjacent to surface waters. Use www.tides.com to obtain daily tidal information.

(b) (7)(F)

[redacted]

Table I-9 EVACUATION PLANS	
TOPIC	**DESCRIPTION**
(b) (7)(F)	[redacted]

Evacuation Procedures for Surrounding Area

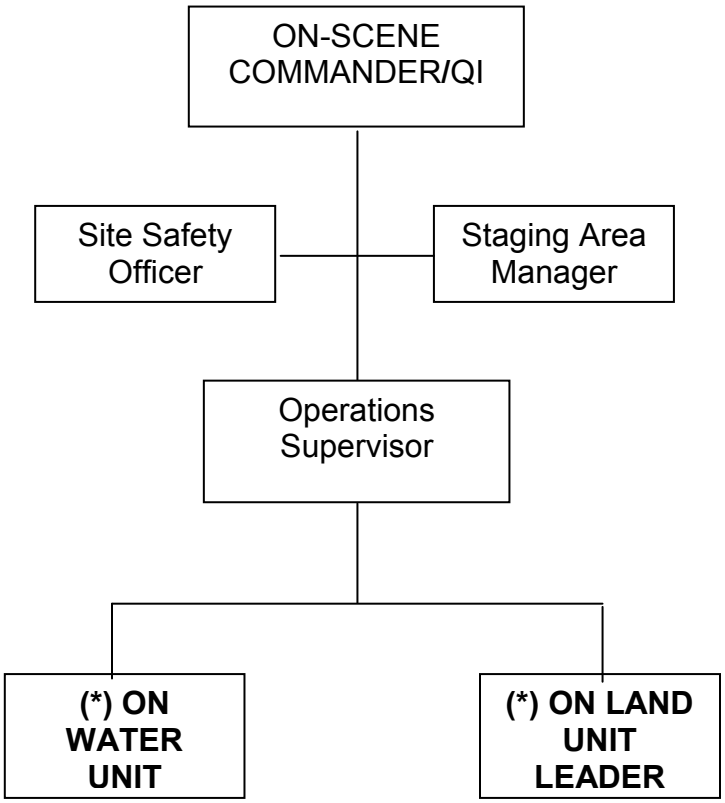
In the event that evacuation of the surrounding areas is deemed necessary, the QI shall contact the Key West Police Department, KWNAS Security and the Monroe County Emergency Management. The QI shall advise each agency of the nature of the emergency, the reason for requesting an evacuation, and the location and phone number where the QI can be reached. Evacuation of nearby KWNAS Trumbo Point buildings and facilities is the responsibility of KWNAS Security working in concert with the QI and emergency response contractor. Evacuation of communities is the responsibility of local emergency response authorities (such as Key West police and fire departments) working in concert with the QI and emergency response contractor.

F. RESPONSE TEAM DUTIES

KWPC maintains a small on-site response team (ORT) that is composed of KWPC personnel. In addition, the KWNAS oil spill response team provides initial response capability (Figure I-1). These individuals would fill the positions of the ORT and serve as the first responders to any incident that would occur from the KWPC facility. The positions of the ORT include:

- OSC/QI
- Site Safety Officer
- Operations Supervisor (Note: OSC/QI may also fill this role for small incidents)
- On Water Unit Leader
- On Land Unit Leader

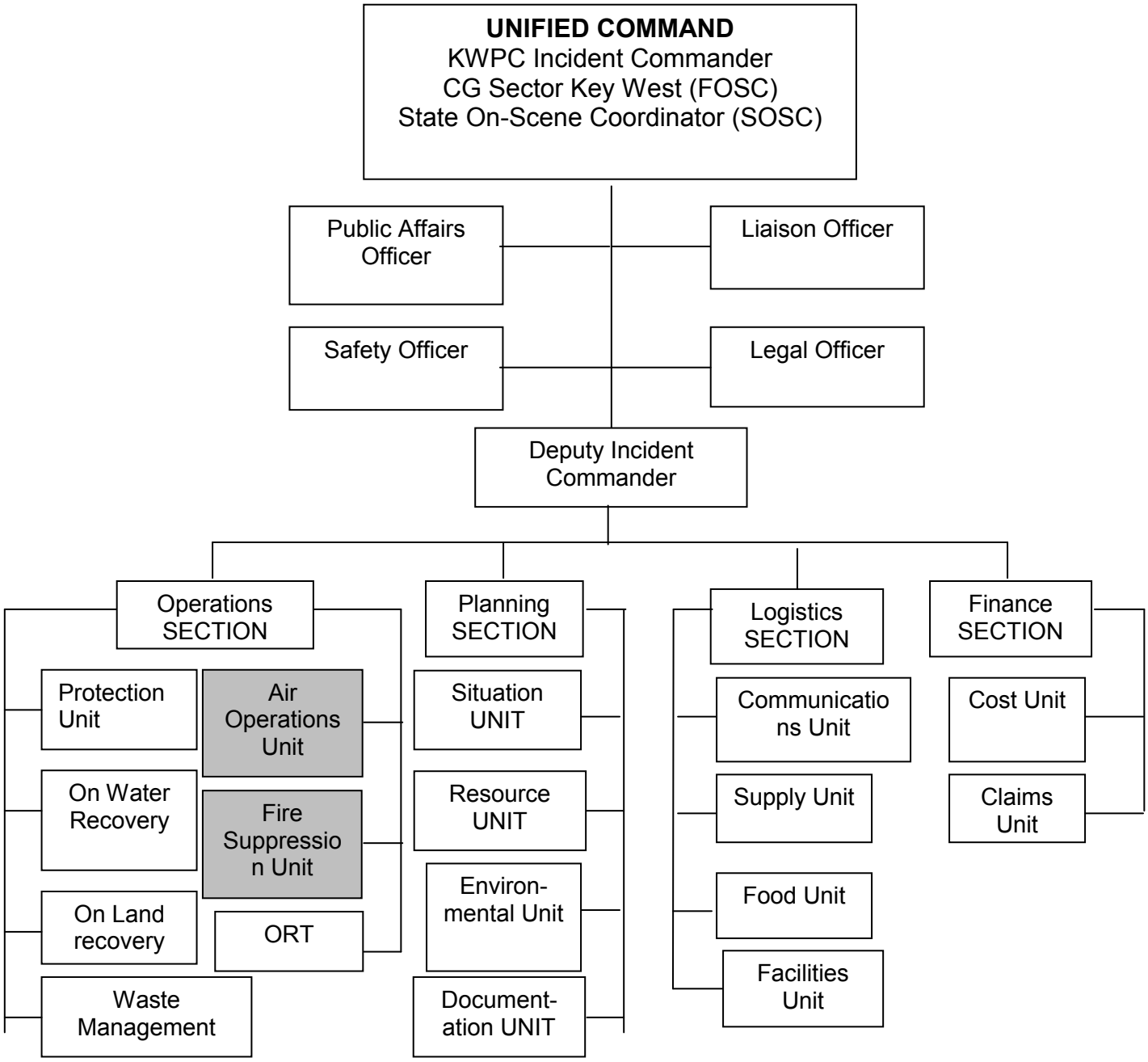
FIGURE I-1 KWPC ONSITE RESPONSE TEAM (ORT) ORGANIZATION CHART



* Tactical responders added as needed

FIGURE I-2 KWPC SPILL MANAGEMENT TEAM (SMT) ORGANIZATION CHART

During a Level II or III incident, KWPC's Spill Management Team would be activated to include the functions depicted in below. The primary OSRO will provide personnel and equipment to meet Worst Case Discharge requirements.



Shaded Positions Staffed by Other Agencies

The following is a list of emergency response organizations that can respond to an incident at the KWPC facility along with their response times. Contact information is provided in Table I-3.

Table I-10	
Response Organization	**Response Time**
Key West Pipeline Company Response Team	30 to 45 minutes
Key West Naval Air Station Oil Spill Response Team	<30 minutes
Key West Naval Air Station Fire Department	<30 minutes
Eagle/SWS Certified OSRO (Response Contractor)	<4 hours

G. SOURCE CONTROL & RESPONSE ACTIONS

With assistance on the way from the primary Oil Spill Removal Organization (OSRO), the ORT's primary role will be to secure the source of the discharge by shutting down pumps and closing appropriate valves (if safe to do so) and to limit the spread of the spill. All source control measures and response activities will be directed by the QI. Specific source control and response strategies will depend on the location of the spill but will generally included the following actions.

Source Control

- **Transfer Equipment –** If a manifold fails, shut down upstream pumps, close upstream valves. If a hose failure is encountered shut down upstream pumps, close upstream valves and drain hose into secondary containment, if feasible.

- **Tank Overflow –** If the source of the spill is identified as a tank leaking or overflowing, shut down pump operations and close fill line valve.

- **Tank Failure –** If the source of the spill is identified as a catastrophic tank failure (i.e., collapse) and safety conditions permit, contain the oil within the secondary containment area and shut down all valves associated with the tank. If this is not possible, utilize earth-moving equipment to create temporary berms to prevent the spill from spreading.

- **Piping Rupture –** If the source originates from a pipeline (low pressure), shut down pumps, close pipeline block valves on both side of the spill, and drain blocked section of line. If the source originates from a pipeline (high pressure), shut down pumps, close pipeline block valves on both sides of the spill, construct or obtain temporary containment, and bleed pressure from the pipeline into containment.

- **Equipment Failure –** For equipment failures, upstream valves will be closed and the appropriate lines or vessels will be drained or, if pressurized, will be bled down into containment structures.

- **Explosion or Fire –** In case of fire,
  (1) Stop operations, shutdown pumps, close valves and warn others.
  (2) Notify terminal manager, Houston office and KWNAS & KW & Monroe County Fire Departments if needed (see Table I-3 for phone numbers)
  (3) Extinguish the fire using hand extinguishers, dry chemical extinguishers, or dirt or sand if the fire is small and it is safe to do so.
  (4) Fire fighters should control or disperse vapors and cool heated structures;
  (5) Emergency responders should divert/control runoff; and recover product(s). Appropriately trained personnel will secure the sources of discharge by appropriate means and deploy containment and control equipment to contain the spilled material. The QI will implement other response activities as needed.
  (6) In the event of an uncontrolled release, notify the response contractor, other federal, state, and local officials as set forth in the Emergency Notification Phone List. Note: Fire wells in the vicinity of Trumbo Point tank farm are not used to fight a fire since the presence of free product has been observed in these wells.

General Response Actions

- **Land-based spills:** To contain a spill on land, deploy sorbent boom around or in the path of the spreading fuel or construct dams, or ditches to stop the flow of fuel. Sorbent pads, pumps or vacuum trucks can be used to remove free product. Collected fuel/water should be stored in drums, vacuum trucks or frac tanks for proper disposal.

- **Surface water spills:** If the spill reaches surface water, responders should quickly determine the direction the spill is moving. (Note: current and wind direction and speed will drive the direction of the spill). After determining the spill direction, consult the booming strategy & environmental sensitivity maps in figures I-5 A-E and the Geographic Response Maps (GRP's) in figures I-6 A&B) at the end of this section to determine appropriate boom deployment locations and requirements. In general, responders should deploy containment boom down current to either deflect the fuel to a shoreline for recovery or surround the perimeter of the spill if there is little current or wind. If product cannot be contained, review the above figures to determine sensitive areas in the path of the spill and deploy containment boom and/or

sorbent boom to protect thee areas. Sorbent pads, pumps, skimmers and vacuum trucks can be used to recover free product from the water. Collected fuel/water should be stored in drums, vacuum trucks or frac tanks for proper disposal.

Response Capability to Small, Medium & Worst-case Discharges

- Detection of a **small discharge**, any spill volume less than or equal to 2,100 gallons, is immediately relayed to the QI who is responsible for setting the Combined Plan into action. A 600-ft-long containment boom with an 18-inch weighted skirt is located in a cargo container at Trumbo Point tank farm and is available for deployment by the KWNAS OSR Team. In addition, 12,150 ft of boom is located in building 284 at the Truman Annex. The total length of boom deployable within 1 hour is 3,950 ft. which, is greater than the required 1,000 ft and nearly seven times the length of the largest tanker regularly conducting transfers. In addition, two vacuum trucks, each equipped with weir skimmer, oil recovery device (ORD), with an effective daily recovery rate exceeding 2,100 gallons is available through the KWNAS OSR Team in less than the required time of 2 hours of detection of the discharge. The absorbent pads at the KWPC bulk storage facility, as well as the KWNAS OSR Team's absorbent pads and recovery equipment, are available within the required 2 hours of detection of a discharge, and exceed the effective daily recovery rate for a small discharge. The storage tanks located at the KWPC bulk storage facility are more than sufficient to meet the required small discharge volume daily storage capacity of 4,200 gallons.

- The **medium discharge** is determined to be 36,000 gallons. Since this discharge would not impact a high-volume port or the Great Lakes, ORDs are able to arrive on-scene within 12 hours of detection of an oil discharge. The effective daily recovery rate of the ORDs equals 50 percent of the medium discharge or 18,000 gallons per day (gpd) (approximately 430 barrels per day [bpd]). The effective recovery rate of all the ORDs required for a medium discharge, assuming 20 percent efficiency, is 3,750 gph. The ORDs available through SWS and KWNAS are capable of meeting these requirements. Approximately 7,400 ft of containment boom is available for fuel collection and containment and shoreline protection. A 36,000-gallon discharge on water would cover an estimated area of 480 ft square or 1,700 ft in circumference. The required total temporary storage capacity is two times the effective daily recovery rate, or 36,000 gallons. This capacity is exceeded by both the total storage capacity available at the KWPC bulk storage facility and the storage capacity available through the emergency response contractor. Two 2,000-gph skimmers (effective daily recovery rate of 19,200 gallons, assuming 20 percent efficiency) are available within 4 hours from SWS.

- The **worst-case** discharge is determined to be (b) (7)(F) [redacted] s). Since the discharge would not impact a high-volume port, ORDs are able to arrive on-scene within the time specified for the applicable response tier listed below.

Tier	Hours
1	12
2	36
3	60

- KWPC stores non-persistent or Group I fuel which would impact near shore waters if a worst-case discharge occurred. The following required effective daily recovery rates for water and the temporary daily storage capacity were determined for each response tier:

	Tier 1	Tier 2	Tier 3
On-water Recovery Capacity	69,300 gpd 1,650 bpd	115,500 gpd 2,750 bpd	184,800 gpd 4,400 bpd
Daily Storage Capacity	138,600 gpd 3,300 bpd	231,000 gpd 5,500 bpd	369,600 gpd 8,800 bpd

- The shoreline cleanup volume is determined to be (b) (7)(F) [redacted] Equipment (pumps, vacuum trucks/tanks, and pump trucks) capable of meeting the required effective daily recovery rate is available within the required response time from SWS. KWPC has adequate daily storage capacity located at the KWPC bulk storage facility for each response tier.

Documentation of Response Decisions, Activities, and Costs

KWPC will use the standard forms in the National Interagency Incident Management System (NIIMS) to document response decisions, activities, and costs. A copy of these forms is presented in Appendix D.

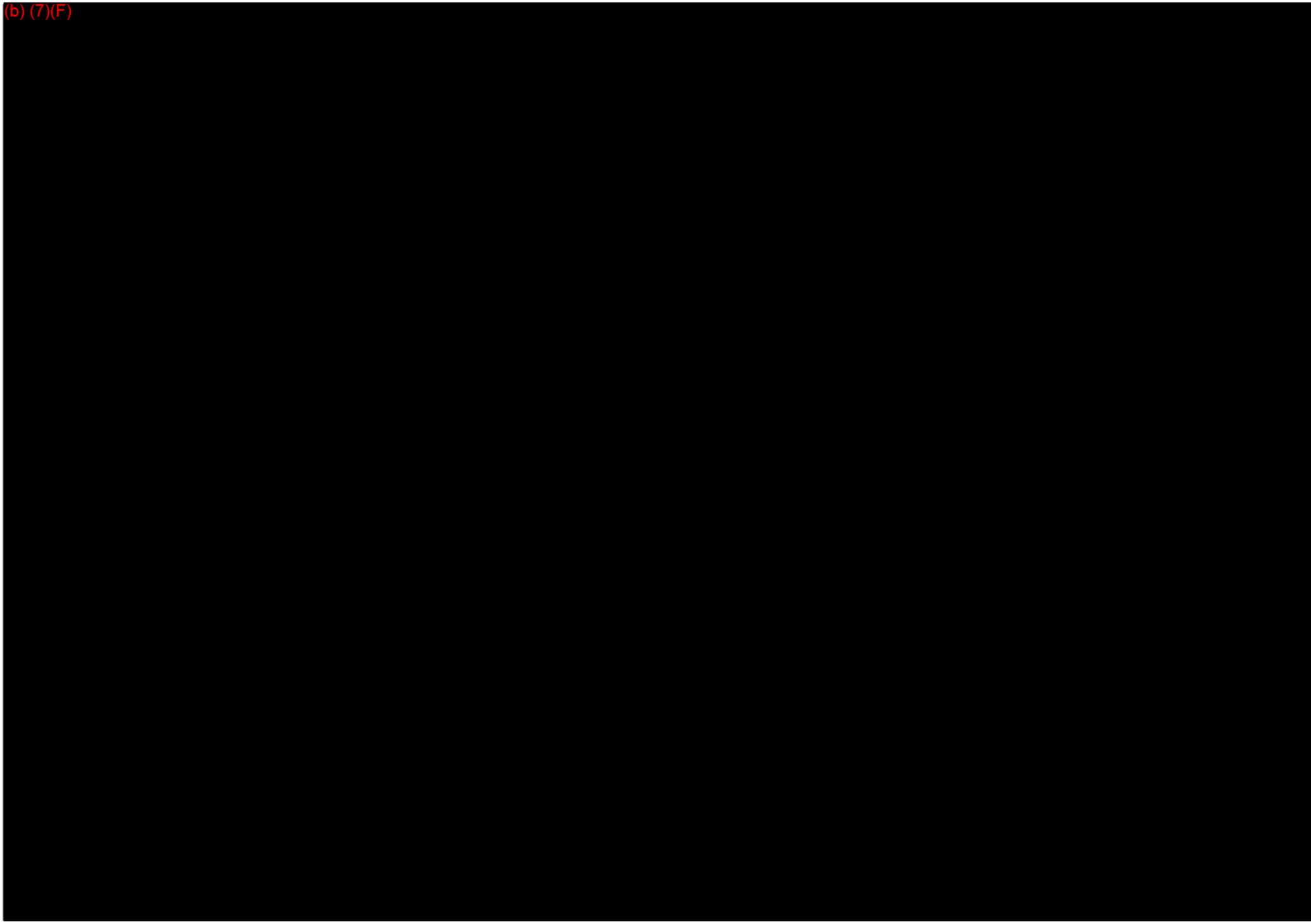
TABLE I-11

KEY WEST PIPELINE COMPANY BULK PETROLEUM STORAGE CONTAINERS

TANK ID	CONTENTS	MAXIMUM CAPACITY	MAXIMUM FILL CAPACITY	TANK TYPE / DATE OF INSTALLA-TION	SECONDARY CONTAINMENT (CAPACITY)	LEAK DETECTION SYSTEM/ ALARM
Tank 1	JP-5 Fuel	(b) (7)(F)		Single-Walled Floating Roof Steel AST/1963	(b) (7)(F)	(b) (7)(F)
Tank 2	JP-5 Fuel			Single-Walled Floating Roof Steel AST/1963		
Tank 3	JP-5 Fuel			Single-Walled Floating Roof Steel AST/1963		
Tank 4	Water Bottoms			Double-Walled Fixed Roof Steel AST/1999		

H. Facility Diagrams

The following pages contain the KWPC facility diagrams. Figures I-3A through I-3D depict the KWPC facility layout including the location of the pipelines. Figure I-4 depicts the evacuation routes in case of a serious discharge. Figure I-5A through I-5E presents the booming strategies and the environmental sensitivity maps. Figure I-6A and I-6B are the Geographic Response Maps from the area contingency plan for the Key West area. Figure(s) I-7 show the Tidal Inlet Protection Strategies for Cow Key Channel and Boca Chica Channel.


(b) (7)(F)

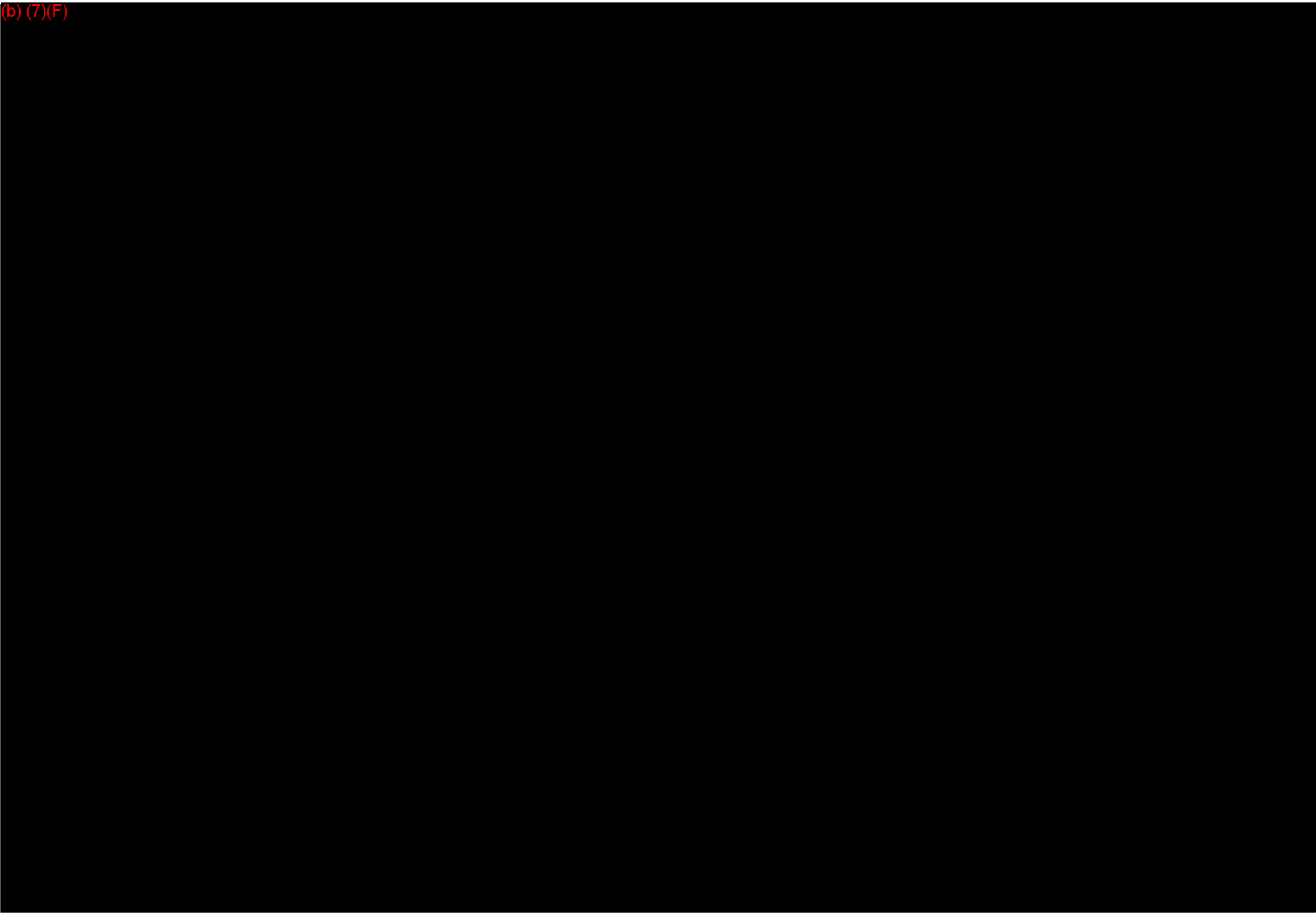

(b) (7)(F)

Figure I-3C Facility Layout DOT Pipeline Segment

Page I-27

(b) (7)(F)

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(b) (7)(F)

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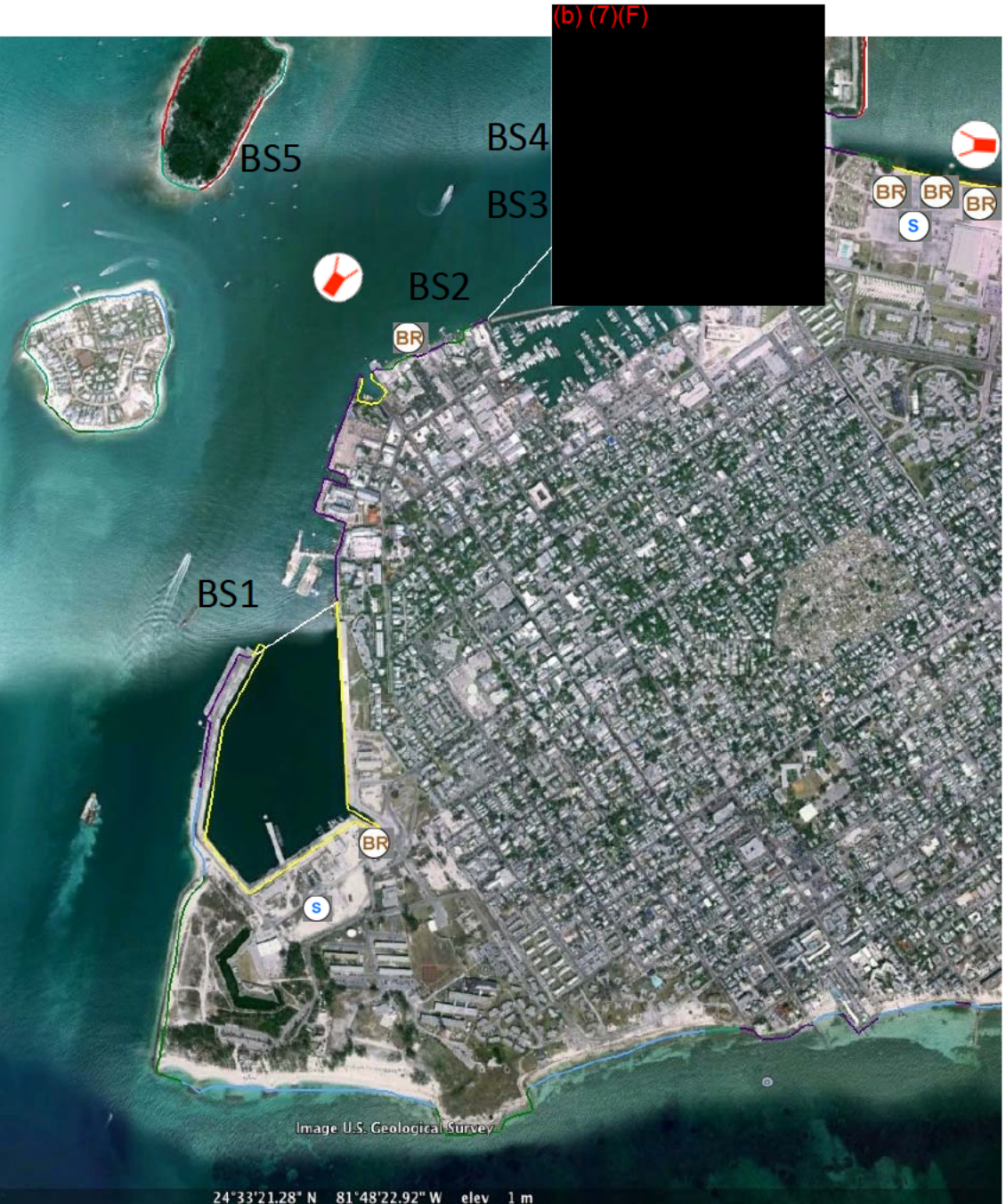
(b) (7)(F)

Figure I-5A Overall Booming Strategy & Environmental Sensitivity Map

Figure I-5B Booming Strategy & Environmental Sensitivity Map View 1



BS1 807 ft
BS2 971 ft
BS3 403 ft
BS4 308 ft
BS5 1,347 ft

SHORELINE HABITAT RANKINGS

- 1 EXPOSED VERTICAL ROCKY SHORES EXPOSED SEAWALLS
- 2 EXPOSED ROCKY PLATFORMS
- 3 FINE-GRAINED SAND BEACHES
- 4 COARSE-GRAINED SAND BEACHES
- 5 MIXED SAND AND GRAVEL (SHELL) BEACHES/FILL
- 6 GRAVEL BEACHES/RIPRAP
- 7 EXPOSED TIDAL FLATS
- 8 SHELTERED ROCKY SHORES/SEAWALLS/ VEGETATED BANKS, SOLID MAN-MADE STRUCTURES
- 9 SHELTERED TIDAL FLATS
- 10A EXPOSED MARSHES AND/OR MANGROVES
- 10E SHELTERED MARSHES AND/OR MANGROVES

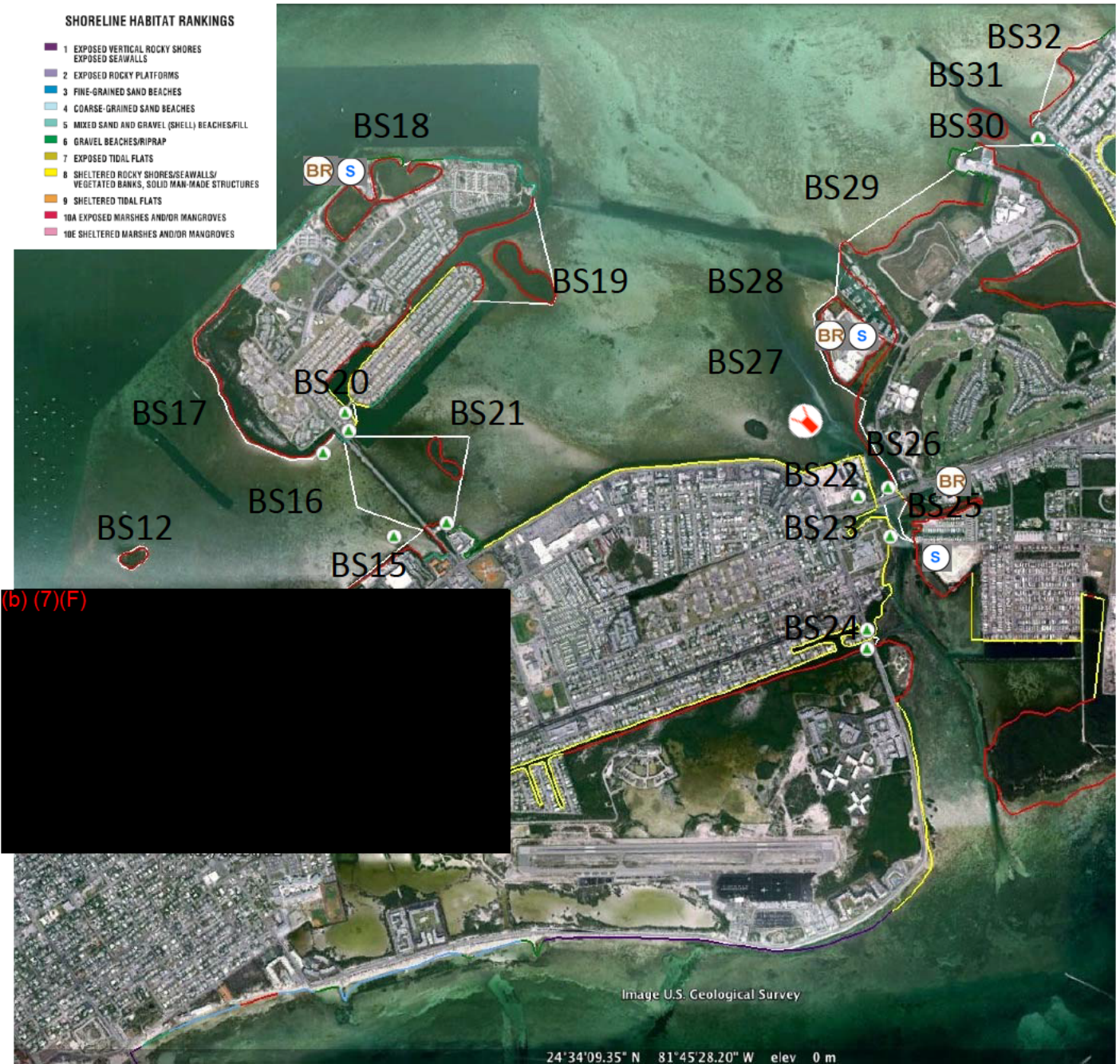
- Incident Command Post
- Shallow Water Skimmer
- BR Boat Ramp
- S Staging Area
- Collection Point
- BS Boom Site (Boom indicated in white lines)

Figure I-5C Booming Strategy & Environmental Sensitivity Map View 2

BS7 360 ft
BS8 3,435 ft
BS9 2,947 ft
BS10 700 ft
BS11 2,753 ft

Incident Command Post
Shallow Water Skimmer
BR Boat Ramp
S Staging Area
Collection Point
BS Boom Site (Boom indicated in white lines)

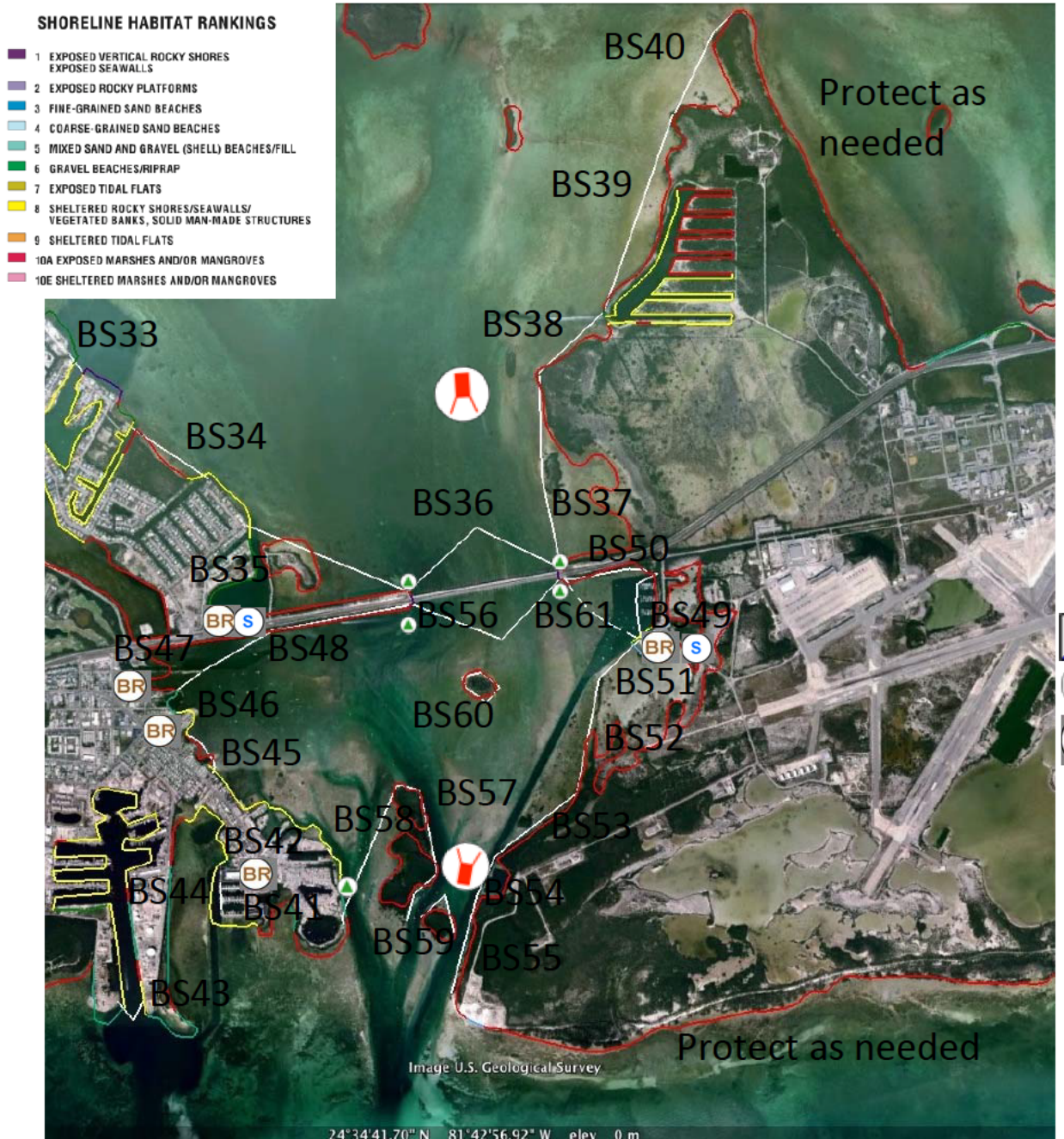
Figure I-5D Booming Strategy & Environmental Sensitivity Map View 3



BS6 400 ft
BS12 1,235 ft
BS13 1,013 ft
BS14 837 ft
BS15 1,580 ft
BS16 2,065 ft
BS17 2,891 ft
BS18 161 ft
BS19 2,923 ft
BS20 290 ft
BS21 1,813 ft & 1,420 ft
BS22 335 ft
BS23 806 ft
BS24 222 ft
BS25 829 ft
BS26 1,540 ft
BS27 2,116 ft
BS28 731 ft
BS29 2,121 ft
BS30 1,462 ft
BS31 1,100 ft
BS32 835 ft

Incident Command Post
Shallow Water Skimmer
BR Boat Ramp
S Staging Area
Collection Point
BS Boom Site (Boom indicated in white lines)

Figure I-5E Booming Strategy & Environmental Sensitivity Map View 4



BS33 413 ft	BS48 2,380 ft
BS34 1,605 ft	BS49 1,296 ft
BS35 2,930 ft	BS50 1,632 ft
BS36 3,140 ft	BS51 490 ft
BS37 3,233 ft	BS52 1,943 ft
BS38 1,545 ft	BS53 1,539 ft
BS39 3,493 ft	BS54 1,258 ft
BS40 2,024 ft	BS55 1,363 ft
BS41 168 ft	BS56 3,053 ft
BS42 190 ft	BS57 2,845 ft
BS43 803 ft	BS58 2,362 ft
BS44 460 ft	BS59 1,316 ft
BS45 897 ft	BS60 1,684 ft
BS46 517 ft	BS61 1,640 ft
BS47 1,370 ft	(Optional)

Incident Command Post

Shallow Water Skimmer

BR Boat Ramp

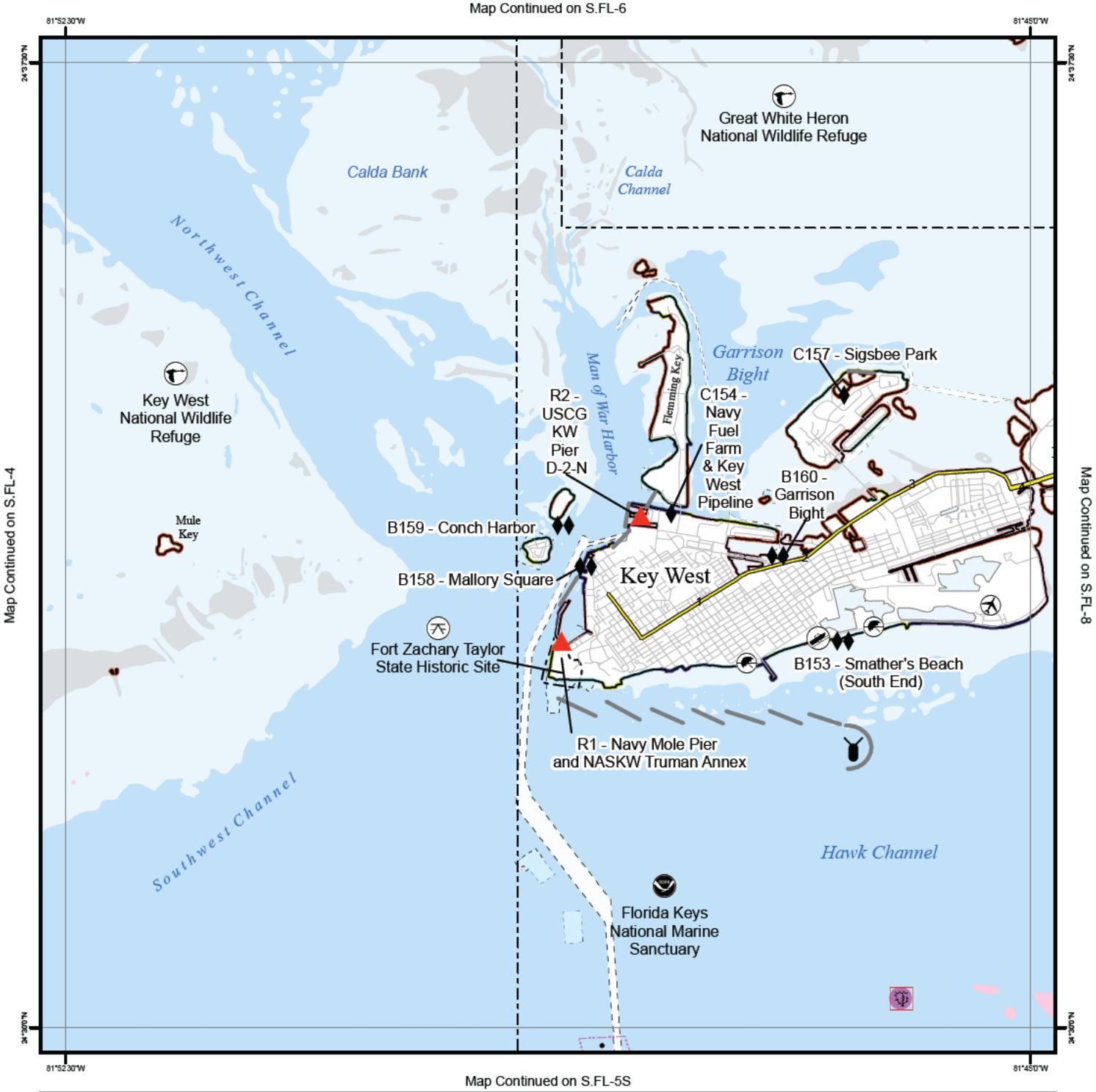
S Staging Area

Collection Point

BS Boom Site (Boom indicated in white lines)

FIGURE I-6A GEOGRAPHICAL RESPONSE MAPS (GRP 5) FOR KEY WEST

Map Continued on S.FL-6



Map Continued on S.FL-5S

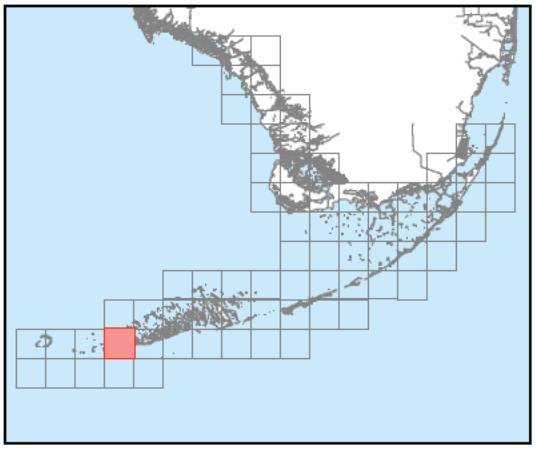
Geographic Response Plan Map
S.FL-5

US Coast Guard
Sector Key West

Florida Fish and Wildlife
Conservation Commission
Fish and Wildlife Research Institute

N
W E
S

Miles
0.5 0 0.5 1 1.5



OIL SPILL SENSITIVE AREA REPORT- SECTOR: Key West

(b) (7)(F)

Map Information

GRP MAP: S.FL-5 **TOPO NAME:** KEY WEST, FLA.(1971) **OTHER MAP:**
ESI MAP: S.FL-5 **ESI MAP NAME:** KEY WEST, FLA.(1971) **OPERATIONAL AREA:**
NOAA CHART: 11441 **NOAA CHART NAME:** KEY WEST HARBOR AND APPROACHES
USGS QUAD: 24081-E7 **USGS QUAD NAME:** Key West

Contact List - Contact - Expertise - Phone

CONTACTS/STAKEHOLDERS (below): **OWNER:**

FL State Warning Point (800) 320-0519/ FWC-Non-Game Biologist-(561)625-5122/ City of Key West - 305-809-3700/ Fort Zachary Taylor - (305) 292-6713/ National Response Center: 1-800-424-8802

Resources at Risk

SHORELINE TYPES:

WILDLIFE RESOURCES TO BE PROTECTED:

Shallow, submerged live bottom

HABITAT TO BE PROTECTED:

Sandy beach

THREATENED SPECIES: Turtles (south end)

Response Considerations

STAGING AREAS: East Quay Truman Harbor

COLLECTION POINTS:

AREA ACCESS: boat (shallow draft)/ vehicle **PHYSICAL DESCRIPTION:**

POTENTIAL SPILL SOURCES:

TIDAL RANGE: **FT.** **MAX CURRENT:** **KTS.**

Protection Strategies

MIN BOOM LENGTH: 1400 **FT.** **BOOMING METHOD:** Deflect\Protect

PROTECTION STRATEGY (below): **DEGREE OF PROTECTABILITY:**

12,000' diversion boom and skimmers. 2,000' tidal boom.Minimum resources needed for on water recovery: 2 shallow water skimmers. 5000' exclusion boom, size and type to be determined by location of spill and weather conditions to include wind and sea state. Response strategy to be based on over flightobservations and trajectory modeling if available. Availability of collection/deflection booms and weather/tidal conditions will affect tactics and resource protection strategies. Protection will be focused on choke points to prevent contaminationof sensitive areas. Near shore, consider sorbent boom or snare boom deployed by shallow water vessels to protect sensitive shorelines. In-situ burning may be a consideration.

OTHER RESPONSE RESOURCES :

OTHER RESOURCES AVAILABLE:

NEAREST AVAILABLE RESOURCES: _____

PERSONNEL AVAILABLE: _____

POINT OF CONTACT/AGENCY: _____ **PH. #** _____

POINT OF CONTACT/AGENCY: _____ **PH. #** _____

BOOM: TYPE: _____ **LENGTH:** _____ **SKIMMER: TYPE:** _____ **NUMBER:** _____

TYPE: _____ **LENGTH:** _____ **TYPE:** _____ **NUMBER:** _____

Site report produced by Florida FWC - Fish and Wildlife Research Institute on: Tuesday, March 17, 2009 @ 5:01 pm

For additional information, please contact the FWC - FWRI - Center for Spatial Analysis (727) 896-8626

OIL SPILL SENSITIVE AREA REPORT- SECTOR: Key West

SITE NAME: USCG KW Pier D-2-N **SITE ID:** R2

(b) (7)(F) [redacted]

GEN LOCATION:

Map Information

GRP MAP: S.FL-5 **TOPO NAME:** KEY WEST, FLA.(1971) **OTHER MAP:**
ESI MAP: S.FL-5 **ESI MAP NAME:** KEY WEST, FLA.(1971) **OPERATIONAL AREA:**
NOAA CHART: 11447 **NOAA CHART NAME:** KEY WEST HARBOR
USGS QUAD: 24081-E7 **USGS QUAD NAME:** Key West

Contact List - Contact - Expertise - Phone

CONTACTS/STAKEHOLDERS (below): **OWNER:** Key West Pipeline Co.

FL State Warning Point (800) 320-0519\ FWC-Non-Game Biologist-(561)625-5122/ National Response Center: 1-800-424-8802/ NASKW Port OPS (305) 293-4755, Env Dept - Ed Barham - (305) 293-2911, Fire Dept. (305) 293-3333Key West Pipeline Co. - (305) 522-0252

Resources at Risk

SHORELINE TYPES: Ship Pier - Solid Bulkhead
WILDLIFE RESOURCES TO BE PROTECTED:

HABITAT TO BE PROTECTED:

THREATENED SPECIES:

Response Considerations

STAGING AREAS: USCG Key West

COLLECTION POINTS: Key West Pipeline Co., Trumbo Point Annex, Naval Air Station Key West

AREA ACCESS: Boat/vehicle/Helicopter **PHYSICAL DESCRIPTION:**
POTENTIAL SPILL SOURCES:
TIDAL RANGE: **FT.** **MAX CURRENT:** **KTS.**

Protection Strategies

MIN BOOM LENGTH:300' **FT.** **BOOMING METHOD:** Protection booming Pier D-2 to D-3
PROTECTION STRATEGY (below): **DEGREE OF PROTECTABILITY:**

Protection booming primary and secondary, 300' secondary protection boomingMinimum resources needed for on water recovery: 2 shallow water skimmers. 5000' exclusion boom, size and type to be determined by location of spill and weather conditions to include wind and sea state. Response strategy to be based on over flightobservations and trajectory modeling if available. Availability of collection/deflection booms and weather/tidal conditions will affect tactics and resource protection strategies. Protection will be focused on choke points to prevent contaminationof sensitive areas. Near shore, consider sorbent boom or snare boom deployed by shallow water vessels to protect sensitive shorelines. In-situ burning may be a consideration.

OTHER RESPONSE RESOURCES : Key West Pipeline Co., Trumbo Point

OTHER RESOURCES AVAILABLE:
1 Boom Boat, 5 Utility Boats, 1-PWC, 2 - Vaccuum Trucks, 3 - 5 Ton Trucks, 2000' Sorbent Boom, 260 Sorbent Rolls

NEAREST AVAILABLE RESOURCES: _____
PERSONNEL AVAILABLE: _____
POINT OF CONTACT/AGENCY: _____ **PH. #** _____
POINT OF CONTACT/AGENCY: _____ **PH. #** _____
BOOM: TYPE: _____ **LENGTH:** _____ **SKIMMER: TYPE:** _____ **NUMBER:** _____
TYPE: _____ **LENGTH:** _____ **TYPE:** _____ **NUMBER:** _____

Site report produced by Florida FWC - Fish and Wildlife Research Institute on: Tuesday, March 17, 2009 @ 5:01 pm
For additional information, please contact the FWC - FWRI - Center for Spatial Analysis (727) 896-8626

OIL SPILL SENSITIVE AREA REPORT- SECTOR: Key West

(b) (7)(F) [redacted]

Map Information

GRP MAP: S.FL-5 **TOPO NAME:** KEY WEST, FLA.(1971) **OTHER MAP:**
ESI MAP: S.FL-5 **ESI MAP NAME:** KEY WEST, FLA.(1971) **OPERATIONAL AREA:**
NOAA CHART: 11447 **NOAA CHART NAME:** KEY WEST HARBOR
USGS QUAD: 24081-E7 **USGS QUAD NAME:** Key West

Contact List - Contact - Expertise - Phone

CONTACTS/STAKEHOLDERS (below): **OWNER:** Naval Air Station Key West

FL State Warning Point (800) 320-0519\ FWC-Non-Game Biologist-(561)625-5122/ National Response Center: 1-800-424-8802/ NASKW Port OPS (305) 293-4755, Env Dept - Ed Barham - (305) 293-2911, Fire Dept. (305) 293-3333

Resources at Risk

SHORELINE TYPES: Ship Piers, Boat Docks, Sea walls
WILDLIFE RESOURCES TO BE PROTECTED:

HABITAT TO BE PROTECTED:

THREATENED SPECIES:

Response Considerations

STAGING AREAS: Truman Annex Mole Pier

COLLECTION POINTS: Truman Annex Mole Pier

AREA ACCESS: Boat/vehicle/Helicopter **PHYSICAL DESCRIPTION:** Solid Bulkhead Pier, Enclosed Harbor
POTENTIAL SPILL SOURCES:
TIDAL RANGE: **FT.** **MAX CURRENT:** **KTS.**

Protection Strategies

MIN BOOM LENGTH: 600' **FT.** **BOOMING METHOD:** Containment Boom
PROTECTION STRATEGY (below): **DEGREE OF PROTECTABILITY:** Harbor containment

Naval Air Station Key West Facility Response PlanMinimum resources needed for on water recovery: 2 shallow water skimmers. 5000' exclusion boom, size and type to be determined by location of spill and weather conditions to include wind and sea state. Response strategy to be based on over flightobservations and trajectory modeling if available. Availability of collection/deflection booms and weather/tidal conditions will affect tactics and resource protection strategies. Protection will be focused on choke points to prevent contaminationof sensitive areas. Near shore, consider sorbent boom or snare boom deployed by shallow water vessels to protect sensitive shorelines. In-situ burning may be a consideration.

OTHER RESPONSE RESOURCES : Nearest available resources: NAS Key West Port Operations, Personnel - NAVY - 30, POC - Port OPS Officer - (305) 293-4755, Env Dir - (305) 293-2911. Boom Type II 10,900' Belt Skimmer #1/ Type I -

OTHER RESOURCES AVAILABLE:
1 Boom Boat, 5 Utility Boats, 1-PWC, 2 - Vaccuum Trucks, 3 - 5 Ton Trucks, 2000' Sorbent Boom, 260 Sorbent Rolls

NEAREST AVAILABLE RESOURCES: _____
PERSONNEL AVAILABLE: _____
POINT OF CONTACT/AGENCY: _____ **PH. #** _____
POINT OF CONTACT/AGENCY: _____ **PH. #** _____
BOOM: TYPE: _____ **LENGTH:** _____ **SKIMMER: TYPE:** _____ **NUMBER:** _____
TYPE: _____ **LENGTH:** _____ **TYPE:** _____ **NUMBER:** _____

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OIL SPILL SENSITIVE AREA REPORT- SECTOR: Key West

(b) (7)(F)

[redacted]

Map Information

GRP MAP: S.FL-5 **TOPO NAME:** KEY WEST, FLA.(1971) **OTHER MAP:**
ESI MAP: S.FL-5 **ESI MAP NAME:** KEY WEST, FLA.(1971) **OPERATIONAL AREA:**
NOAA CHART: 11441 **NOAA CHART NAME:** KEY WEST HARBOR AND APPROACHES
USGS QUAD: 24081-E7 **USGS QUAD NAME:** Key West

Contact List - Contact - Expertise - Phone

CONTACTS/STAKEHOLDERS (below): **OWNER:**

FL State Warning Point (800) 320-0519\William Hunt - Public works/Environmental,NAS Boca Chica, Key West, FL 33040, Quarterdeack - (305) 293-2268 - CDO - (305) 797-4428/ FAX/ FWC-Non-Game Biologist-(561)625-5122National Response Center: 1-800-424-8802

Resources at Risk

SHORELINE TYPES:

WILDLIFE RESOURCES TO BE PROTECTED:

Unknown

HABITAT TO BE PROTECTED:

Basin inside park, Mangroves, Seagrass

THREATENED SPECIES: Unknown

Response Considerations

STAGING AREAS: Sigsbee Marina

COLLECTION POINTS: Sigsbee Marina

AREA ACCESS: boat\vehicle **PHYSICAL DESCRIPTION:**

POTENTIAL SPILL SOURCES:

TIDAL RANGE: **FT.** **MAX CURRENT:** **KTS.**

Protection Strategies

MIN BOOM LENGTH:200 **FT.** **BOOMING METHOD:** Protect

PROTECTION STRATEGY (below): **DEGREE OF PROTECTABILITY:**

200' protection boom at entrance.Minimum resources needed for on water recovery: 2 shallow water skimmers. 5000' exclusion boom, size and type to be determined by location of spill and weather conditions to include wind and sea state. Response strategy to be based on over flightobservations and trajectory modeling if available. Availability of collection/deflection booms and weather/tidal conditions will affect tactics and resource protection strategies. Protection will be focused on choke points to prevent contaminationof sensitive areas. Near shore, consider sorbent boom or snare boom deployed by shallow water vessels to protect sensitive shorelines. In-situ burning may be a consideration.

OTHER RESPONSE RESOURCES : Boom In place: Type III 300' Sigsbee Marina (305) 293-2402, Type II 300' NAS Port OPS (305) 293-4755/ Skimmer - Belt - # 1 NASKW PORT OPS - (305)293-4755/ Personnel 30 Navy

OTHER RESOURCES AVAILABLE:

NAVY/NASKW - 1 Boom boat, 5 untility boats, 8000ft boom, type II, 2 vaccuum trucks, 10 pallets absorbent boom, 3 - 5 ton trucks, 1 PWC

NEAREST AVAILABLE RESOURCES: _____

PERSONNEL AVAILABLE: _____

POINT OF CONTACT/AGENCY: _____

POINT OF CONTACT/AGENCY: _____ **PH. #** _____

BOOM: TYPE: _____ **LENGTH:** _____ **SKIMMER: TYPE:** _____ **NUMBER:** _____

TYPE: _____ **LENGTH:** _____ **TYPE:** _____ **NUMBER:** _____

Site report produced by Florida FWC - Fish and Wildlife Research Institute on: Tuesday, March 17, 2009 @ 5:01 pm

For additional information, please contact the FWC - FWRI - Center for Spatial Analysis (727) 896-8626

OIL SPILL SENSITIVE AREA REPORT- SECTOR: Key West

(b) (7)(F) [redacted]

Map Information

GRP MAP: S.FL-5 **TOPO NAME:** KEY WEST, FLA.(1971) **OTHER MAP:**
ESI MAP: S.FL-5 **ESI MAP NAME:** KEY WEST, FLA.(1971) **OPERATIONAL AREA:**
NOAA CHART: 11447 **NOAA CHART NAME:** KEY WEST HARBOR
USGS QUAD: 24081-E7 **USGS QUAD NAME:** Key West

Contact List - Contact - Expertise - Phone

CONTACTS/STAKEHOLDERS (below): **OWNER:**

FL State Warning Point (800) 320-0519\Public works/Environmental,NAS Boca Chica, Key West, FL 33040 Quarterdeck - (305) 293-2268, CDO - (305) 797-4428/ FWC-Non-Game Biologist-(561)625-5122National Response Center: 1-800-424-8802/ Key West Pipeline - Vic Maley - (305) 244-4812, Mark Rauch - (713) 627-1700, Cell - (713) 829-0065

Resources at Risk

SHORELINE TYPES:
WILDLIFE RESOURCES TO BE PROTECTED:
N.A.

(b) (7)(F) [redacted]

THREATENED SPECIES: N.A.

Response Considerations

STAGING AREAS: USCG Key West

COLLECTION POINTS:

AREA ACCESS: boat/vehicle **PHYSICAL DESCRIPTION:**
POTENTIAL SPILL SOURCES:
TIDAL RANGE: **FT.** **MAX CURRENT:** **KTS.**

Protection Strategies

MIN BOOM LENGTH: **FT.** **BOOMING METHOD:**
PROTECTION STRATEGY (below): **DEGREE OF PROTECTABILITY:**

Own contigency plan. Key West Pipeline Co. FRP, NAS Key West FRPMinimum resources needed for on water recovery: 2 shallow water skimmers. 5000' exclusion boom, size and type to be determined by location of spill and weather conditions to include wind and sea state. Response strategy to be based on over flightobservations and trajectory modeling if available. Availability of collection/deflection booms and weather/tidal conditions will affect tactics and resource protection strategies. Protection will be focused on choke points to prevent contaminationof sensitive areas. Near shore, consider sorbent boom or snare boom deployed by shallow water vessels to protect sensitive shorelines. In-situ burning may be a consideration.

OTHER RESPONSE RESOURCES : See Key west Pipeline Co. FRP

OTHER RESOURCES AVAILABLE:

NEAREST AVAILABLE RESOURCES: _____
PERSONNEL AVAILABLE: _____
POINT OF CONTACT/AGENCY: _____ **PH. #** _____
POINT OF CONTACT/AGENCY: _____ **PH. #** _____
BOOM: TYPE: _____ **LENGTH:** _____ **SKIMMER: TYPE:** _____ **NUMBER:** _____
TYPE: _____ **LENGTH:** _____ **TYPE:** _____ **NUMBER:** _____

Site report produced by Florida FWC - Fish and Wildlife Research Institute on: Tuesday, March 17, 2009 @ 5:01 pm
For additional information, please contact the FWC - FWRI - Center for Spatial Analysis (727) 896-8626

OIL SPILL SENSITIVE AREA REPORT- SECTOR: Key West

(b) (7)(F)

[redacted]

Map Information

GRP MAP: S.FL-5 **TOPO NAME:** KEY WEST, FLA.(1971) **OTHER MAP:**
ESI MAP: S.FL-5 **ESI MAP NAME:** KEY WEST, FLA.(1971) **OPERATIONAL AREA:**
NOAA CHART: 11447 **NOAA CHART NAME:** KEY WEST HARBOR
USGS QUAD: 24081-E7 **USGS QUAD NAME:** Key West

Contact List - Contact - Expertise - Phone

CONTACTS/STAKEHOLDERS (below): **OWNER:**

FL State Warning Point (800) 320-0519\City of Key West/ FWC-Non-Game Biologist-(561)625-5122/ National Response Center: 1-800-424-8802/ City of Key West

Resources at Risk

SHORELINE TYPES:

WILDLIFE RESOURCES TO BE PROTECTED:

HABITAT TO BE PROTECTED:

THREATENED SPECIES:

Response Considerations

STAGING AREAS: Garrison Bight Marina

COLLECTION POINTS:

AREA ACCESS: boat\vehicle **PHYSICAL DESCRIPTION:**

POTENTIAL SPILL SOURCES:

TIDAL RANGE: **FT.** **MAX CURRENT:** **KTS.**

Protection Strategies

MIN BOOM LENGTH: 500 **FT.** **BOOMING METHOD:** Protect

PROTECTION STRATEGY (below): **DEGREE OF PROTECTABILITY:**

500' protection boom at entrance.Minimum resources needed for on water recovery: 2 shallow water skimmers. 5000' exclusion boom, size and type to be determined by location of spill and weather conditions to include wind and sea state. Response strategy to be based on over flightobservations and trajectory modeling if available. Availability of collection/deflection booms and weather/tidal conditions will affect tactics and resource protection strategies. Protection will be focused on choke points to prevent contaminationof sensitive areas. Near shore, consider sorbent boom or snare boom deployed by shallow water vessels to protect sensitive shorelines. In-situ burning may be a consideration.

OTHER RESPONSE RESOURCES :

OTHER RESOURCES AVAILABLE:

NEAREST AVAILABLE RESOURCES: _____

PERSONNEL AVAILABLE: _____

POINT OF CONTACT/AGENCY: _____ **PH. #** _____

POINT OF CONTACT/AGENCY: _____ **PH. #** _____

BOOM: **TYPE:** _____ **LENGTH:** _____ **SKIMMER:** **TYPE:** _____ **NUMBER:** _____

TYPE: _____ **LENGTH:** _____ **TYPE:** _____ **NUMBER:** _____

Site report produced by Florida FWC - Fish and Wildlife Research Institute on: Tuesday, March 17, 2009 @ 5:01 pm

For additional information, please contact the FWC - FWRI - Center for Spatial Analysis (727) 896-8626

OIL SPILL SENSITIVE AREA REPORT- SECTOR: Key West

(b) (7)(F) [redacted]

Map Information

GRP MAP: S.FL-5 **TOPO NAME:** KEY WEST, FLA.(1971) **OTHER MAP:**
ESI MAP: S.FL-5 **ESI MAP NAME:** KEY WEST, FLA.(1971) **OPERATIONAL AREA:**
NOAA CHART: 11447 **NOAA CHART NAME:** KEY WEST HARBOR
USGS QUAD: 24081-E7 **USGS QUAD NAME:** Key West

Contact List - Contact - Expertise - Phone

CONTACTS/STAKEHOLDERS (below): **OWNER:**

FL State Warning Point (800) 320-0519\City of Key West - Port Operations Raymond Archer (305) 809-3790/ FWC-Non-Game Biologist-(561)625-5122/ National Response Center: 1-800-424-8802

Resources at Risk

SHORELINE TYPES:
WILDLIFE RESOURCES TO BE PROTECTED:
N.A.

HABITAT TO BE PROTECTED:
Boating, Marinas

THREATENED SPECIES: N.A.

Response Considerations

STAGING AREAS: Truman Harbor East Quay

COLLECTION POINTS: On water collection reference Mallory Square booming strategy

AREA ACCESS: boat\vehicle **PHYSICAL DESCRIPTION:**
POTENTIAL SPILL SOURCES:
TIDAL RANGE: **FT.** **MAX CURRENT:** **KTS.**

Protection Strategies

MIN BOOM LENGTH: 1000 **FT.** **BOOMING METHOD:** Protect
PROTECTION STRATEGY (below): **DEGREE OF PROTECTABILITY:**

1,000' protection boom at entrance.Minimum resources needed for on water recovery: 2 shallow water skimmers. 5000' exclusion boom, size and type to be determined by location of spill and weather conditions to include wind and sea state. Response strategy to be based on over flightobservations and trajectory modeling if available. Availability of collection/deflection booms and weather/tidal conditions will affect tactics and resource protection strategies. Protection will be focused on choke points to prevent contaminationof sensitive areas. Near shore, consider sorbent boom or snare boom deployed by shallow water vessels to protect sensitive shorelines. In-situ burning may be a consideration.

OTHER RESPONSE RESOURCES :

OTHER RESOURCES AVAILABLE:

NEAREST AVAILABLE RESOURCES: _____
PERSONNEL AVAILABLE: _____
POINT OF CONTACT/AGENCY: _____ **PH. #** _____
POINT OF CONTACT/AGENCY: _____ **PH. #** _____
BOOM: TYPE: _____ **LENGTH:** _____ **SKIMMER: TYPE:** _____ **NUMBER:** _____
TYPE: _____ **LENGTH:** _____ **TYPE:** _____ **NUMBER:** _____

Site report produced by Florida FWC - Fish and Wildlife Research Institute on: Tuesday, March 17, 2009 @ 5:01 pm
For additional information, please contact the FWC - FWRI - Center for Spatial Analysis (727) 896-8626

OIL SPILL SENSITIVE AREA REPORT- SECTOR: Key West

SITE NAME: Mallory Square **SITE ID:** B158

(b) (7)(F) [redacted]

Map Information

GRP MAP: S.FL-5 **TOPO NAME:** KEY WEST, FLA.(1971) **OTHER MAP:**
ESI MAP: S.FL-5 **ESI MAP NAME:** KEY WEST, FLA.(1971) **OPERATIONAL AREA:**
NOAA CHART: 11447 **NOAA CHART NAME:** KEY WEST HARBOR
USGS QUAD: 24081-E7 **USGS QUAD NAME:** Key West

Contact List - Contact - Expertise - Phone

CONTACTS/STAKEHOLDERS (below): **OWNER:**

FL State Warning Point (800) 320-0519\City of Key West, Police Department - Raymond Archer (305) 809-3790/ Port Operations - (305) 797-8361 (cell), (305) 809-3792/ FWC-Non-Game Biologist-(561)625-5122

Resources at Risk

SHORELINE TYPES:

WILDLIFE RESOURCES TO BE PROTECTED:

N.A.

HABITAT TO BE PROTECTED:

Boating area, high tourist levels

THREATENED SPECIES: N.A.

Response Considerations

STAGING AREAS: Truman Harbor East Quay

COLLECTION POINTS:

AREA ACCESS: aircraft\boat\helicopter **PHYSICAL DESCRIPTION:**

POTENTIAL SPILL SOURCES:

TIDAL RANGE: **FT.** **MAX CURRENT:** **KTS.**

Protection Strategies

MIN BOOM LENGTH: 500 **FT.** **BOOMING METHOD:** Protect

PROTECTION STRATEGY (below): **DEGREE OF PROTECTABILITY:**

500' protection boom at entrance. 3000ft protection boomcovering eastern point Mallory Square to Naval Station located at Trumbo Point Pier D1.Minimum resources needed for on water recovery: 2 shallow water skimmers. 5000' exclusion boom, size and type to be determined by location of spill and weather conditions to include wind and sea state. Response strategy to be based on over flightobservations and trajectory modeling if available. Availability of collection/deflection booms and weather/tidal conditions will affect tactics and resource protection strategies. Protection will be focused on choke points to prevent contaminationof sensitive areas. Near shore, consider sorbent boom or snare boom deployed by shallow water vessels to protect sensitive shorelines. In-situ burning may be a consideration.

OTHER RESPONSE RESOURCES :

OTHER RESOURCES AVAILABLE:

NEAREST AVAILABLE RESOURCES: _____

PERSONNEL AVAILABLE: _____

POINT OF CONTACT/AGENCY: _____ **PH. #** _____

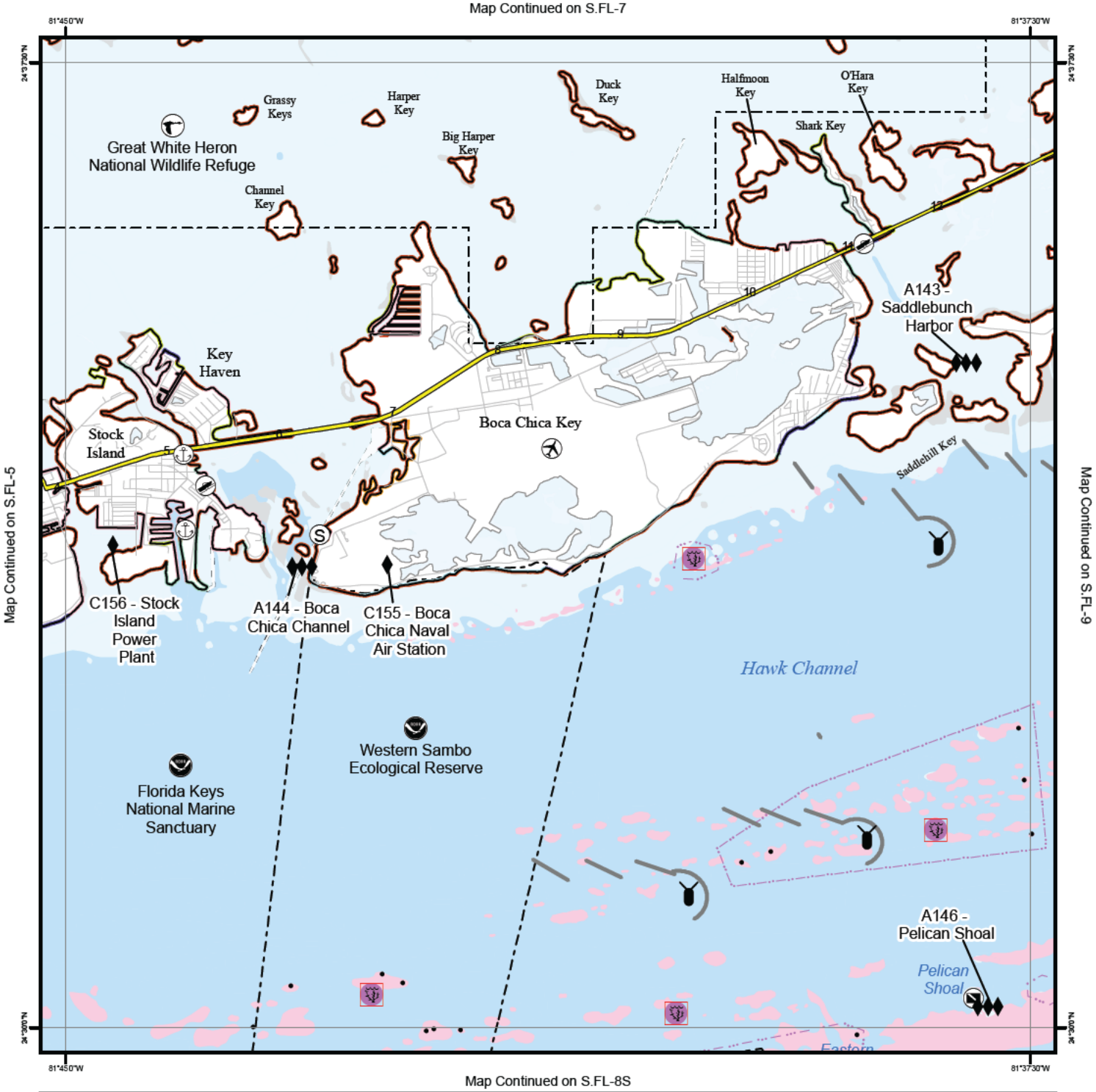
POINT OF CONTACT/AGENCY: _____ **PH. #** _____

BOOM: **TYPE:** _____ **LENGTH:** _____ **SKIMMER:** **TYPE:** _____ **NUMBER:** _____

TYPE: _____ **LENGTH:** _____ **TYPE:** _____ **NUMBER:** _____

FIGURE I-6B GEOGRAPHICAL RESPONSE MAPS (GRP 8) FOR KEY WEST

Map Continued on S.FL-7



Map Continued on S.FL-8S

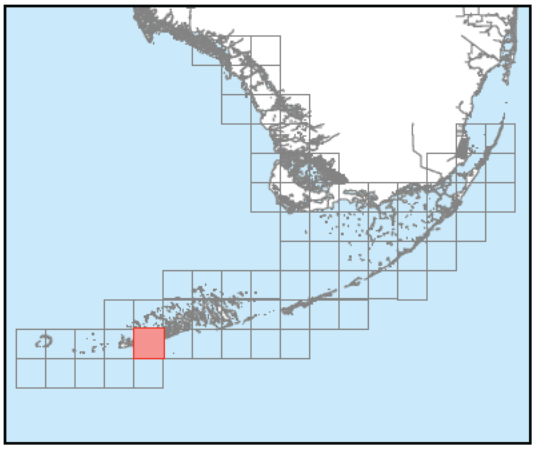
Geographic Response Plan Map S.FL-8

US Coast Guard
Sector Key West

Florida Fish and Wildlife
Conservation Commission
Fish and Wildlife Research Institute

N
W E
S

Miles
0.5 0 0.5 1 1.5



OIL SPILL SENSITIVE AREA REPORT- SECTOR: Key West

(b) (7)(F) [redacted]

Map Information

GRP MAP: S.FL-8 **TOPO NAME:** BOCA CHICA KEY, FLA.(1971) **OTHER MAP:**
ESI MAP: S.FL-8 **ESI MAP NAME:** BOCA CHICA KEY, FLA.(1971) **OPERATIONAL AREA:**
NOAA CHART: 11441 **NOAA CHART NAME:** KEY WEST HARBOR AND APPROACHES
USGS QUAD: 24081-E6 **USGS QUAD NAME:** Boca Chica Key

Contact List - Contact - Expertise - Phone

CONTACTS/STAKEHOLDERS (below): **OWNER:**

FL State Warning Point (800) 320-0519\NOAA/FKNMS: David Score - (305) 809-4700/ FWC-Non-Game Biologist-(561)625-5122/ National Response Center: 1-800-424-8802NASKW Quarterdeck - (305) 293-2268, CDO - (305) 797-4428

Resources at Risk

SHORELINE TYPES:
WILDLIFE RESOURCES TO BE PROTECTED:
Mangroves

HABITAT TO BE PROTECTED:
Channel mangroves, Shallow Seagrass / Harbottom

THREATENED SPECIES:

Response Considerations

STAGING AREAS: Robbies Marina - Stock Island

COLLECTION POINTS: Consider pre-emptive on water booming and skimming strategies

AREA ACCESS: boat/vehicle **PHYSICAL DESCRIPTION:**
POTENTIAL SPILL SOURCES:
TIDAL RANGE: **FT.** **MAX CURRENT:** **KTS.**

Protection Strategies

MIN BOOM LENGTH: 1400 **FT.** **BOOMING METHOD:** Deflect\Protect
PROTECTION STRATEGY (below): **DEGREE OF PROTECTABILITY:**

12,000' diversion boom and skimmers. 2,000' boom + NASKW 1500" containment boom NASKW FRP. (Reference Tidal Inlet Protection StrategyMinimum resources needed for on water recovery: 2 shallow water skimmers. 5000' exclusion boom, size and type to be determined by location of spill and weather conditions to include wind and sea state. Response strategy to be based on over flightobservations and trajectory modeling if available. Availability of collection/deflection booms and weather/tidal conditions will affect tactics and resource protection strategies. Protection will be focused on choke points to prevent contaminationof sensitive areas. Near shore, consider sorbent boom or snare boom deployed by shallow water vessels to protect sensitive shorelines. In-situ burning may be a consideration.

OTHER RESPONSE RESOURCES : Boom - Type II 1500' + Absorbent 2000', Port OPS (305) 293-4755/ Skimmer - Belt, Number 1, NASKW Port OPS - (305) 293-4755/ Personnel available: NAVY - 50

OTHER RESOURCES AVAILABLE:
Navy NASKW - 1 Boom Boat, 5 Utility BOats, 8000 ft boom, Type II, 2 vacuum trucks, 10 pallets absorbent boom, 3 - 5 ton trucks, 1PWC

NEAREST AVAILABLE RESOURCES: _____
PERSONNEL AVAILABLE: _____
POINT OF CONTACT/AGENCY: _____ **PH. #** _____
POINT OF CONTACT/AGENCY: _____ **PH. #** _____
BOOM: TYPE: _____ **LENGTH:** _____ **SKIMMER: TYPE:** _____ **NUMBER:** _____
TYPE: _____ **LENGTH:** _____ **TYPE:** _____ **NUMBER:** _____

Site report produced by Florida FWC - Fish and Wildlife Research Institute on: Tuesday, March 17, 2009 @ 5:01 pm
For additional information, please contact the FWC - FWRI - Center for Spatial Analysis (727) 896-8626

OIL SPILL SENSITIVE AREA REPORT- SECTOR: Key West

SITE NAME: Saddlebunch Harbor **SITE ID:** A143

(b) (7)(F) [redacted]

PRIORITY (SEASON): SPR A SUM A AUT A WIN A

GEN LOCATION:

Map Information

GRP MAP: S.FL-8 **TOPO NAME:** BOCA CHICA KEY, FLA.(1971) **OTHER MAP:**

ESI MAP: S.FL-8 **ESI MAP NAME:** BOCA CHICA KEY, FLA.(1971) **OPERATIONAL AREA:**

NOAA CHART: 11445 **NOAA CHART NAME:** SUGARLOAF KEY TO KEY WEST

USGS QUAD: 24081-E6 **USGS QUAD NAME:** Boca Chica Key

Contact List - Contact - Expertise - Phone

CONTACTS/STAKEHOLDERS (below): **OWNER:**

FL State Warning Point (800) 320-0519\Manager - Florida Keys National Marine Sanctuary - (305) 743-2437 or (305) 872-4039\Refuge Manager - USFWS-National Key Deer Refuge - (305) 872-2239/ FWC-Non-Game Biologist- (561)625-5122National Response Center: 1-800-424-8802

Resources at Risk

SHORELINE TYPES:

WILDLIFE RESOURCES TO BE PROTECTED:

Mangroves, Seagrass, Birds, Endangered species

HABITAT TO BE PROTECTED:

Mangroves, Tidal creeks, Shallow Seagrass / Harbottom

THREATENED SPECIES: Silver Rice Rat, Lower Keys Marsh Rabbit

Response Considerations

STAGING AREAS: Geiger Key Marina

COLLECTION POINTS:

AREA ACCESS: boat (shallow draft) **PHYSICAL DESCRIPTION:**

POTENTIAL SPILL SOURCES:

TIDAL RANGE: **FT.** **MAX CURRENT:** **KTS.**

Protection Strategies

MIN BOOM LENGTH: 5000 **FT.** **BOOMING METHOD:** Deflect

PROTECTION STRATEGY (below): **DEGREE OF PROTECTABILITY:**

5,000' of diversion boom from Geiger Key to skimmers as shown on chart.Minimum resources needed for on water recovery: 2 shallow water skimmers. 5000' exclusion boom, size and type to be determined by location of spill and weather conditions to include wind and sea state. Response strategy to be based on over flightobservations and trajectory modeling if available. Availability of collection/deflection booms and weather/tidal conditions will affect tactics and resource protection strategies. Protection will be focused on choke points to prevent contaminationof sensitive areas. Near shore, consider sorbent boom or snare boom deployed by shallow water vessels to protect sensitive shorelines. In-situ burning may be a consideration.

OTHER RESPONSE RESOURCES :

OTHER RESOURCES AVAILABLE:

NEAREST AVAILABLE RESOURCES: _____

PERSONNEL AVAILABLE: _____

POINT OF CONTACT/AGENCY: _____ **PH. #** _____

POINT OF CONTACT/AGENCY: _____ **PH. #** _____

BOOM: **TYPE:** _____ **LENGTH:** _____ **SKIMMER:** **TYPE:** _____ **NUMBER:** _____

TYPE: _____ **LENGTH:** _____ **TYPE:** _____ **NUMBER:** _____

OIL SPILL SENSITIVE AREA REPORT- SECTOR: Key West

SITE NAME: Stock Island Power Plant **SITE ID:** C156

(b) (7)(F) [redacted]

PRIORITY (SEASON): SPR C SUM C AUT C WIN C

GEN LOCATION:

Map Information

GRP MAP: S.FL-8 **TOPO NAME:** BOCA CHICA KEY, FLA.(1971) **OTHER MAP:**

ESI MAP: S.FL-8 **ESI MAP NAME:** BOCA CHICA KEY, FLA.(1971) **OPERATIONAL AREA:**

NOAA CHART: 11441 **NOAA CHART NAME:** KEY WEST HARBOR AND APPROACHES

USGS QUAD: 24081-E6 **USGS QUAD NAME:** Boca Chica Key

Contact List - Contact - Expertise - Phone

CONTACTS/STAKEHOLDERS (below): **OWNER:**

FL State Warning Point (800) 320-0519\City Electric, Key West, FL/ FWC-Non-Game Biologist-(561)625-5122National Response Center: 1-800-424-8802

Resources at Risk

SHORELINE TYPES:

WILDLIFE RESOURCES TO BE PROTECTED:

N.A.

HABITAT TO BE PROTECTED:

THREATENED SPECIES: N.A.

Response Considerations

STAGING AREAS: Keys Energy Stock Island - 6900 Front Street Stock Island, FL 33040

COLLECTION POINTS: Key Energy Services fuel dock and bulkhead

AREA ACCESS: boat/vehicle **PHYSICAL DESCRIPTION:**

POTENTIAL SPILL SOURCES:

TIDAL RANGE: **FT.** **MAX CURRENT:** **KTS.**

Protection Strategies

MIN BOOM LENGTH: **FT.** **BOOMING METHOD:**

PROTECTION STRATEGY (below): **DEGREE OF PROTECTABILITY:**

Own contigency plan.Minimum resources needed for on water recovery: 2 shallow water skimmers. 5000' exclusion boom, size and type to be determined by location of spill and weather conditions to include wind and sea state. Response strategy to be based on over flightobservations and trajectory modeling if available. Availability of collection/deflection booms and weather/tidal conditions will affect tactics and resource protection strategies. Protection will be focused on choke points to prevent contaminationof sensitive areas. Near shore, consider sorbent boom or snare boom deployed by shallow water vessels to protect sensitive shorelines. In-situ burning may be a consideration.

OTHER RESPONSE RESOURCES : Boom Float with Skirt - 1000' - Edward Garcia - (305) 295-1122 (24hr) (305) 295-1134 (office)/ Absorbent Boom - 500' contact same as latter/ Skimmer - 35gpm - 135 contact same as latter/ Personnel available

OTHER RESOURCES AVAILABLE:

Absorbent pads, drums, (2) 2400gal portable storage tanks. Absorbent socks, boat.

NEAREST AVAILABLE RESOURCES: _____

PERSONNEL AVAILABLE: _____

POINT OF CONTACT/AGENCY: _____ **PH. #** _____

POINT OF CONTACT/AGENCY: _____ **PH. #** _____

BOOM: TYPE: _____ **LENGTH:** _____ **SKIMMER: TYPE:** _____ **NUMBER:** _____

TYPE: _____ **LENGTH:** _____ **TYPE:** _____ **NUMBER:** _____

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For additional information, please contact the FWC - FWRI - Center for Spatial Analysis (727) 896-8626

OIL SPILL SENSITIVE AREA REPORT- SECTOR: Key West

SITE NAME: Boca Chica Naval Air Station **SITE ID:** C155

(b) (7)(F) [redacted]

PRIORITY (SEASON): **SPR** C **SUM** C **AUT** C **WIN** C

GEN LOCATION:

Map Information

GRP MAP: S.FL-8 **TOPO NAME:** BOCA CHICA KEY, FLA.(1971) **OTHER MAP:**

ESI MAP: S.FL-8 **ESI MAP NAME:** BOCA CHICA KEY, FLA.(1971) **OPERATIONAL AREA:**

NOAA CHART: 11441 **NOAA CHART NAME:** KEY WEST HARBOR AND APPROACHES

USGS QUAD: 24081-E6 **USGS QUAD NAME:** Boca Chica Key

Contact List - Contact - Expertise - Phone

CONTACTS/STAKEHOLDERS (below): **OWNER:**

FL State Warning Point (800) 320-0519\William Hunt - Public works/Environmental,NAS Boca Chica, Key West, FL 33040 - Quarterdeck (305) 293-2268, CDO - (305) 797-4428/ FWC-Non-Game Biologist-(561)625-5122National Response Center: 1-800-424-8802

Resources at Risk

SHORELINE TYPES:

WILDLIFE RESOURCES TO BE PROTECTED:

Mangroves

HABITAT TO BE PROTECTED:

Channel Mangroves, Shallow Seagrass/ Hardbottom

THREATENED SPECIES: N.A.

Response Considerations

STAGING AREAS: US Navy Boca Chica Marina

COLLECTION POINTS:NASKW Boca Chica Marina, consider pre-emptive on water booming and skimming strategies.

AREA ACCESS: boat/vehicle **PHYSICAL DESCRIPTION:**

POTENTIAL SPILL SOURCES:

TIDAL RANGE: **FT.** **MAX CURRENT:** **KTS.**

Protection Strategies

MIN BOOM LENGTH: **FT.** **BOOMING METHOD:**

PROTECTION STRATEGY (below): **DEGREE OF PROTECTABILITY:**

Own contigency plan. 12,000' diversion boom and skimmers. 2000' boom + NASKW 1500' Containment Boom NASKW FRP. Reference Tidal Inlet Protection Strategies.Minimum resources needed for on water recovery: 2 shallow water skimmers. 5000' exclusion boom, size and type to be determined by location of spill and weather conditions to include wind and sea state. Response strategy to be based on over flightobservations and trajectory modeling if available. Availability of collection/deflection booms and weather/tidal conditions will affect tactics and resource protection strategies. Protection will be focused on choke points to prevent contaminationof sensitive areas. Near shore, consider sorbent boom or snare boom deployed by shallow water vessels to protect sensitive shorelines. In-situ burning may be a consideration.

OTHER RESPONSE RESOURCES : Boom - Type II 1500' + Absorbent 2000', Port OPS (305) 293-4755/ Skimmer - Belt, Number 1, NASKW Port OPS - (305) 293-4755/ Personnel available: NAVY - 50

OTHER RESOURCES AVAILABLE:

NAVY/NASKW - 1 Boom boat, 5 untility boats, 8000ft boom, type II, 2 vaccuum trucks, 10 pallets absorbent boom, 3 - 5 ton trucks, 1 PWC

NEAREST AVAILABLE RESOURCES: _____

PERSONNEL AVAILABLE: _____

POINT OF CONTACT/AGENCY: _____ **PH. #** _____

POINT OF CONTACT/AGENCY: _____ **PH. #** _____

BOOM: TYPE: _____ **LENGTH:** _____ **SKIMMER: TYPE:** _____ **NUMBER:** _____

TYPE: _____ **LENGTH:** _____ **TYPE:** _____ **NUMBER:** _____

OIL SPILL SENSITIVE AREA REPORT- SECTOR: Key West

SITE NAME: Pelican Shoal **SITE ID:** A146

(b) (7)(F) [redacted]

PRIORITY (SEASON): SPR A SUM A AUT A WIN A

GEN LOCATION:

Map Information

GRP MAP: S.FL-8 **TOPO NAME:** BOCA CHICA KEY, FLA.(1971) **OTHER MAP:**

ESI MAP: S.FL-8 **ESI MAP NAME:** BOCA CHICA KEY, FLA.(1971) **OPERATIONAL AREA:**

NOAA CHART: 11445 **NOAA CHART NAME:** SUGARLOAF KEY TO KEY WEST

USGS QUAD: 24081-E6 **USGS QUAD NAME:** Boca Chica Key

Contact List - Contact - Expertise - Phone

CONTACTS/STAKEHOLDERS (below): **OWNER:**

FL State Warning Point (800) 320-0519\NOAA/FKNMS: David Score - (305) 809-4700/ FWC-Non-Game Biologist-(561)625-5122/ National Response Center: 1-800-424-8802

Resources at Risk

SHORELINE TYPES:

WILDLIFE RESOURCES TO BE PROTECTED:

HABITAT TO BE PROTECTED:

Shallow coral reef, Shallow Seagrass / Hardbottom

THREATENED SPECIES: Sea turtles, Acropora Palmata (Elkhorn Coral), Acropora Cervicornis (Staghorn Coral)

Response Considerations

STAGING AREAS: Geiger Key Marina

COLLECTION POINTS:

AREA ACCESS: boat **PHYSICAL DESCRIPTION:**

POTENTIAL SPILL SOURCES:

TIDAL RANGE: **FT.** **MAX CURRENT:** **KTS.**

Protection Strategies

MIN BOOM LENGTH: 6000 **FT.** **BOOMING METHOD:** Deflect

PROTECTION STRATEGY (below): **DEGREE OF PROTECTABILITY:**

6,000' diversion boom and skimmers.Minimum resources needed for on water recovery: 2 shallow water skimmers. 5000' exclusion boom, size and type to be determined by location of spill and weather conditions to include wind and sea state. Response strategy to be based on over flightobservations and trajectory modeling if available. Availability of collection/deflection booms and weather/tidal conditions will affect tactics and resource protection strategies. Protection will be focused on choke points to prevent contaminationof sensitive areas. Near shore, consider sorbent boom or snare boom deployed by shallow water vessels to protect sensitive shorelines. In-situ burning may be a consideration.

OTHER RESPONSE RESOURCES :

OTHER RESOURCES AVAILABLE:

NEAREST AVAILABLE RESOURCES:

PERSONNEL AVAILABLE:

POINT OF CONTACT/AGENCY: **PH. #**

POINT OF CONTACT/AGENCY: **PH. #**

BOOM: **TYPE:** **LENGTH:** **SKIMMER:** **TYPE:** **NUMBER:**

TYPE: **LENGTH:** **TYPE:** **NUMBER:**

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For additional information, please contact the FWC - FWRI - Center for Spatial Analysis (727) 896-8626

FIGURE(S) I-7 TIDAL INLET PROTECTION STRATEGIES FOR COW KEY CHANNEL AND BOCA CHICA CHANNEL

BOCA CHICA CHANNEL

INLET SUMMARY SHEET

SITE: **Boca Chica Channel, Monroe County, Florida**

DATE AND TIME SURVEYED (TIDE): 21 June 1994; 1000 [High @ 0819 (+2.2); Key West]

RANKING (DEGREE OF DIFFICULTY): (see ranking scale)

B.

PRINCIPAL RESOURCES AT RISK:

Mangroves; wading birds, including the Great white heron; seabirds, including the Double-crested cormorant; marina facilities, boats, seawalls, revetments, docks, etc. along canals on Boca Chica Key and Key West.

PRELIMINARY PROTECTION STRATEGY:

Use deflection boom in a Christmas tree configuration to divert oil out of the main channel to collection points along the shorelines of Boca Chica Key and Stock Island (CPs 1 and 3). Use deflection boom to divert oil to a collection point on the U.S. Route 1 fill shoreline (CP2). This shoreline is occupied by fringing mangroves and some will have to be removed, "sacrificed", to create a suitable collection point. Use protection boom to prevent oil from entering the canals and shallow embayments along the south shore of Stock Island, from impacting the mangroves on the southwest shoreline of Boca Chica Key, and, resources permitting, to encircle the small mangrove islands adjacent to the main channel.

OTHER COMMENTS:

Strong tidal current observed flowing in the channel.

INLET SKETCH MAP

Inlet Name BOCA CHICA CHANNEL, FLA.

Inlet Number 27

Recorder(s) MDW/TMM/AW/RI/FM/RB/KR

Date/Time 21 JUNE 1994; 1000

Tide Stage Low during overflight

Inlet Classification B

CHECKLIST

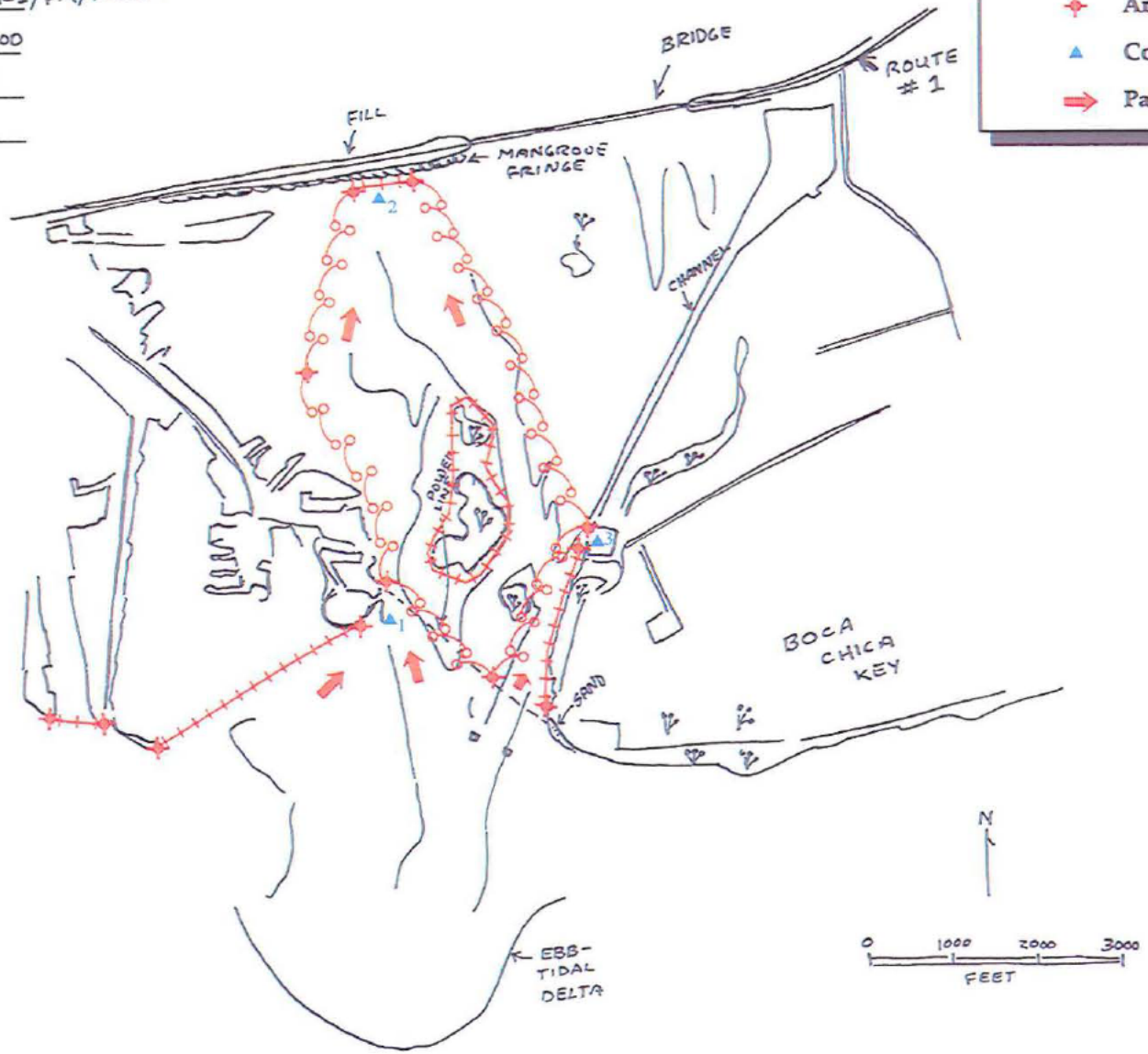
✓ North Arrow
✓ Scale
X High-Tide Line
X Low-Tide Line
✓ Substrate Type

LEGEND

Salt-Water Marsh

Mangroves

Riprap



Site Information Record

Inlet: Boca Chica Recorder(s): FM, RI Date / Time: 8/16/94, 1700

Site Name / #: Peninsular Marina Collection Site; # 1

Site Type(s): Mechanical Collection Site

Contact Information: Peninsular Marina, John Pappas, Mgr (305) 296-8110

Relative Location: At Peninsular Marina entrance

Address: 6000 Peninsular Avenue, Key West, FL 33040

Directions from Miami: US 1 southbound to left on (MM 5) 2nd St, turn left on Maloney Ave. turn left on Penninsula Avenue to marina.

(b) (7)(F) [redacted]

Water Depth Description: 5'-6' depth @ 50' out

Current / Tide Information: 1-3 knots along shoreline, 2-4 knots in the channel

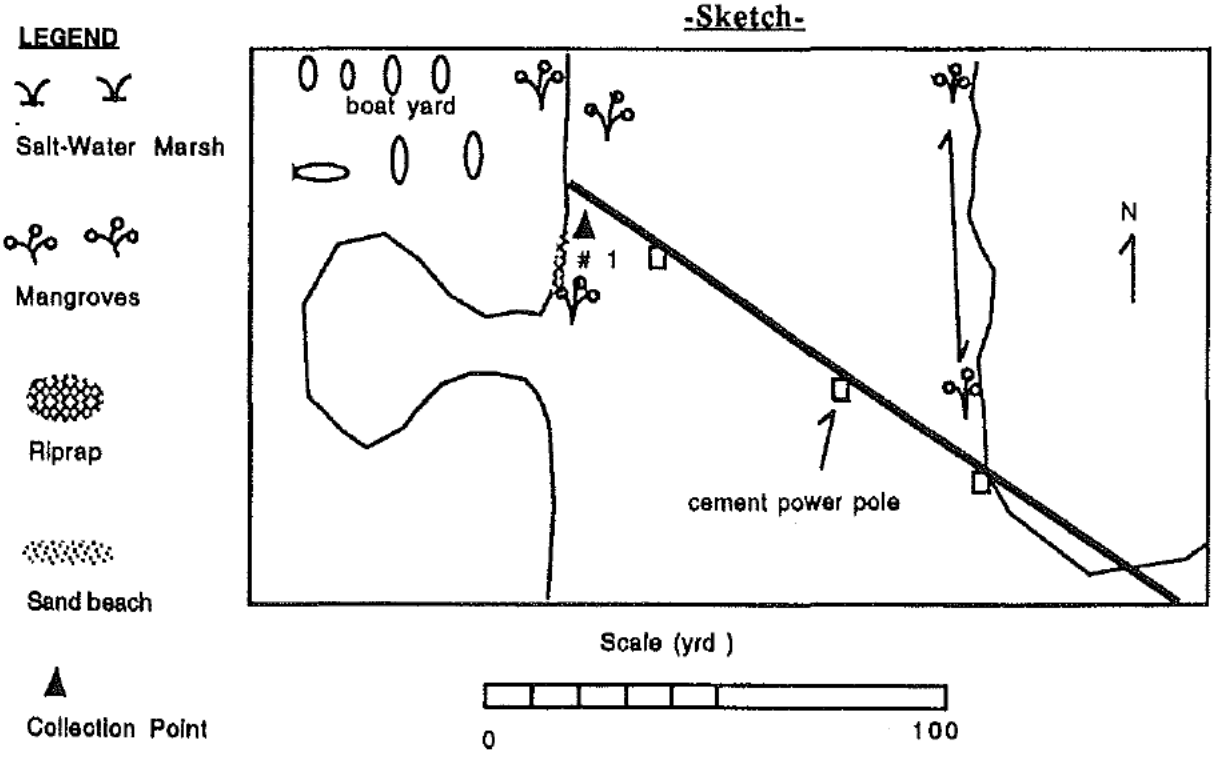
Shoreline Description: Rocks, mangrove, debris, seaweed

Access Description: Paved to marina, hard packed gravel/dirt road to site, 100 yards

Support Equipment / Facilities: Marine Repair, open lot 1/2 acre

Additional Comments:

-Sketch-



Site Information Record

Inlet: Boca Chica Recorder(s): FM,RI Date / Time: 8/15/94, 1700

Site Name / #: US 1 Collection Site; # 2

Site Type(s): Mechanical Collection Site

Contact Information: Monroe County

Relative Location: MM 5 3/4 (1/4 mile west of Boca Chica Channel Bridge)

Address: US 1 MM 5 3/4

Directions from Miami: US1 south to MM 5 3/4, oceanside

(b) (7)(F) [redacted]

Water Depth Description: 2'-3' depth @ 50' out

Current / Tide Information: 0-1 knot at maximum flood, 2-3' at tidal range

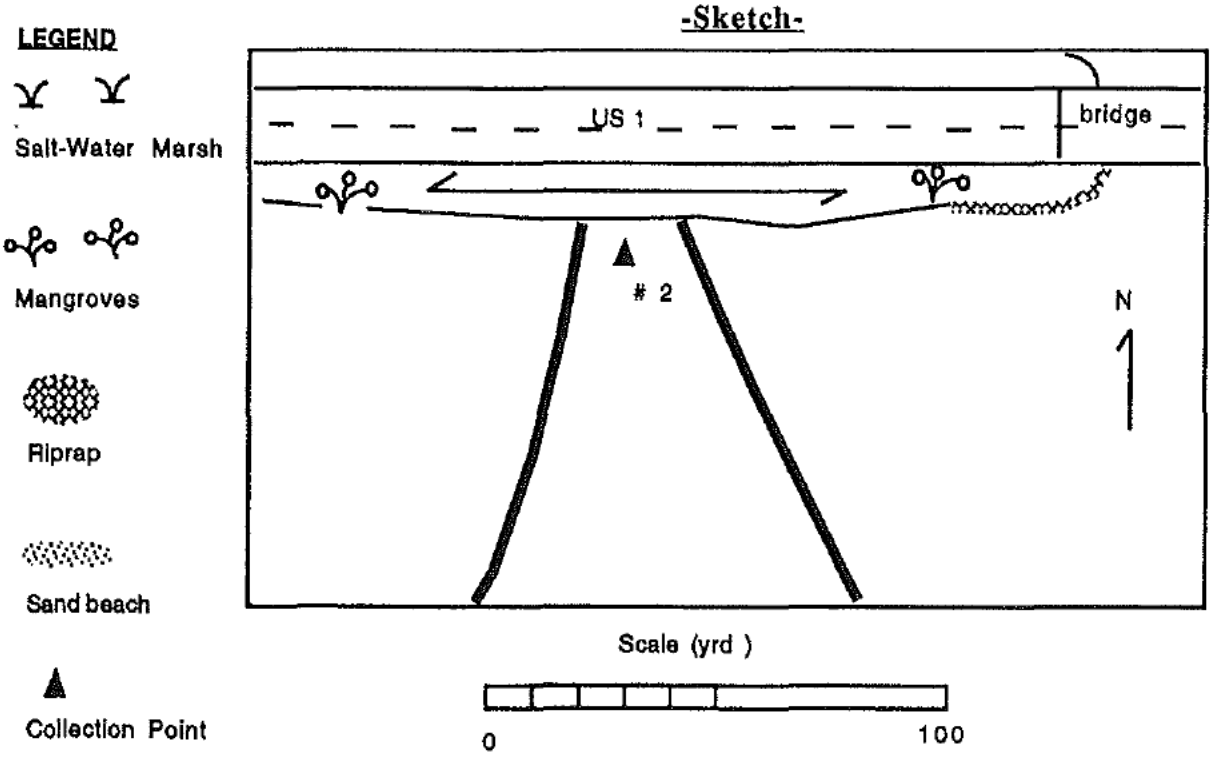
Shoreline Description: Mangrove, fringe

Access Description: Paved to 15' bank (gravel) to mangroves/water

Support Equipment / Facilities: None

Additional Comments: Poor access through mangroves. One might consider collection off Rip-rap just to west of bridge, depending on current velocity.

-Sketch-



Site Information Record

Inlet: Boca Chica Recorder(s): FM, RI Date / Time: 8/15/94

Site Name / #: Boca Chica Naval Air Station Collection Site; # 3

Site Type(s): Mechanical Collection, Staging, Launch Site

Contact Information: Boca Chica Naval Air Station

Relative Location: Explosive weapons area of base

Address:

Directions from Miami: Southbound US 1 to MM 8.

(b) (7)(F) [redacted]

Water Depth Description: Unknown

Current / Tide Information: 0-1 knot inside basin, 2-3' average tidal range

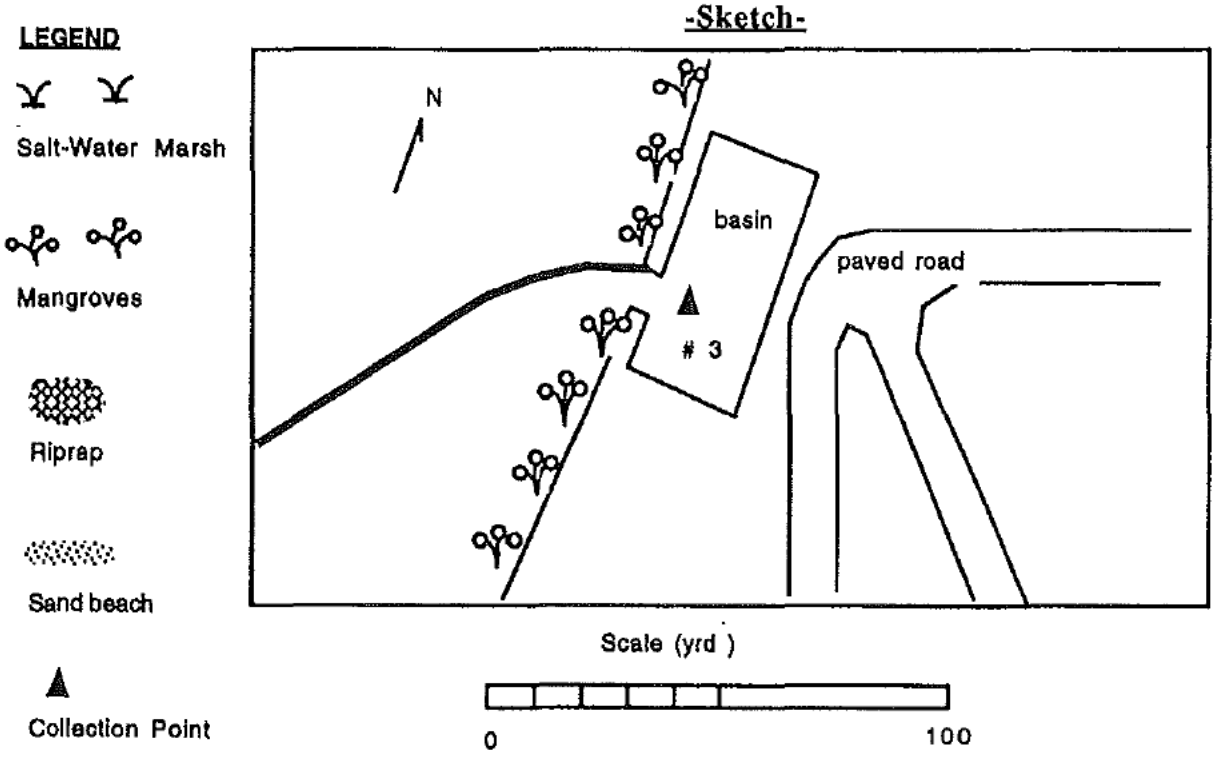
Shoreline Description: Sand, mangroves

Access Description: Paved to waterfront

Support Equipment / Facilities: All base equipment (storage, heavy equipment, etc.)

Additional Comments: Boat ramp located at base marina

-Sketch-




BOCA CHICA CHANNEL


1999 DOQQ
1:24,000
Boca Chica Channel

COW KEY CHANNEL

SCALE 1 : 24,000

1 .5 0 1

MILES

1 .5 0 1

KILOMETERS

N

INLET SUMMARY SHEET

SITE: **Cow Key Channel, Monroe County, Florida**

DATE AND TIME SURVEYED (TIDE): 21 June 1994; 0830 [High @ 0819 (+2.2); Key West]

RANKING (DEGREE OF DIFFICULTY): (see ranking scale)

C.

PRINCIPAL RESOURCES AT RISK:

Mangroves, wading birds, seabirds, marina facilities, boats, seawalls, revetments, docks, etc. along canals on Key West.

PRELIMINARY PROTECTION STRATEGY:

Use deflection boom in a Christmas tree configuration to divert oil to collection points along the shores of Key West and Stock Island (CPs 1 and 5) and to other collection points on the Key West shoreline (CPs 2 and 6). Extend multiple lines of deflection boom from the south shore of Key West to divert oil flowing west along the shoreline of Key West to collection points on Smathers Beach (CPs 3 and 4).

INLET SKETCH MAP

Inlet Name COW KEY CHANNEL, FLA.

Inlet Number 28

Recorder(s) MOH/TMM/AW/RI/FM/RB/KR

Date/Time 0830; 21 JUNE 1994

Tide Stage Low during overflight

Inlet Classification C

CHECKLIST

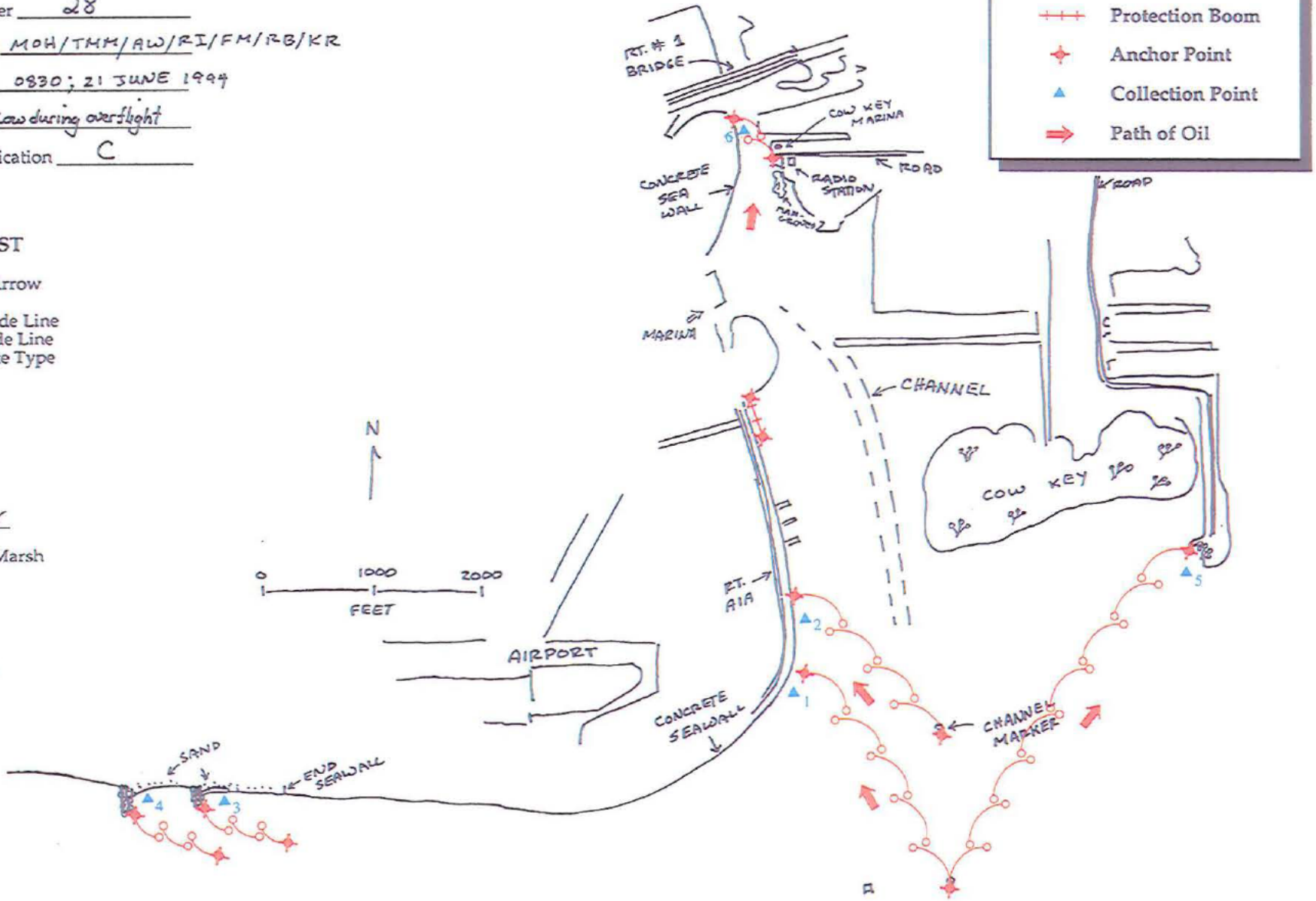
✓ North Arrow
✓ Scale
x High-Tide Line
x Low-Tide Line
✓ Substrate Type

LEGEND

Salt-Water Marsh

Mangroves

Riprap



Site Information Record

Inlet: Cow Key Channel Recorder(s): FM, RI Date / Time: 8/15/94 ; 1400

Site Name / #: Southwest Collection Site; #1,#2

Site Type(s): Mechanical Collection

Contact Information: Unknown

Relative Location: Southeast corner of Key West

Address: 2065 A1A, Key West

Directions from Miami:

(b) (7)(F) [redacted]

Water Depth Description: 2-4' depth off of seawall

Current / Tide Information: 1-3 knots off of seawall, 2-3' average at tidal range

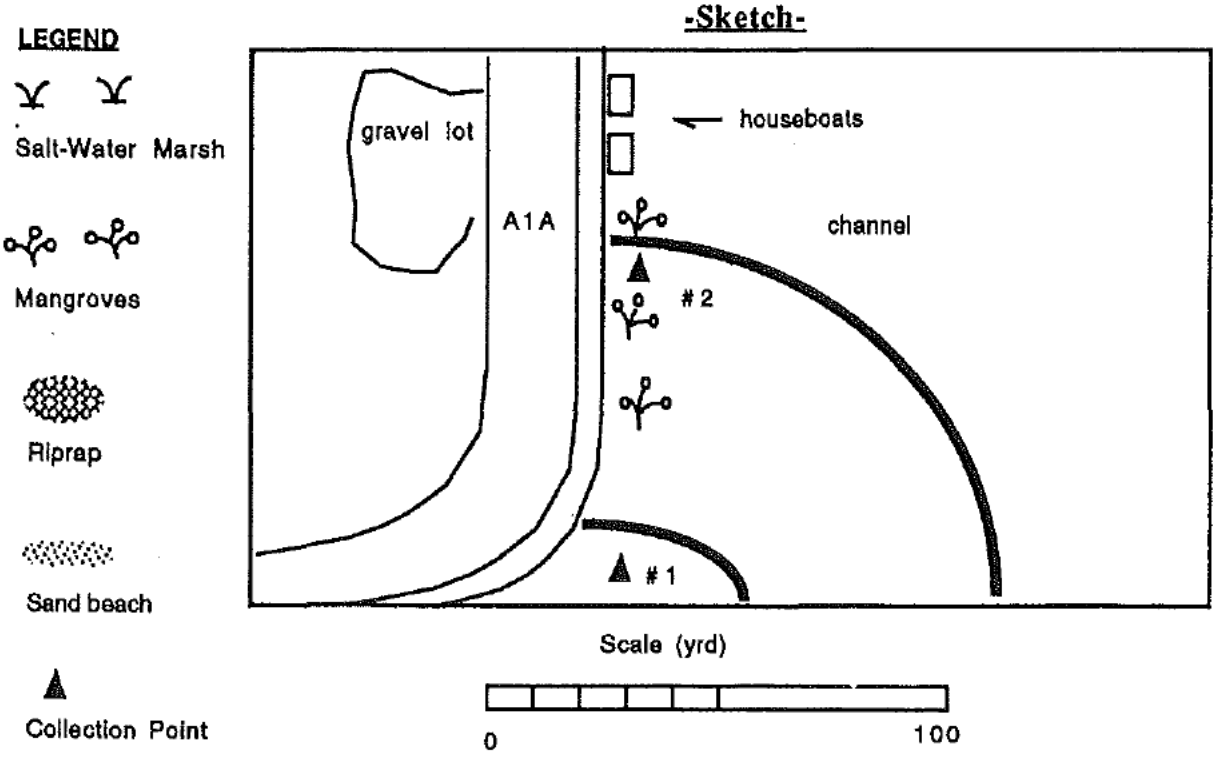
Shoreline Description: Cement seawall with side walk, scattered mangroves, houseboats

Access Description: Paved to seawall

Support Equipment / Facilities: 1/2 acre packed gravel lot across street (no lights)

Additional Comments: Many markers in channel to secure to.

-Sketch-



Site Information Record

Inlet: Cow Key Channel Recorder(s): FM, RI Date / Time: 8/15/94; 1500

Site Name / #: South Shore Groin Collection Site; # 3, # 4

Site Type(s): Mechanical

Contact Information: Monroe County Beaches

Relative Location: Southeast shore of Key West

Address: A1A

Directions from Miami: US 1 Southbound to left on A1A at MM 0, follow road to beach with groins.

(b) (7)(F) [redacted]

Water Depth Description: 1-2' depth at 10' out from beach, 2-3' depth at 50' out

Current / Tide Information: 1-2 knots along shoreline

Shoreline Description: Sand, debris, seaweed, rock groin

Access Description: Paved to sand, 20 yards to water

Support Equipment / Facilities: None

Additional Comments: A natural collection point for seaweed and trash.

LEGEND

Salt-Water Marsh

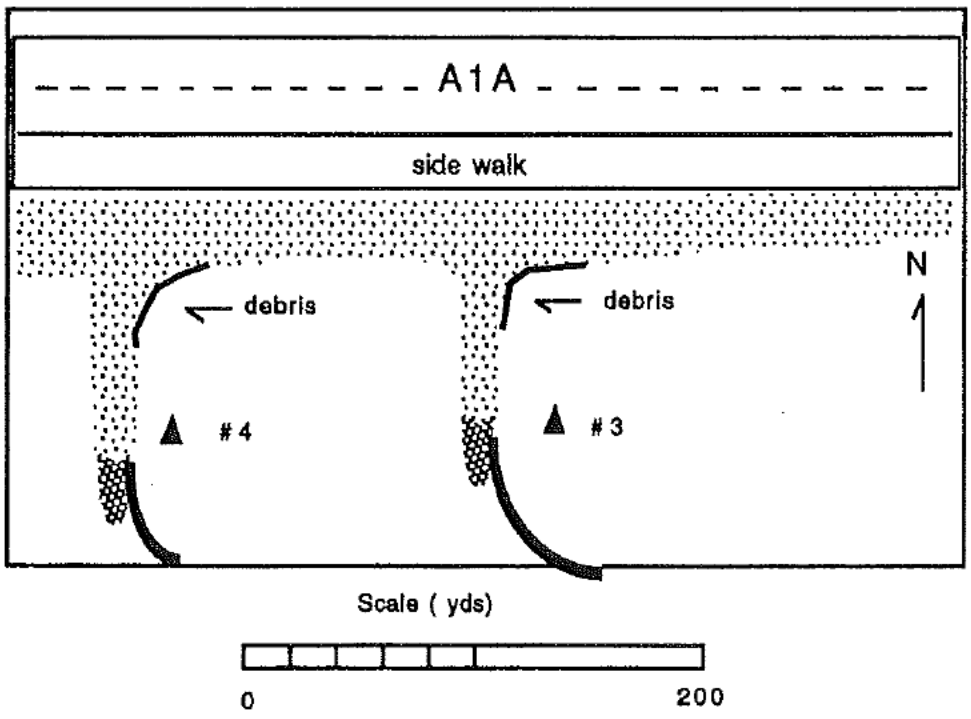
Mangroves

Riprap

Sand beach

Collection Point

-Sketch-



Site Information Record

Inlet: Cow Key Recorder(s): FM, RI Date / Time: 8/15/94, 1600

Site Name / #: Robbies Safe Harbor Collection Site; # 5

Site Type(s): Mechanical Collection Site

Contact Information: Robbie's Safe Harbor Marina

Relative Location: West side of Safe Harbor, west of power plant, MM 4 1/2 oceanside

Address: End of Shrimp Road, Stock Island, FL 33040

Directions from Miami: Off of 4th Avenue

(b) (7)(F) [redacted]

Water Depth Description: 3' depth at 10' out, 5' depth at 50' out

Current / Tide Information: 0-2 knots at maximum flood, 2-3 knots at tidal range

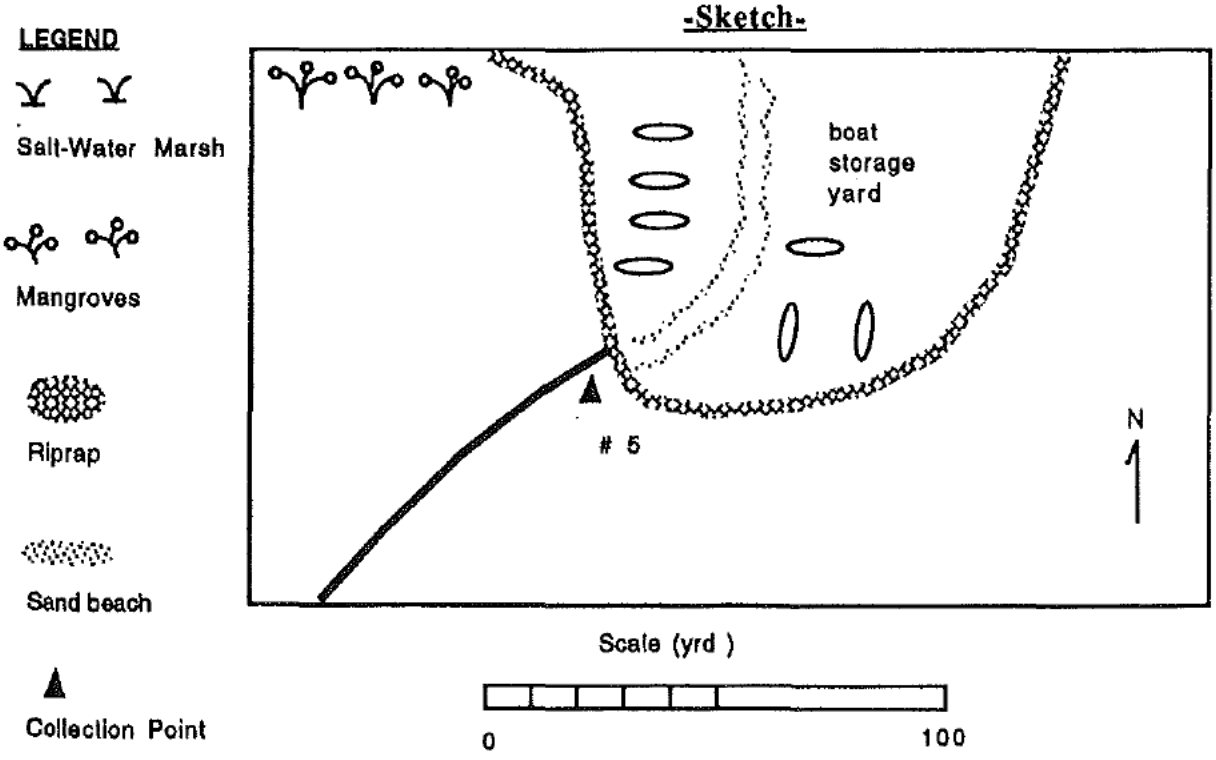
Shoreline Description: Concrete/Steel, Rip-Rap

Access Description: Paved to hard gravel to 10 yards from water

Support Equipment / Facilities: Marine Repair, 85 ton travel lift, water, abandoned tank farm, tug and barge, 3 ton crane, 5 acres hard gravel storage, covered storage

Additional Comments: Could bring OSRV in to berth

-Sketch-



Site Information Record

Inlet: Cow Key Recorder(s): FM,RI Date / Time: 8/15/94

Site Name / #: Naval Medical Clinical Collection Site; #6

Site Type(s): Mechanical Collection

Contact Information: Naval Medical Clinic

Relative Location: 200 yards south of A1A bridge on west side of channel

Address:

Directions from Miami: US-1 Southbound to left on A1A to the Medical Clinic on the left.

(b) (7)(F) [redacted]

Water Depth Description: 3-5' depth at seawall in deepest pocket

Current / Tide Information: 1-3 knots off seawall, back eddies on flood due to shoal to the immediate sout, 2-3' average tidal range

Shoreline Description: Concrete seawall, scattered mangroves

Access Description: Paved to grass (75 yards) to bulkhead (3' high)

Support Equipment / Facilities: 1 Acre grass lot, 1/4 acre paved lighted lot

Additional Comments:

-Sketch-

LEGEND

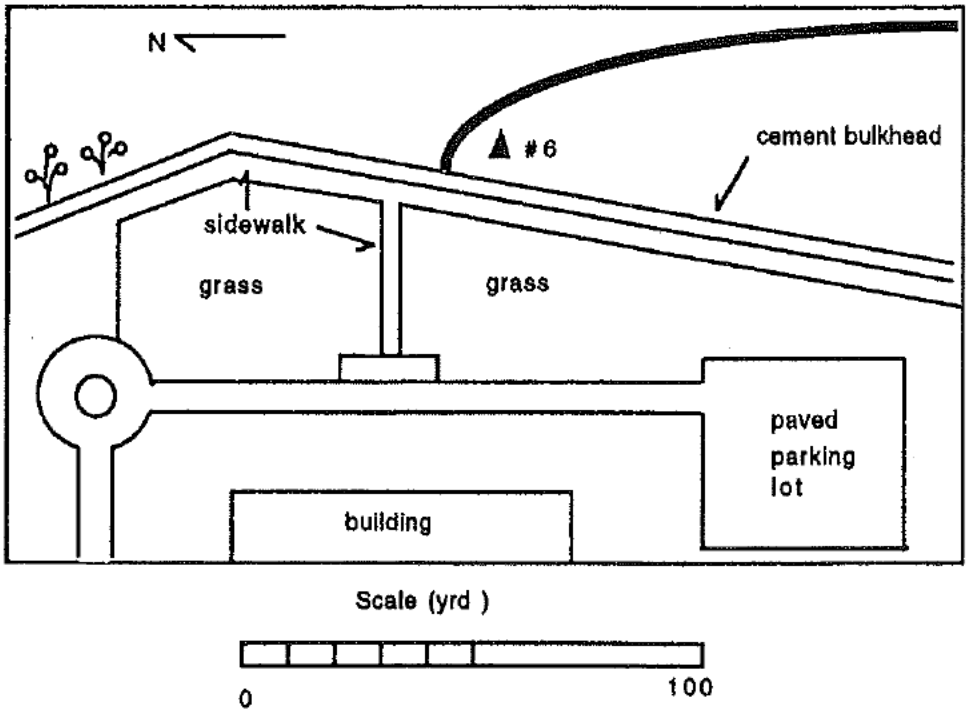
Salt-Water Marsh

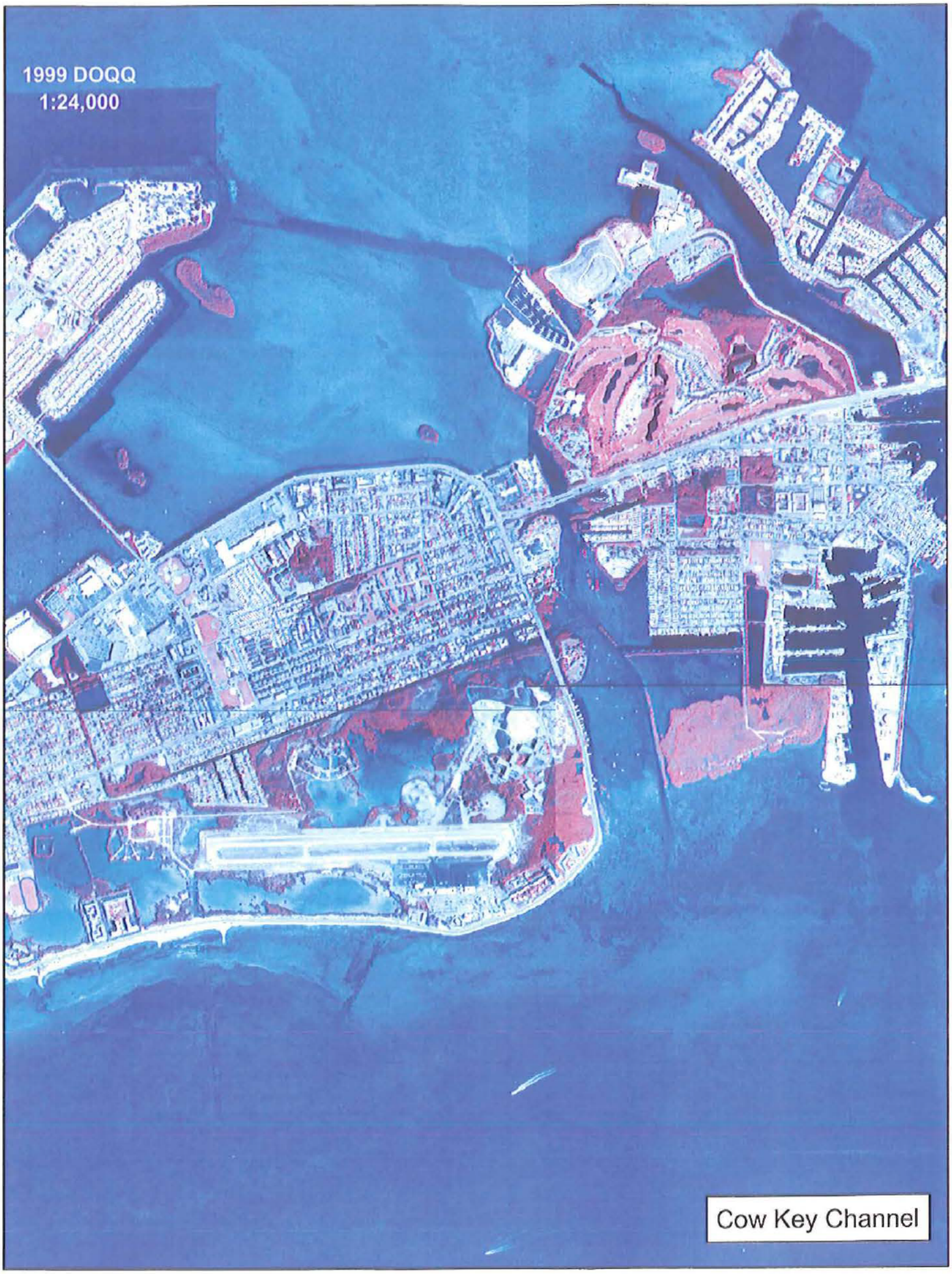
Mangroves

Riprap

Sand beach

Collection Point

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1:24,000
Cow Key Channel

SECTION II: FACILITY DESCRIPTION

A. FACILITY LOCATION AND DESCRIPTION

Facility Name and Location

The Key West Pipeline Company (KWPC) bulk storage facility is located at the northeast corner of Trumbo Road and Whiting Avenue, Building D-19, Naval Air Station Key West (KWNAS), Trumbo Point Annex, in Key West, Florida. The location of the KWPC bulk storage facility is depicted in Figure II-1 on page II-12. The KWPC bulk storage tanks and associated receiving and delivery pipelines and appurtenances are owned by KWPC and operated by Pipeline & Terminal Management Corp. The KWPC facility includes jet fuel receipt, storage and transfer operations, which consists of a fuel offloading system, storage tanks and pipeline system to supply JP-5 fuel to the storage tanks at the KWNAS Tank Farm on Boca Chica Key. KWPC constructed the bulk storage facility and associated receiving and delivery pipelines and appurtenances in 1963 and began operating in January 1964. KWPC has been the only owner and operator of the KWPC facility (personal property assets only) since its construction. KWPC occupies portions of the KWNAS Trumbo Point Tank Farm and USCG Sector Key West pursuant to License Agreements with each respective party. The Trumbo Point Tank Farm area of Trumbo Point Naval Annex was used by the United States Navy for the storage of petroleum products going back to the early 1940s. Over time, the Navy's tanks were decommissioned and taken out of service.

Type of Facility

Petroleum Bulk Stations and Terminal – Standard Industrial Code (SIC) Number 5171 and North American Industry Classification System (NAICS) Number 422710. The KWPC facility is a significant and substantial harm facility in accordance with:

- 33 CPR 154.1015 (b) since the MTR segment of the facility is capable of transferring oil to or from a vessel with a capacity of 250 barrels or more;

- 40 CPR 112.20 (f)(I)(ii) since the non-transportation related segment of the facility has a total oil storage capacity greater than 1 million gallons and the facility is located a distance (as calculated in Section 3.3.1 of the Combined Plan) such that a discharge could cause harm to environmentally sensitive areas (as identified in Section 3.4 of the Combined Plan). The Certification of the Applicability of Substantial Harm Criteria is provided in Appendix C of this Plan; and

- 49 CFR 194.101 (b) since the transportation related pipeline segment of the KWPC facility is in the proximity of navigable waters and environmentally sensitive areas (as identified in Section 3.4 of the Combined Plan). In addition, the entire 7.1-mile pipeline exists within one response zone: Monroe County, Florida.

(b) (7)(F) [redacted]

The address and telephone number of the facility is:

Key West Pipeline Company
Building D-19 Trumbo Point Naval Annex
P.O. Box 2276, Key West, Florida, 33045.
The facility telephone number is: (305) 294-4812
The facility facsimile number is (305) 294-0844.

Nearest Navigable Waterway

The nearest navigable waterway is: **The Fleming Channel located on the North side of Trumbo Point, which is part of the Gulf of Mexico.**

The distance to the nearest waterway/wetland is: **The KWPC Terminal and Bulk**

Storage Facility are located immediately adjacent to Fleming Channel; portions of the KWPC 4-inch delivery pipeline are located underwater in Fleming Channel, in the shallow flats north of the island of Key West, Cow Key Channel and Boca Chica Channel.

Site Topography

According to a replica of the USGS topographic map (7.5 minute quadrangle) of Key West, Florida, the topography of the KWPC facility is relatively flat and slopes slightly towards the Gulf of Mexico with an elevation approximately 7 feet above mean sea level.

Facility Layout and Operations

KWPC operates a JP-5 fuel receipt, storage, and transfer facility located at KWNAS, Trumbo Point Annex, on the island of Key West in Monroe County, Florida (Figures I-3A through I-3D). The KWPC facility has been in operation since 1964 and occupies a portion of the Trumbo Point Naval Annex pursuant to a License Agreement with the U.S. Navy. The KWPC facility has not been expanded, with the exception of an approximately 1-mile extension of the underground pipeline on Boca Chica in 1990 and the addition of two skid-mounted vessel-fueling stations on Pier D-2, located on USCG Sector Key West. KWPC receives JP-5 fuel from tankers that moor and off-load at Pier D-2 located approximately 1,000 feet (ft) west of the Trumbo Point tank farm (Figure I-3B). USCG occupies and operates Pier D-2 and KWPC operates the fuel unloading/loading facility pursuant to a License Agreement with the USCG. The JP-5 fuel is off loaded through an 8-inch flexible hose connected to a 12-inch steel aboveground pipeline that runs along the north edge of the pier to toward the KWPC bulk storage facility, where the product is stored in one of three aboveground storage tanks owned by KWPC. The KWPC 12-inch pipeline is located mostly aboveground, except where it crosses three roadways on USCG Sector Key West, one roadway on KWNAS Trumbo Point, inside the Tank Farm, and goes through three separate secondary containment berms within the KWPC bulk storage facility. Each underground section of the 12-

inch pipeline is double-walled with interstitial monitoring ports. The interstitial space is also provided with a nitrogen cap for corrosion protection.

The three aboveground storage tanks (ASTs) at the KWPC bulk storage facility consist of a (b) (7)(F) [redacted] (Figure I-3A). Upon request by KWNAS, JP-5 fuel is transferred from the KWPC ASTs to ASTs at the KWNAS tank farm located on Boca Chica Key. The JP-5 fuel is transferred from the KWPC ASTs to the KWPC pump meter and filter manifold building, where it is filtered, metered and then pumped to the KWNAS tank farm on Boca Chica Key via a 4-inch pipeline owned by KWPC. The 7.1-mile 4-inch pipeline runs underwater in an easterly direction, north of Key West (Figures I-3C & D). The pipeline enters the water at Fleming Channel, just east of Fleming Key Bridge, leaves the water on the east side of Cow Key Cannel and crosses Stock Island underground. The pipeline re-enters the water at Boca Chica Channel, near the west side of Boca Chica Bridge, leaves the water on the east side of Boca Chica Channel and then runs underground on Boca Chica to the KWNAS tank farm located on Boca Chica.

At the KWNAS Boca Chica tank farm the fuel is filtered and metered again prior to entering the KWNAS ASTs at Boca Chica. The two meters, one located at the KWPC bulk storage facility at Trumbo Point tank farm and the other located at the KWNAS Boca Chica tank farm, are used for real-time monitoring of fuel transfers through the KWPC 4-inch pipeline. The readings on the two meters are automatically compared and if the difference is greater than 4 gallons, a light and audio alarm are activated at the KWPC office. If the difference becomes more than 8 gallons, a second light is activated.

Additionally, two fueling stations exist at Pier D-2 on USCG Sector Key West. When requested, JP-5 is transferred from the KWPC ASTs to vessels at Pier D-2

via the 12-inch pipeline, and two 3-inch fueling hoses. The fueling hoses are located on skid-mounted vessel fueling stations. Each station consists of 200 feet of 3-inch diameter hose. Both stations are operated by single pump and each station is capable of providing flows of 70 to 400 gallons per minute (gpm). When not in use, the hoses are stored in a 9-inch deep, 8-foot wide, 26-foot long containment area. The bottom of the containment area is concrete and has a synthetic liner. The entire area is roofed to prevent rainfall infiltration. Fueling operations are controlled by Smith Meter Accuload III load controllers to meter the fuel and prevent overfill.

In addition to KWPC's three JP-5 fuel ASTs, the KWPC facility has two additional tanks onsite. An 8,000 gallon steel double-walled AST is used to store fuel system icing inhibitor (FSII). The primary ingredient in FSII is ethylene glycol monomethyl ether. The FSII blends with the JP-5 fuel by injecting it into the pipeline during a fuel transfer to the Boca Chica tank farm. A 20,000 gallon double-walled steel fixed roof AST collects water bottoms from KWPC's three floating roof JP-5 fuel ASTs. The water bottoms are drained to an oil/water separator and transferred to the 20,000 gallon holding tank. The oil/water separator is located within a covered, stainless steel, secondary containment unit located within a concrete containment structure. The water bottoms have been analyzed by the Toxicity Characteristic Leaching Procedure for benzene and have been determined to be non-hazardous under the Resource Conservation and Recover Act. Fuel is pumped from the oil/water separator back to the KWPC JP-5 fuel ASTs. Currently, the water bottoms are removed and transported as petroleum contact water by a licensed transporter to a licensed treatment and disposal facility. The KWPC bulk storage facility also has an empty 9,000-gallon polyethylene AST, which is designated for emergency spill response to store recovered product. Finally, the U.S. Navy owns an empty 20,000-gallon steel AST (used previously to store Mogas) which is also located at the KWNAS Trumbo Point Tank Farm. The operation and maintenance of this tank is the responsibility of the

U.S. Navy, not KWPC. The tank information for the KWPC bulk storage facility is summarized in Table II-1 below.

Table II-1
Summary of Tank Information
Key West Pipeline Company

Tank	Type	Capacity	Product	Installation Date
1	Floating Roof Steel AST	(b) (7)(F)	JP-5	1963
2	Floating Roof Steel AST		JP-5	1963
3	Floating Roof Steel AST		JP-5	1963
4	Fixed Roof Steel Double-Walled AST		Water Bottoms	1999
5	Double-Walled Steel AST		FSII	1999
6	Polyethylene AST		Empty	1990

Notes: AST – Aboveground Storage Tank.
FSII -Fuel System Icing Inhibitor (ethylene glycol monomethyl ether).

Immediately south of Tank 3 is a tank truck loading/unloading rack owned and operated by KWPC. The tank truck rack has a concrete pad and berm within which the entire tank truck is parked during fuel transfers to or from the truck. The concrete berm is approximately 3 inches high with a capacity of approximately 500 gallons.

Pipeline Response Zone Description

The KWPC 4-inch pipeline runs from Trumbo Point tank farm on Key West to KWNAS on Boca Chica Key. The 4-inch 7.1-mile pipeline runs underwater in an easterly direction, north of Key West. The pipeline enters the water at Fleming Channel, just east of Fleming Key Bridge, leaves the water on the east side of Cow Key Channel and crosses Stock Island underground. The pipeline re-enters the water at Boca Chica Channel, just west of Boca Chica Bridge, leaves the water on the east side of Boca Chica Channel and then runs underground on Boca Chica to the KWNAS Tank Farm. The area within the KWPC planning distance contains aquatic ecosystem consisting of wetlands, marshes, mangrove systems, and other aquatic habitats. Also, the area is within the designated seasonal critical habitat of the Northern Right Whale.

A discharge from the KWPC pipeline system could potentially reach the boundaries of the Key West National Wildlife Refuge and the Great White Heron National Wildlife Refuge. In addition, there are reef areas along the Florida Keys, which have National Marine Sanctuary status. These areas are within Monroe County, Florida.

A comprehensive listing of environmentally sensitive areas is provided in Figures I-5A through I-5E.

- **Line Sections within Response Zone**

  The total length of the pipeline is 7.1 miles and the complete linear distance of the pipeline falls within this response zone.

- **Determination of Significant and Substantial Harm**

  The pipeline is believed to be capable of causing significant and substantial harm to the environment in the event of a discharge of fuel because it is located adjacent to several environmentally sensitive areas and navigable waters.

B. DISCHARGE DESCRIPTIONS

Worst Case Discharge (WCD)

The KWPC facility consists of three major portions or segments as defined in the oil pollution prevention regulations. The 12-inch pipeline from Pier D-2 to the KWPC bulk storage facility is considered a to be a marine-transportation-related (MTR) facility or segment; the KWPC bulk storage facility, consisting of the storage tanks, truck loading racks, and filter system, is considered to be a non transportation related (NTR) facility or segment; and the KWPC 4-inch pipeline from the bulk storage facility to the KWNAS Tank Farm on Boca Chica, excluding the manifold and transfer pumps, are considered an on-shore-transportation-related (OTR) pipeline facility or segment. Therefore, potential releases may occur from one of the three segments identified above either during transfer, storage, or delivery operations. Adverse weather conditions should not affect the shutdown time of releases since pipeline throughput is controlled from the terminal operator at the terminal.

WCD From USEPA Regulated Storage Tanks (NTR)

The worst-case discharge for the KWPC bulk storage facility is equal to the capacity of the single largest tank. (b) (7)(F) [redacted] acity of each tank as indicated in Table II-1 above. These calculations are based on a secondary containment-multiple tank onshore storage facility, where the tanks are not permanently manifold together. This worst-case discharge scenario assumes failure of the secondary containment, which would result in the worst-case discharge volume reaching navigable waters (Fleming Channel).

WCD From Coast Guard Regulated Pipeline (MTR)

The maximum delivery rate when the KWPC ASTs are being filled is (b) (7)(F) and the volume of the 12-inch, 1,000 ft long transfer line is (b) (7)(F). If a rupture or other line failure occurs during the transfer, the maximum release time and shutdown response time would be very short since the transfer operations are continuously attended. A conservative estimate of release time plus shutdown time is 5 minutes; therefore, the worst-case discharge volume for the MTR pipeline is estimated to be approximately (b) (7)(F)

WCD From DOT Regulated Pipeline (OTR)

The worst-case discharge from the on-shore transportation related 4-inch pipeline segment is also calculated by response times and delivery rates. The maximum delivery rate for the line from KWPC to KWNAS is (b) (7)(F) and the (b) (7)(F). Since a variance of 4 to 8 gallons between the delivery meter at Trumbo Point tank farm and the receiving meter at Boca Chica tank farm would set-off an audible and visual alarm, the pipeline's maximum release time plus maximum shutdown response time is estimated to be 5 minutes. Therefore, the worst-case discharge volume for the 4-inch pipeline from the KWPC bulk storage facility to the KWNAS Boca Chica Tank Farm is approximately (b) (7)(F)

Based on the three calculated discharges, this Combined Plan will plan for a (b) (7)(F). Worksheets to calculate the worst-case discharge volumes are in Appendix H.

Medium & Maximum Most Probable Discharge

Two areas at the KWPC facility require medium or maximum-most-probable discharge (MMPD) determinations. These areas include the terminal storage tanks regulated by USEPA, and the MTR pipeline segment regulated by the USCG.

Medium Discharge From USEPA Regulated Storage Tanks (NTR)

The medium discharge for the storage area is 36,000 gallons or 10 percent of the worst-case discharge, whichever is less. (b) (7)(F) [redacted] the medium discharge for the storage area is 36,000 gallons.

MMPD From Coast Guard Regulated Pipeline (MTR)

The maximum-most-probable discharge for the MTR segment is 50,400 gallons or 10 percent of the MTR worst-case discharge, whichever is less. As (b) (7)(F) [redacted]

Therefore, based on the above calculations, the medium discharge planned for in this Combined Plan is 36,000 gallons.

Small & Average Most Probable Discharge

The small discharge or average-most-probable (AMP) discharge has similar requirements as the medium or MMPD discharge.

Small Discharge From USEPA Regulated Storage Tanks (NTR)

For the terminal storage tanks, small discharges are those discharges less than or equal to 2,100 gallons.

Average Most Probable Discharge From Coast Guard Regulated Pipeline (MTR)

For the MTR pipeline segment, the average most probable discharge is 2,100 gallons or 1 percent of the MTR worst-case discharge. (b) (7)(F) [redacted].

Therefore, based on the calculations above, the small discharge planned for in this Combined Plan is 2,100 gallons.

Facility Characteristics Affecting Discharge

The KWPC bulk storage facility and surrounding area is relatively flat and no ditches or drainage structures are present due to the high porosity of the ground, which consists of limestone and sand. Thus any spill, which occurred on land would quickly percolate into the ground. Since the surrounding land surface is relatively flat, and the spill pathway may be in any direction depending on the type and sequence of failures, the primary containment efforts are to minimize the spread of a discharge. Typically, these efforts would include placing containment booms, pads, and constructing earthen dikes to limit the spread of the discharge. Spill response equipment listed in Appendix A will be employed to limit the spread of the discharge. The containment strategy is to contain the spill on land as much as possible. While this general strategy is considered preferable, the strategy may be altered during a response if the alternate strategy or actions are considered to be more protective of human health. Containing the spill on land would cause more of the fuel to seep into the ground. While recovery of fuel from the subsurface is difficult, it is considered preferable to contain the spill on land, where containment and recovery efforts are generally more feasible, than on water.

C. HYDROLOGICAL AND CLIMATIC CONSIDERATIONS

The Florida Keys enjoys a marine type climate characterized by very mild dry winters and by hot, wet summers. There are however, significant climate differences within the region due to unpredictable weather, such as hurricanes. Hurricane season is May 1st through November 31st. Table II-2 below provides the NOAA average high and low monthly air temperatures, as well as the mean monthly air temperatures. The table also indicates monthly average surface water temperatures and rainfall for the Key West area.

Table II-2
NOAA Monthly Air & Water Temperatures and Rainfall for Key West, Florida

Month	Average High Temperature, °F	Average Low Temperature, °F	Monthly Mean Temperature, °F	Average Rainfall, Inches	Average Water Temps, °F
January	75	65	70	2.01	69
February	75	66	70	1.80	70
March	79	69	74	1.71	75
April	82	72	77	1.75	79
May	85	76	81	3.46	83
June	88	79	83	5.09	86
July	89	80	84	5.03	87
August	89	79	83	5.85	87
September	88	79	83	5.85	86
October	84	76	80	4.4.2	82
November	80	71	76	2.84	76
December	76	67	78	2.02	72
Month	**Average High Temperature, °F**	**Average Low Temperature, °F**	**Monthly Mean Temperature, °F**	**Average Rainfall, Inches**	**Average Water Temps, °F**
Annual	83	73	78	39.59	79

Source: National Oceanic and Atmospheric Administration
National Weather Service
3535 South Roosevelt Boulevard
Suite 105
Key West, FL 33040-5208

The Key West wind direction frequencies are mostly dominant from the northeast during the fall and winter months and from the southeast during the spring and summer months.

Tides & Currents

The tidal characteristics around Key West are complex because the survey area is located in the transition between two distinct systems, the Gulf of Mexico and the Florida Straits, each with different tide types. The Gulf of Mexico is dominated by diurnal tides whereas the Florida Straits are influenced by the semidiurnal tides of the Atlantic Ocean resulting in mixed tides for the area. The fundamental shape of the tide curve changes throughout the area in response to varying contributions of the semidiurnal and diurnal constituents. The tides are further complicated by the complex bathymetry throughout the Keys. The semidiurnal tide propagates northward from the Florida Straits through the islands and dissipates as it progressively dampens and slows due to the shallow water of the Keys. Around Florida Bay, it eventually interacts with the mixed tide progressing from the northwest and the Gulf. Where the two-tide types meet, they are not in phase and they do not have the same amplitudes.

Tides in the Key West area are however, semidiurnal with a tidal range that varies from 1.30 - 1.35 feet. Currents vary from a maximum ebb current of 2.5 knots and a maximum flood current of 1.9 knots. Although, strong currents in the range of 5 knots have been reported in the Fleming Channel. Detailed tide and tidal current information concerning the Keys and its approaches is provided in the Tide Tables, the Tidal Current Tables, and the U.S. Coast Pilot.

Figure II-1 Site Location

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SECTION III: SPILL REPORTING PROCEDURE

A. SPILL REPORTING PROCEDURE

KWPC has developed this spill reporting procedure to ensure that KWPC will make and complete all internal and external notifications in a timely fashion. All discharges in, around, or near the KWPC facility are immediately reported to the terminal manager, Mr. Dan Silvestro, designated QI or the alternate QIs. These individuals are responsible for making any required initial and follow up notifications to federal, state, and local agencies, and the emergency response contractor. They will immediately complete the Spill Response Notification Form (Table III-2) in this section, consult the Emergency Notification List in Table III-1 below, and make the required notifications. The initial information relayed in the phone call will include the name of the KWPC facility, the approximate time of discharge, the location of discharge, the name of the discharged material, the apparent reason for the discharge, the estimated quantity of discharge, the weather conditions at the discharge scene, and actions taken or planned by persons on the scene.

The Emergency Notification Phone List is posted next to each telephone at the KWPC Office. The telephone is the primary method of communication by which these notifications are made. However, if phone lines are down, cellular phones are used as a secondary communication method. If the spill is too large for KWPC to manage internally, the KWNAS oil spill response team and Eagle/SWS will be immediately notified to provide assistance in responding to the incident. The KWNAS oil spill response team and Eagle/SWS are experienced in responding to petroleum and chemical-related emergencies and maintain the necessary equipment and manpower to respond to such events

(Note: Immediate notification is required to the National Response Center for any spill that threatens to enter or enters navigable waters. Do not wait to obtain all information before notifying the NRC).

TABLE III-1 EMERGENCY NOTIFICATION LIST	
CONTACT	**TELEPHONE NUMBER**
1. Report the spill immediately, day or night, to Naval Air Station Key West (KWNAS) Officer of the Day (OOD) at (305) 293-2268. The OOD will contact the environmental protection specialist in the Public Works Engineering Environmental Branch who will report to the spill site, assess the situation and contact KWNAS Oil Spill Response Team to respond, if necessary.	(305) 293-2268
2. KWNAS Fire Department	(305) 293-3333
3. Coast Guard Sector Key West	(305) 292-8727 / 8809
4. KWNAS Security	(305) 293-2531
5. KWNAS OSR Team	(305) 293-5374
6. Eagle/SWS Oil Spill Removal Organization (OSRO) Immediately contact Eagle/SWS day or night, for any spill from the KWPC facility in which KWPC personnel need assistance in stopping, containing and/or recovering the product.	1-800-852-8878 or 1-954-957-7271 6900 NW 12 Ave. Ft. Lauderdale, FL 33309
7. Mark Rauch - KWPC Houston Office: Report any spill immediately to the Houston office of KWPC	(713) 627-1700 Office (b) (6) (713) 829-0065 Mobile
8. U. S. Coast Guard (USCG) National Response Center	(800) 424-8802 (24 hours) (202) 267-2675 (24 hours)
9. Florida Department of Environmental Protection - State Warning Point FDEP Marathon Office	(800) 320-0519 (24 hrs) (850) 413-9911 (305) 289-2310
ADDITIONAL CONTACTS AS NEEDED	
10. Key West Fire Department	(305) 292-8179
11. Key West Police Department	(305) 809-1000
12. Monroe County Emergency Management	(305) 289-6018
13. Monroe County Fire Department	(305) 292-2797
14. Monroe County Sheriff's Department	(305) 296-2424
15. National Weather Service Key West	(305) 295-1316
16. Key West Port Director	(305) 293-6481
17. Aerial Surveillance National Response Corporation (Aircraft Provider & Trained Aerial Observers)	1-800-899-4672 or 1-612-290-1747 (Jason Desantis)
18. Defense Fuel Region America	(713) 718-3886 ext. 120, 129 (800) 286-7633 (24 hours)
19. Wells Fargo Insurance	(713) 507-4706
20. Bill Pence	(407) 649-4095 Office (b) (6) (407) 421-4660 Mobile

If another company appears to be the cause or source of the spill, they are contacted immediately to confirm that they are aware of the situation.

B. NOTIFICATION FORM

In the event of a discharge or a substantial threat of a discharge, the following spill response notification form detailing basic facility information will be completed. The form provides information regarding the: incident description, the material discharged, the response action taken, the impacts of the discharge to both human health and the local environment (both direct and indirect), and the organizations notified. The incident description includes the source/cause, date, time, and location of the discharge. The quantity of discharge material including a breakdown of quantity of discharged material that was released into water is also recorded. A copy of this form is also posted next to each telephone at the facility. Follow-up notifications will be provided to the appropriate agencies as incident information becomes available. Additional follow-up reports will be provided as deemed appropriate or as requested by agency personnel.

Table III-2 SPILL RESPONSE NOTIFICATION FORM

REPORTING PARTY INFORMATION

INITIAL NOTIFICATION TO NRC MUST NOT BE DELAYED PENDING COLLECTION OF ALL INFORMATION

REPORTER'S LAST NAME:		FIRST:		M.I.:	
PHONE NUMBERS: DAY:	(305) 294-4812	EVENING:		MOBILE:	
COMPANY:	Key West Pipeline Company				
ORGANIZATION TYPE:	Petroleum Terminal				
YOUR POSITION:					
ADDRESS:	Building D-19 Trumbo Point Naval Annex				
CITY:	KEY WEST	STATE:	FLORIDA	ZIP:	33040
WERE MATERIALS DISCHARGED? (Y/N):		CONFIDENTIAL (Y/N)			
MEETING FEDERAL OBLIGATIONS TO REPORT? (Y/N):		DATE CALLED:			
CALLING FOR RESPONSIBLE PARTY? (Y/N):		TIME CALLED:			

INCIDENT DESCRIPTION

SOURCE AND/OR CAUSE OF INCIDENT:					
DATE:		TIME OF INCIDENT:		AM/PM	
INCIDENT ADDRESS/LOCATION:					
NEAREST CITY: KEY WEST	STATE: FL	COUNTY: MONROE	ZIP: 33040		
DISTANCE FROM CITY:	UNITS: MILES	DIRECTION FROM CITY:			
SECTION:	TOWNSHIP:	RANGE:			
CONTAINER TYPE:	TANK CAPACITY:	UNITS:			

(b) (7)(F)

[redacted]

(b) (7)(F) [redacted]

MATERIAL RELEASED (CHRIS Code)	RELEASED QUANTITY	UNIT OF MEASURE	MATERIAL RELEASED IN WATER	QUANTITY	UNIT OF MEASURE
JP-5 Chris Code JPV					
Glycol Ether Chris Code DGM					

RESPONSE ACTION	
ACTIONS TAKEN TO CORRECT, CONTROL OR MITIGATE INCIDENT	

IMPACT			
NUMBER OF INJURIES:		NUMBER OF FATALITIES:	
WERE THERE EVACUATIONS? (Y/N):		NUMBER OF EVACUATIONS:	
WAS THERE ANY DAMAGE? (Y/N):		DAMAGE IN DOLLARS (APPROX.):	
MEDIUM AFFECTED:			
DESCRIPTION:			
MORE INFORMATION ABOUT MEDIUM:			
ANY INFORMATION ABOUT THE INCIDENT NOT RECORDED ELSEWHERE IN THE REPORT:			

Table III-2 SPILL RESPONSE NOTIFICATION FORM

ATMOSPHERIC AND WATER CONDITIONS

ATMOSPHERIC			WATER		
WIND SPEED:		MPH	STATE OF TIDE:		
WIND DIRECTION FROM:			CURRENT SPEED:		KNOTS
AIR TEMPERATURE:		ºF	CURRENT DIRECTION FROM:		
VISIBILITY:		MILES	WAVE HEIGHT:		FEET
PRECIPITATION:			WATER TEMPERATURE:		ºF

CALLER NOTIFICATION

	YES/NO	WHO	TIME/DATE
KWNAS OOD (305) 293-2268			
KWNAS FIRE DEPARTMENT (305) 293-3333			
COAST GUARD SECTOR KEY WEST 305) 292-8727/8809			
KWNAS SECURITY (305) 293-2531			
KWNAS OSR TEAM (305) 293-5374			
EAGLE/SWS 1 800 852-8878			
MARK RAUCH (713) 627-1700 Office (b) (6) (713) 829-0065 MOBILE			
NATIONAL RESPONSE CENTER (NRC) 1 800 424-8802 (24 HRS)			
FDEP State Warning Point (800) 320-0519 (24 HRS)			
FDEP Marathon Office (305) 289-2310			
OTHERS			

Qualified Individual/On-Scene Commander	**Date**

SECTION IV: EMERGENCY RESPONSE ORGANIZATION

A. TIERED RESPONSE

Oil spill events have been divided into three levels of incidents to reflect the amount of resources that will be available to respond to and manage each level of incident. The three levels of incidents are: Level I (small), Level II or (medium), and Level III (worst case). For the purposes of this Plan, the three levels of incidents are defined as follows:

Level I – A Level I, is a small discharge that can easily be handled by the Onsite Response Team (ORT) using onsite or local resources. The ORT may also include the KWNAS oil spill response team.

Level II – A Level II, is a medium incident and one that is beyond the capability of the Onsite Response Team. A Level II incident would require the activation of the Onsite Response Team including the KWNAS oil spill response team, the oil spill removal organization and a partial activation of the KWPC Spill Management Team.

Level III – A Level III, is a large incident up to and including a worst-case discharge. This level of incident would be fully responded to by the Onsite Response Team including the KWNAS oil spill response team, the oil spill removal organization and the KWPC Spill Management Team.

B. EMERGENCY RESPONSE ORGANIZATION

KWPC has developed an Incident Command System (ICS)-compatible Emergency Response Organization. The ICS approach has been adopted because it provides a structure that is:

- Designed to ensure that KWPC would be capable of performing the functions necessary to respond to an incident in an automatic, immediate, comprehensive, and coordinated fashion
- Modular in nature so that it can be activated and deactivated according to need
- Hierarchical in nature so that there is a clear chain of command.
- Matrix in nature to enhance communications
- Designed to recognize and address the demands of the "external" world without diminishing "internal" emergency response management capabilities
- Flexible

KWPC has established an Emergency Response Organization to address the three levels of incidents described in Part A of this Section. The Organization consists of two independent but interrelated teams, the On-site Response Team (ORT) and the Spill Management Team (SMT). KWPC uses personnel and equipment from the KWPC facility, KWNAS oil spill response team and from the primary OSRO (Eagle/SWS) to provide response resources for each of the three levels of incidents. KWPC has a contract for emergency response services with Eagle/SWS. A copy of the emergency response contract is provided in Appendix A.3. Contact information for all responders are listed in Table I-3 of the Plan.

C. ONSITE RESPONSE TEAM (ORT)

KWPC has its own ORT. The ORT comprises of a limited number of KWPC facility personnel (3-4) and 10 to 12 personnel from the KWNAS oil spill response team who are trained and prepared to respond to Level I (small) incidents, and to initiate response operations for Level II and Level III (medium to worst case) incidents. In addition to its own equipment, the ORT has access to the response equipment at KWNAS (see Appendix A for a list of resources) and the Oil Spill Removal Organization's (OSRO) (i.e., contractor) response resources located at the KWPC facility. With these resources, the ORT is capable of handling the vast majority of the KWPC facility's incidents, which are minor in nature (i.e., Level I incidents).

The KWNAS oil spill response team provides initial response services (<1 hour) for petroleum releases from the KWPC facility. In addition, KWPC has executed a contract with Eagle/SWS First Response for emergency response services and to provide the equipment required by Chapter 62N-16, FAC within four hours after initial discovery of a discharge. The list of required equipment to be provided by Eagle/SWS is provided in Exhibit C of the executed emergency response contract, which is presented in Appendix A.3 of this Combined Plan.

The ORT is led by an On-Scene Commander (OSC) who would also serve as the Qualified Individual (QI) and who operates out of a Field Command Post (FCP) located at or near the incident scene (note: a FCP normally is a truck or an open-air area where the OSC/QI positions him/herself to direct at-the-scene tactical response operations). The ORT organization is a flexible organization that it can be easily expanded to address the needs of the incident and specific response elements that have or could occur (e.g., fire or release of JP-5, etc.). The ORT is comprised of the following positions:

ORT Positions
OSC/QI
Site Safety Officer
Staging Area Manager
Operations Supervisor
On Water Unit Leader
On Land Unit Leader

In carrying out these duties, the ORT's main responsibilities are to:

- Make internal & external notifications
- Assess the incident and determine the current and potential hazards, the number and types of any injuries and the need for evacuations
- Control the source if safe to do so
- Establish control of the site, institute safety & hazard control zones as necessary.
- Determine the scope of resources needed to mitigate the situation

- Request resources (equipment/personnel) from KWNAS & OSRO as needed
- Develop tactical response strategies and make assignments to combat the incident
- Carry out tactical response operations in a safe and effective manner
- Continuously assess the incident and determine whether additional resources are needed
- Establish and manage staging area(s) to support on-going response operations
- Keep the Spill Management Team informed on the status of response operations

A general description of the roles and responsibilities of each position on the ORT is provided below:

OSC/QI: The OSC/QI is responsible for conducting an initial assessment of the situation and immediately taking the steps necessary to ensure the safety of personnel. The OSC/QI will identify and control the source (if possible), conduct a detailed incident assessment, initiate and manage response operations, and make internal/external notifications.

Site Safety Officer: The Site Safety Officer is responsible for conducting an initial assessment of the situation and immediately taking the steps necessary to ensure the safety of all personnel (public & responders). The Site Safety Officer will keep the OSC/QI informed of all safety and health related issues.

Operations Supervisor: The Operations Supervisor is responsible for supervising the development of tactical response strategies, the deployment of response equipment, and keeping the OSC/QI informed of the status of response operations.

On Land Unit Leader: The On Land Unit Leader is responsible for carrying out shore-side activities pertaining to boom deployment and cleanup activities, as directed by the Operations Supervisor.

On Water Unit Leader: The On Water Unit Leader is responsible for deploying

the boat, containment boom, sorbent materials, and oil recovery devices, as directed by the Operations Supervisor.

A organization chart for the ORT is presented in Figure IV-1 and job descriptions for each member of the ORT are presented in Section V.

The ORT using onsite equipment, KWNAS equipment and OSRO equipment would be responsible for responding to all Level I, Level II, and Level III incidents at the KWPC facility. The Spill Management Team is responsible for responding to all Level II and Level III incidents or any time the spill is beyond the capability of the ORT.

The ORT is assisted by a QI who also serves as the OSC. The OSC/QI or alternate is available on a 24-hour basis, speaks fluent English, is familiar with the implementation of the response plan and is trained in his/her responsibilities. The OSC/QI(s) has been granted full authority to implement removal actions. The OSC/QI receives a minimum of 40 hours of training in accordance with Occupational Safety and Health Administration (OSHA) requirements of 29 CFR 1910.120 and participates in the drill and exercise program in accordance with federal and state regulations as required under OSHA. The QI and alternate QI's have full authority to implement removal actions, including the ability to commit company resources in the event of an oil spill. The duties of the QI and Alternate QI begin with:

- The activation of internal alarms and hazard communication systems to notify facility personnel of a discharge event
- Next, appropriate notifications, based on the discharge scenario, are made to the KWNAS OOD, KW Fire Department, response contractor, and other federal, state, and local authorities as provided on the Emergency Notification Phone List in Table I-3. The character, source, volume,

weather, time, and location of the discharge is relayed to each notified identity

- To the extent known by KWPC, a hazard assessment pertaining to mixing of the discharged material with water or other stored materials and direct and indirect impacts to human health and the environment is made at the scene and responding personnel are notified of that assessment
- The QI also assesses, coordinates, and implements those portions of the facility response plan required for prompt containment and removal of the discharged material
- The QI obtains authority to access KWPC funds if required to ensure cleanup activities
- Finally, the QI utilizes the Incident Command System to direct cleanup activities until relieved by a higher authority. The other response team members maybe assigned any of the duties listed above as delegated by the QI

During a Level III or WCD incident, the SMT may have to be expanded to include the additional functions depicted in Figure IV-2. The primary OSRO will provide personnel and equipment to meet worst-case discharge requirements.

D. SPILL MANAGEMENT TEAM (SMT)

The SMT will be activated for all Level II or Level III incidents or at the request of the OSC/QI. A full or partial activation of the SMT will occur depending on the size of the incident. The SMT primarily consists of personnel drawn from the OSRO and other consultants. Eagle/SWS has approximately 250 employees who are 40 hour OSHA hazardous waste operations and emergency response trained in accordance with 29 CFR 1910.120. Additionally, approximately 50 employees also have hazardous waste supervision training and incident commander training. The emergency response contractor is available on-call 24 hours and is capable of responding to any emergency within 4 hours. The

emergency response contractor is required to implement this Combined Plan and is required to coordinate response services as directed by the KWPC QI/OSC, Incident Commander and any additional federal, state and local response personnel.

The SMT is led by an Incident Commander (OSC/QI) who operates out of an Incident Command Post (ICP) that normally is set up at a location away from the FCP. Table I-8 identifies the primary and alternate locations for the establishment of an ICP. When the SMT is activated, the ORT is initially assimilated into, and becomes the part of the Operations Section of, the SMT. During long-term events, ORT members will be replaced by other SMT or OSRO members as necessary.

The SMT is a strategic organization that when activated supports tactical response operations on water or on land. SMT team members are trained and equipped to:

- Provide overall direction to response operations;
- Track the status of response operations & develop necessary plans;
- Ensure that response operations are carried out in a safe, efficient, and environmentally sound manner;
- Obtain the resources needed to sustain response operations; and
- Manage the financial and resource issues involved in the response.

The ICS organization is built around five major functional elements that are applied on any incident. the advantage of the ICS organization is the ability to expand or contract the organization depending on the size of the incident and to activate only those positions necessary to carry out response operations. The five functional elements of the SMT using the principals of the incident command system are:

SMT Functional Elements
Command Staff
Operations Section
Planning Section
Logistics Section
Finance/Admin Section

A general description of the roles and responsibilities of each functional element of the SMT organization is provided below:

The **Command Staff** is responsible for providing strategic direction to, and overall management of response operations. Members of the **Command Staff** also are responsible for ensuring the safety of all response personnel, handling legal maters and all external communications through a joint information center, and interfaces with the other government agencies, the media, and the public. The command staff may also include a unified command structure. While a single incident commander normally handles the command responsibilities, an ICS organization may be expanded into a unified command for complex responses, which cross-jurisdictional boundaries or involve multi-agencies. The unified command will usually consists of the following entities:

- The pre-designated Federal On-scene Coordinator (FOSC)
- The State On-scene Coordinator (SOSC)
- The KWPC Incident Commander (IC)

The **Operations Section** is responsible for the management of all operations directly applicable to the primary mission. A SWS manager experienced in incident response implementation will fill this position. The Operations Section Chief reports to the Deputy IC or the IC and coordinates closely with the other section chiefs. The Operations Section Chief develops operational sections of the Incident Action Plan, assigns operations personnel in accordance with the Incident Action Plan, supervises the execution of the Incident Action Plan,

requests resources needed to implement the operations tactics, and insures safe tactical operations. The Operations Section Chief may make or approve changes to the Incident Action Plan during the operational period. The Operations Section Chief will report information about changes in the implementation of the incident response, special activities and occurrences to the Incident Commander and Planning Section Chief.

The **Planning Section** is responsible for the collection, evaluation, dissemination and use of information about the development of the incident and status of resources. Information is needed to 1) understand the current situation, 2) predict probable course of incident events, and 3) prepare alternative strategies for the incident. A SWS manager familiar with the planning of incident response will fill the Planning Section Chief position. The Planning Section Chief reports to the Deputy IC or the IC and coordinates closely with the other section chiefs. The Planning Section Chief supervises the preparation of the Incident Action Plan, provides input to Incident Command and the Operations Section in preparing the Incident Action Plan. The Planning Section Chief will determine the need for any specialized resources in support of the incident, assign technical specialists or task teams where needed, assemble information on alternative strategies, provide periodic predictions of incident potential, summarize incident status, and distribute incident information. The Planning Section Chief will also prepare recommendations to the Incident Commander for the release of resources in accordance with the Demobilization Plan.

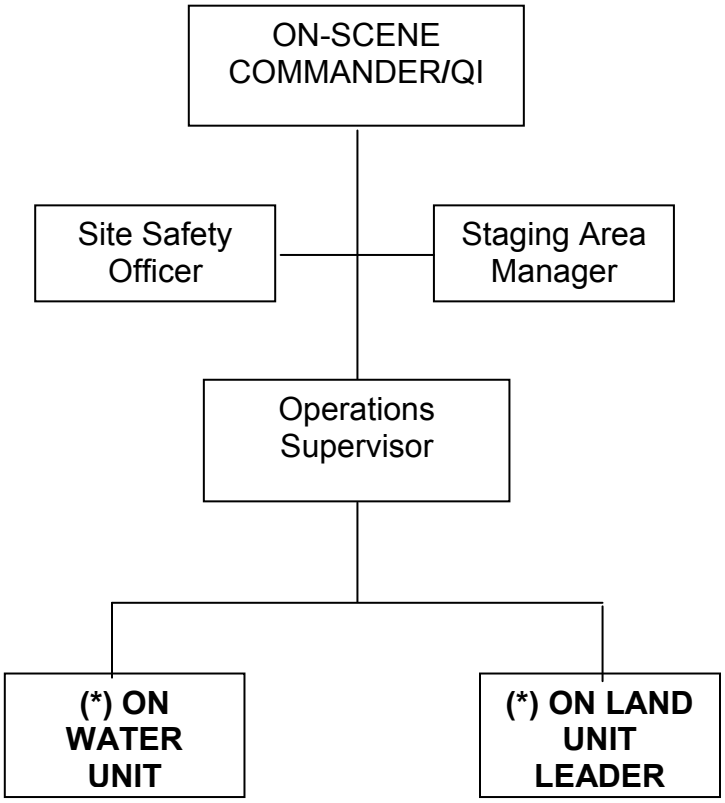
The **Logistics Section** is responsible for providing facilities, services and material in support of the incident. A SWS manager familiar with the appropriate resources available for the incident response will fill this section chief position. The Logistics Section Chief reports to the Deputy IC or the IC and coordinates closely with the other section chiefs. The Logistics Section Chief participates in the development of the Incident Action Plan and activates and supervises branches and units within the Logistics Section. The Logistics Section Chief will

identify service and support requirements for planned and expected operations, coordinate and process requests for resources, advise on current service and support capabilities, estimate and plan for future support requirements, receive demobilization plan from the Planning Section Chief, and recommend the release of resources from the Incident Commander based on the Demobilization Plan.

The **Finance/Administration Section** is responsible for all financial and cost analysis aspects of the incident. This section chief position will be filled by a KWPC official, who will be supported by a SWS accounting staff person who is trained in tracking the costs of incident response. The Finance/Administrative Section Chief reports to the Deputy IC or the IC and coordinates closely with the other section chiefs. The Finance Section Chief attends planning meetings to gather information on overall strategy, and to provide input on financial and cost analysis matters, and prepares work objectives and supervises staff subordinates. The Finance/Administrative Section Chief ensures that personnel time, equipment and other cost records are transmitted to KWPC and relevant agencies according to policy. The Finance/Administrative Section Chief will maintain daily contact with the Incident Commander and KWPC corporate office (Mark Rauch) to summarize cost and financial status of the incident response. The Finance/Administration Section Chief will also brief agency administration personnel, as required, on all incident-related business management issues needing follow-up after the incident.

The KWPC SMT organization chart that depicts the relationship between the SMT, ORT, and federal, state, and local authorities is presented in Figure IV-2. Job descriptions describing the roles and responsibilities for each position on the SMT are provided in Section V of the Plan.

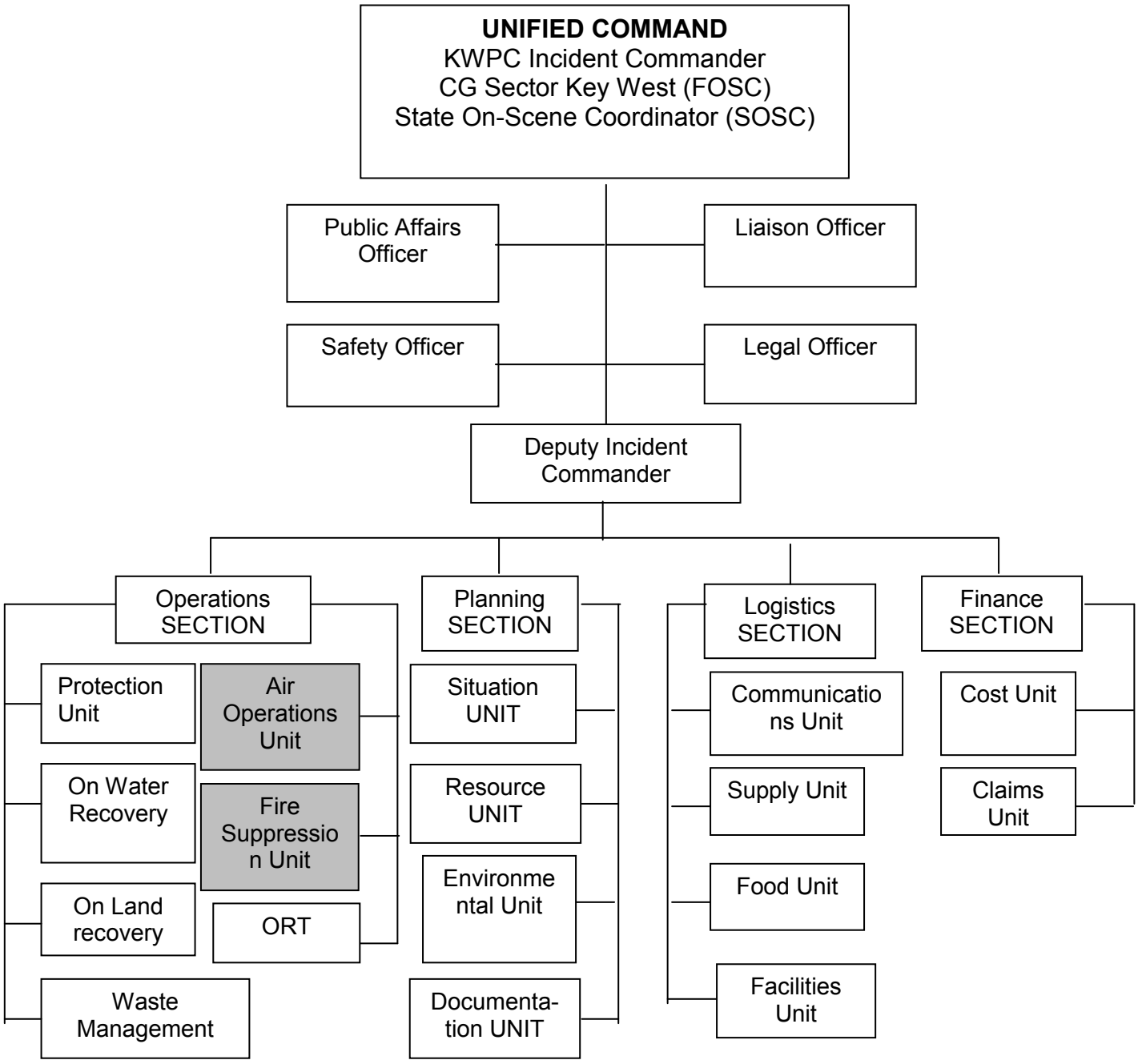
FIGURE IV-1 KWPC ONSITE RESPONSE TEAM (ORT) ORGANIZATION CHART



* Tactical responders added as needed

FIGURE IV-2 KWPC SPILL MANAGEMENT TEAM (SMT) ORGANIZATION CHART

During a Level II or III incident, KWPC's Spill Management Team would be activated to include the functions depicted in below. The primary OSRO will provide personnel and equipment to meet Worst Case Discharge requirements.



Shaded Positions Staffed by Other Agencies

E. FEDERAL GOVERNMENT'S ROLE – NATIONAL CONTINGENCY PLAN

I. Overview

The National Oil and Hazardous Substances Pollution Contingency Plan, more commonly called the National Contingency Plan or NCP, is the federal government's blueprint for responding to both oil spills and hazardous substance releases. The National Contingency Plan is the result of our country's efforts to develop a national response capability and promote overall coordination among the hierarchy of responders and contingency plans.

The first National Contingency Plan was developed and published in 1968 in response to a massive oil spill from the oil tanker *Torrey Canyon* off the coast of England the year before. More than 37 million gallons of crude oil spilled into the water, causing massive environmental damage. To avoid the problems faced by response officials involved in this incident, U.S. officials developed a coordinated approach to cope with potential spills in U.S. waters. The 1968 plan provided the first comprehensive system of accident reporting, spill containment, and cleanup, and established a response headquarters, a national reaction team, and regional reaction teams (precursors to the current National Response Team and Regional Response Teams).

Congress has broadened the scope of the National Contingency Plan over the years. As required by the Clean Water Act of 1972, the NCP was revised the following year to include a framework for responding to hazardous substance spills as well as oil discharges. Following the passage of Superfund legislation in 1980, the NCP was broadened to cover releases at hazardous waste sites requiring emergency removal actions. Over the years, additional revisions have been made to the NCP to keep pace with the enactment of legislation. The latest revisions to the NCP were finalized in 1994 to reflect the oil spill provisions of the Oil Pollution Act of 1990.

Key Provisions of National Contingency Plan

- Establishes the National Response Team and its roles and responsibilities in the National Response system, including planning and coordinating responses to major discharges of oil or hazardous waste, providing guidance to Regional Response Teams, coordinating a national program of preparedness planning and response, and facilitating research to improve response activities. USEPA serves as the lead agency within the National Response Team (NRT).
- Establishes the Regional Response Teams and their roles and

responsibilities in the National Response System, including, coordinating preparedness, planning, and response at the regional level. The RRT consists of a standing team made up of representatives of each federal agency that is a member of the NRT, as well as state and local government representatives, and also an incident-specific team made up of members of the standing team that is activated for a response. The RRT also provides oversight and consistency review for area plans within a given region.

- Establishes general responsibilities of federal On-Scene Coordinators.
- Requires notification of any discharge or release to the National Response Center through a toll-free telephone number. The National Response Center (NRC) acts as the central clearinghouse for all pollution incident reporting.
- Authorizes the pre-designated On-Scene Coordinator to direct all federal, state, and private response activities at the site of a discharge.
- Establishes the unified command structure for managing responses to discharges through coordinated personnel and resources of the federal government, the state government, and the responsible party.
- Requires the On-Scene Coordinator to submit to the RRT or NRT a report on all removal actions taken at a site.
- Identifies the responsibilities for federal agencies that may be called upon during response planning and implementation to provide assistance in their respective areas of expertise consistent with the agencies' capabilities and authorities.
- Lists the federal agencies that have duties associated with responding to releases.
- Defines the objectives, authority, and scope of Federal Contingency Plans, including the National Contingency Plan (NCP), Regional Contingency Plans (RCPs), and Area Contingency Plans (ACPs).

II. Oil Removals

- Establishes national priorities for responding to a release.
- Establishes the general pattern of response to be executed by the On-Scene Coordinator (OSC), including determination of threat, classification of the size and type of the release, notification of the RRT and the NRC, and supervision of thorough removal actions.
- Authorizes the OSC to determine whether a release poses a substantial threat to the public health or welfare of the United States based on several factors, including the size and character of the discharge and its proximity to human populations and sensitive environments. In such cases, the OSC is authorized to direct all federal, state, or private response and recovery actions. The OSC may enlist the support of other federal

agencies or special teams.

- Provides special consideration to discharges which have been classified as a spill of national significance. In such cases, senior federal officials direct nationally-coordinated response efforts.
- Requires the OSC to notify the National Strike Force Coordination Center (NSFCC) in the event of a worst case discharges, defined as the largest foreseeable discharge in adverse weather conditions. The NSFCC coordinates the acquisition of needed response personnel and equipment. The OSC also must require implementation of the worst case portion of the tank vessel and Facility Response Plans and the Area Contingency Plan.
- Provides funding for responses to oil releases under the Oil Spill Liability Trust Fund, provided certain criteria are met. The responsible party is liable for federal removal costs and damages as detailed in section 1002 of the Oil Pollution Act (OPA). Federal agencies assisting in a response action may be reimbursed. Several other federal agencies may provide financial support for removal actions.

Subpart J Establishes the NCP Product Schedule, which contains dispersants and other chemical or biological products that may be used in carrying out the NCP. Authorization for the use of these products is conducted by Regional Response Teams and Area Committees, or by the OSC in consultation with USEPA representatives.

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SECTION V: ROLES & RESPONSIBILITIES

A. ROLES AND RESPONSIBILITIES OF THE ON-SITE RESPONSE TEAM & SPILL MANAGEMENT TEAM

This section provides the job descriptions for the members of the on-site response team (ORT) and the spill management team (SMT). Each member of the ORT and SMT should be thoroughly familiar with his or her specific role on the team and their primary responsibilities. Each section chief will hold periodic section meetings with the response team members to: (1) discuss communication protocols, (2) develop specific response actions to simulated scenarios, (3) develop tools and resources that they will need to perform their job (e.g., check sheets, list of vendors, etc.) and, (4) make recommendations/revisions to the plan to enhance preparedness.

B. JOB AIDS

Certain Job Aids have been prepared by the National Strike Force Coordination Center to assist responders in understanding the scope and responsibilities of their position under the incident command system. Each Job Aid provides the important information that the responder will need to know to accomplish their specific assignment. The Job Aids can be accessed at the following website.

<http://www.uscg.mil/hq/nsfcc/nsfweb/NSF/onlinedoc1.html>

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C. FACILITY-BASED ORT MEMBERS: ROLES, RESPONSIBILITIES, AND CHECKLISTS

On-Scene Commander

ROLE

Responsible for initiating and managing at-the-scene tactical emergency response operations in a safe and effective fashion, and for keeping KWPC officials informed about the nature and status of the incident and tactical emergency response operations. When the SMT is activated, the person holding the title On-Scene Commander (OSC) will, in most instances, become a Division or Group Supervisor.

RESPONSIBILITIES

- If initial "observer":
  - Report incident
  - Assume on-scene command until and unless relieved by a more qualified individual
  - Make an immediate assessment of the incident
  - If qualified, initiate defensive and/or offensive response actions consistent with: level of expertise and training; knowledge of problem(s); and understanding of hazards (e.g. Stop the discharge & shutoff ignition sources if safe to do so)
  - Warn personnel: Alert other personnel in the area about nature and location of incident and, if necessary, establish Isolation Perimeter and evacuate non-responder personnel to a safe area outside perimeter
  - Account for all personnel
- Receive incident report
- Activate appropriate members of the facility's Onsite Response Team (ORT) (Terminal personnel, NASKW oil spill response team & OSRO)
- Travel to incident scene; observe safe approach guidelines
- Assume on-scene command; establish Field Command Post Operating Base (FCP)
- Ensure own safety and that of fellow responders; work closely with Site Safety Officer
- Define Isolation Perimeter
- Determine type and level of security needed to secure Isolation Perimeter; if necessary, establish Security task
- Identify optimum location for Staging Area; if necessary, designate a Staging Area Manager

- “Size up” situation to identify problems to be addressed by ORT members
- Develop solutions to problems *(i.e., a strategy)* and break work that needs to be done to implement strategy down into manageable tasks *(i.e., tactics)*
- Assign tasks to Operations Supervisor or Unit Leaders, and allocate checked-in resources to tasks
- Prioritize tasks, as necessary
- Establish and maintain a clearly defined tactical response organization *(i.e., ORT)*
- Establish appropriate Communications Networks between Field Command Post and all tactical responders; define a Communication Protocol for each network
- Take all appropriate and safe actions to:
  - Control the source of problems
  - Limit spread of spilled or emitted materials and their impacts
  - Protect sensitive environmental, social, and economic resources
  - Clean, remediate, repair resources impacted by spilled or emitted materials and/or tactical emergency response operations
- Address span-of-control problems
- Manage resources; keep track of resource status
- Delegate responsibilities to Aide(s)
- If SMT is activated, communicate with Incident Commander or Operations Section Chief via Command Network
- Compile and maintain appropriate documentation

SITE SAFETY OFFICER

ROLE

Responsible for ensuring that all appropriate actions are taken to protect the health and safety of at-the-scene tactical response personnel.

RESPONSIBILITIES

- Travel to Incident scene; check in at a FCP; report to OSC or a Division or Group Supervisor
- If necessary, assist OSC or Supervisor in determining safe approach guidelines
- If necessary, assist OSC or Supervisor in defining Isolation Perimeter, and in determining need to evacuate non-responders from Isolation Zone
- Receive guidance from OSC or Supervisor on problems to be addressed, solutions to problems, and tasks to be performed
- Work with OSC or Supervisor to institute personnel accountability system at incident scene
- Characterize hazards in areas before tasks are initiated
- If necessary, organize and manage a Site Entry task to carry out on-site Site Characterization
- Ensure/monitor Site Entry Team is adequately staffed *(i.e., "buddy" & backup)*, equipped & briefed
- Define hazard control zones, if necessary; ensure all ORT members are aware of location of all hot and warm zones
- Ensure all ORT members who enter a hot zone are adequately equipped, trained, and *briefed (i.e., tailgate safety briefing)*
- Determine level of PPE to be worn in each hot and warm zone
- Determine level of decontamination to be carried out in warm zone
- Work with OSC or Supervisor to develop emergency medical procedures
- Evaluate need for first aid at incident scene; establish a First Aid Station
- Monitor tactical emergency response operations; order immediate cessation of any unsafe task or work practice
- If anyone is hurt or dies during conduct of tactical emergency response operations, participate in all related investigations
- Advise Staging Area Manager regarding food, water, shelter, and sanitary requirements for tactical responders
- Compile and maintain appropriate documentation

STAGING AREA MANAGER

ROLE

Responsible for setting up and maintaining Staging Area(s), and for coordinating the delivery of support services from a Staging Area, including: food, water, shelter, PPE, and sanitation services for at-the-scene tactical response personnel, and fuel, water and lubricants for response equipment.

RESPONSIBILITIES

- Travel to incident scene; check in at FCP; report to OSC or a Division or Group Supervisor
- Work with OSC or Supervisor to identify optimum location to stage resources
- For Staging Area:
  - Define and secure boundaries of area
  - Identify ingress and egress points; if necessary, post signs to control traffic flow into and out of area
  - Identify and obtain personnel and equipment needed to operate area
  - Segregate resources, by kind, in area
- Institute resource check-in/check-out procedures
- Establish a direct line of communications with OSC or Supervisor
- Keep OSC/Supervisor informed about kind & quantity of resources “available” in Staging Area
- When SMT is activated, work with SMT Logistics Section Chief or Supply Unit Leader to establish Support Network
- Receive and process resource requests generated by tactical response personnel
- Forward resource requests that cannot be addressed with staged resources to SMT Logistics Section Chief or Supply Unit Leader via Support Network
- Receive follow-up reports from SMT Logistics Section Chief or Supply Unit Leader on status of the Section’s efforts to obtain requested resources
- Provide On-scene Commander or Supervisor status reports on resources checked-in and available in Staging Area, and resources that are en route to Staging Area
- Receive guidance from Site Safety Officer
- Obtain, and make available the food, water, shelter, and sanitary facilities necessary to support tactical responders
- Supervise demobilization of Staging Area
- Compile and maintain appropriate documentation

OPERATIONS SUPERVISOR

ROLE

Responsible for supervising at-the-scene tactical operations within the area of responsibility assigned by the OSC. When designated, Division and Group Supervisors assume the responsibilities described for the OSC, as well as those mentioned below.

RESPONSIBILITIES

- Travel to incident scene; establish or check in at FCP
- If appropriate, meet with the OSC to understand nature and status of at-the-scene tactical emergency response operations
- Receive assignments from OSC or Operations Section Branch Director if SMT activated
- Established communication protocol with Unit Leaders to receive timely reports on the status of response operations
- Supervise at-the-scene operations within area or function of responsibility by developing tactical response strategies and overseeing the deployment of response equipment
- Brief personnel assigned to carry out tasks; ensure that assigned personnel have information and equipment they need to carry out tasks safely and effectively
- Ensure health and safety of all at-the-scene personnel within area or function of responsibility
- Account for all assigned personnel and equipment
- Maintain proper span-of-control
- Keep OSC or Branch Director informed about nature and status of operations within area or function of responsibility
- If necessary, identify a location for a Division- or Group-specific Staging Area
- Provide Staging Area Manager information on resource needs
- Compile and maintain appropriate documentation

ON LAND UNIT LEADER

ROLE

Responsible for assisting the OSC in managing the implementation of strategies designed to protect threatened sensitive areas and/or clean up impacted land areas.

RESPONSIBILITIES

- Obtain initial briefing from Operations Supervisor or Section Chief, attend daily staff meetings and briefings, and relay important information to On Land Unit personnel
- Provide Operations Supervisor information on personnel, equipment, material, and supply needs
- Assume responsibility for any task(s) delegated by the Operations Supervisor
- Size up incident, identify On Land Unit-specific problems and solutions, and break work of On Land Unit down into manageable tasks
- Assist Operations Supervisor in preparation of Operations Section-specific Strategic Objectives
- Provide Operations Supervisor with periodic status reports
- Develop a communications protocol with On Land tactical responders
- Receive information on location and nature of sensitive resource areas from Environmental Unit if SMT activated
- Evaluate adequacy of on-land response operations being carried out by ORT against Strategic Objectives
- If necessary, work with Environmental Unit to develop tactics to protect sensitive resource areas; ensure that protection tactics are consistent with all applicable contingency plans
- Prepare (an) ICS 204 Field Assignment(s) for sensitive area protection task(s)
- Prepare requisition form(s) to obtain resources needed to carry out sensitive area protection task(s); submit requisition form(s) to Purchasing Unit
- Provide OSC information on sensitive area protection tasks
- Provide Situation and Resource Unit Leaders information on sensitive area protection task(s)
- Work with OSC to receive information on location and nature of impacted land areas
- Work with Environmental Unit to determine need for initiation of a formal, multi-disciplinary Clean Assessment process to determine environmentally sound cleanup tactics
- If Cleanup Assessment process is to be followed, then communicate this fact to OSC
- Receive recommendations from Cleanup Assessment Team

- Prepare (an) ICS 204 Field Assignment(s) for land cleanup tasks
- Prepare requisition form(s) to obtain resources needed to carry out land cleanup task(s); submit requisition form(s) to Purchasing Unit
- Provide OSC and Situation and Resource Units with information on land cleanup task(s)
- Provide Situation Unit Leader with information on status of on-land operations for Situation Status Reports
- If requested to do so by Operations Supervisor, work with Planning Section on development of Incident Action Plans and/or General Plan
- Work with External Spill Response Advisor to develop tactics for on-land response operations, and to identify heavy equipment, containment booms, recovery equipment, pressure washers, pumps, sorbent materials, or any other equipment to be used to contain and recover spilled oil
- Evaluate effectiveness of on-land response techniques; adjust techniques and/or equipment as necessary to enhance effectiveness
- Work with Planning Section Chief to develop Shoreline Protection and Cleanup Plan
- Approve changes to Shoreline Protection and Cleanup Plan; provide information on changes to Operations Section Chief
- Provide Waste Management Unit Leader with information on nature and quantity of liquid, solid, and/or hazardous wastes generated during on-land response operations
- Provide Operations Supervisor with information on all special incidents and/or accidents
- Provide Public Affairs Officer and Liaison Officer with regular reports on nature and status of on-land response operations
- Provide Operations Supervisor with recommendations on timing of release of equipment and/or personnel no longer needed for on-land response operations
- Consider need for an alternate or backup person for extended (24-hour) coverage
- Compile and maintain appropriate documentation

ON WATER UNIT LEADER

ROLE

Responsible for assisting the OSC in managing the implementation of strategies designed to maximize the effectiveness of on-water response operations.

RESPONSIBILITIES

- Obtain initial briefing from Operations Supervisor or Section Chief, attend daily staff meetings and briefings, and relay important information to On Water Unit personnel
- Provide Operations Supervisor information on personnel, equipment, material, and supply needs
- Assume responsibility for any task(s) delegated by Operations Supervisor
- Size up incident, identify On Water Unit-specific problems and solutions, and break work of On Water Unit down into manageable tasks
- Assist Operations Supervisor in preparation of Operations Section-specific Strategic Objectives
- Provide Operations Supervisor periodic status reports
- Develop a communications protocol with On Water tactical responders
- Obtain information on current nature and status of on-water response operations being carried out by ORT
- Evaluate adequacy of on-water response operations being carried out by ORT against Strategic Objectives
- If adequate, determine whether ORT needs additional resources to support on-water response operations
- If inadequate, identify changes that need to be made in existing tasks or additional on-water tasks that need to be carried out by ORT
- Work with External Spill Response Advisor to investigate feasibility of using alternative response technologies *(i.e., in situ burning and dispersants use)*
- If use of alternative technologies is feasible and consistent with Strategic Objectives, work with Environmental Unit to obtain all necessary approvals
- Prepare ICS 204 Field Assignment forms for additional on-water tasks
- Prepare and submit Requisition Orders for needed resources to Purchasing Unit
- Inform OSC, either directly or through Operations Supervisor, of any changes that need to be made in existing task assignments to address Strategic Objectives
- Inform OSC, either directly or through Operations Supervisor, of any new tasks created by On Water Unit that need to be managed by On-scene Commander
- If requested to do so by Operations Section Chief, assist Planning Section in preparation of Incident Action Plans and a General Plan if SMT activated

- Supply Situation Unit Leader with information on status of on-water operations for Situation Status Reports
- Evaluate surveillance information from Surveillance Unit Leader
- Obtain weather forecasts from Environmental Unit or weather services
- Obtain information on location of any spilled material and its projected movements from Environmental Unit
- Obtain information on characteristics of any spilled material from Environmental Unit if activated
- Work with Logistics Section personnel to identify additional staging area(s), services, and contractors to be used to support on-water response operations
- Work with External Spill Response Advisor to develop tactical strategies for on-water response operations, and to identify containment boom, recovery equipment, vessels, cranes, pumps, or any other equipment to be used to contain and recover spilled oil
- Evaluate effectiveness of on-water response techniques; adjust techniques and/or equipment as necessary to enhance effectiveness
- Approve changes to on-water tactical operations portion of Incident Action Plans; provide information on changes to Operations Supervisor
- Provide Public Affairs Officer with information on on-water response operations
- Provide Waste Management Unit Leader with information on nature and quantity of liquid, solid, and/or hazardous wastes generated during on-water response operations
- Provide Operations Supervisor with information all special incidents and/or accidents
- Provide Operations Supervisor with recommendations on timing of release of equipment and/or personnel no longer needed for on-water response operations
- Consider need for an alternate or backup person for extended (24-hour) coverage
- Compile and maintain appropriate documentation

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D. SMT MEMBERS: ROLES, RESPONSIBILITIES, AND CHECKLISTS

INCIDENT COMMANDER

ROLE

Responsible for the overall management of response operations and for serving as the KWPC's primary contact person with all involved or interested external parties.

RESPONSIBILITIES

- Assess the situation and/or obtain a briefing from the prior Incident Commander (IC)
- Direct overall incident response activities
- Determine incident Strategic Objectives and response priorities and relay to SMT
- Establish an ICP and an appropriate ICS organization
- Organize, assign and brief Command Staff and Section Chiefs
- Coordinate with stakeholders through the Liaison Officer
- Ensure meetings and briefings are scheduled and conducted
- Approve and authorize the implementation of an IAP
- Adjust the ICS Organization as needed to adequately manage the response
- Ensure that adequate safety measures are in place
- Coordinate activity for all Command and General Staff positions
- Ensure incident funding is available
- Coordinate with other agencies involved in investigations of the incident
- Approve requests for additional resources or for the release of resources
- Approve the use of trainees, volunteers, and auxiliary personnel
- Authorize release of information to news media
- Ensure incident Status Summary (ICS Form 209) is completed and forwarded to appropriate higher authority
- Order the demobilization of the incident when appropriate
- Consider need for an alternate or backup person for extended (24-hour) coverage

DEPUTY INCIDENT COMMANDER

ROLE

Responsible for assisting the IC through the direct supervision of work being carried out by the Section Chiefs. Also responsible for knowing the KWPC's Response Management System and making sure it is used effectively and efficiently during the conduct of response operations.

RESPONSIBILITIES

- Assume any responsibility delegated by IC
- Ensure that ICP is set up and made operational in a timely fashion
- Ensure that each Section gets organized in a timely fashion
- Assist IC in development Strategic Objectives and response priorities
- Coordinate activities of Section Chiefs to ensure conduct of safe, effective, and efficient response operations; ensure operations are carried out in a manner consistent with KWPC policy and appropriate government directives
- Focus on communications; address communications problems as they arise
- Ensure implementation of the KWPC's Incident Command System
- Facilitate conduct of meetings
- Chair meetings, if instructed to do so by IC
- Follow up on Action Items identified during formal meetings
- Ensure that (Unified) Command objectives and priorities are being addressed by balance of SMT and ORT
- Interface with (Unified) Command to ensure that their issues and concerns are addressed by balance of SMT and ORT in a timely fashion
- Provide Logistics Section with information on personnel, equipment, material, and supply needs for Command Staff
- Provide IC informal briefings, as necessary, on nature and status of incident and response operations
- Work with Section Chiefs to ensure that appropriate documentation is compiled and forwarded to Planning Section
- Ensure that source control and response operations are closely coordinated, and resolve any conflicts that may arise between these operations
- Ensure that appropriate government directives are communicated to and followed up on by Section Chiefs
- Fill in for IC, as needed
- Consider need for a backup person for extended (24-hour) coverage
- Compile and maintain appropriate documentation

SAFETY OFFICER

ROLE

Responsible for supporting the Site Safety Officer and for providing expertise on safety and personnel protection issues that may arise during the conduct of response operations.

RESPONSIBILITIES

- Provide Deputy Incident Commander with information on personnel, equipment, material, and supply needs
- Receive briefings from ORT Site Safety Officer
- Verify that a site characterization and analysis has been conducted of the incident scene to identify all actual or potential hazards
- Brief IC on hazards present at incident scene and measures being instituted to protect response personnel against hazards
- Brief Section Chiefs on safety, medical/health, and industrial hygiene concerns and precautions; ensure key personnel are familiar with site safety and medical/health issues
- If necessary, prepare written, incident-specific Site Safety Plan
- Brief IC on contents of incident-specific Site Safety Plan
- Attend meetings and provide reports on nature of safety concerns and status of work on safety-related tasks
- Coordinate safety and medical/health related communications by developing and issuing Safety Bulletins on issues affecting or likely to affect worker safety
- Provide Planning Section with information needed for Safety and Health Considerations Status Board
- Assist Site Safety Officer in preparation of an Emergency Medical Plan
- Review Incident Action Plan field assignments; prepare changes to Site Safety Plan, if necessary
- Ensure that Finance Section Chief is advised of all cost commitments
- Consider need for an alternate or backup person for extended (24-hour) coverage
- Compile and maintain appropriate documentation
- Ensure compliance with all relevant governmental safety requirements
- Exercise emergency authority to prevent or stop unsafe acts
- Monitor KWPC personnel and contractors for conformance with incident-specific Site Safety Plan and associated requirements
- Set up a system to identify and eliminate safety hazards in all aspects of response operations
- Investigate safety-related near misses and accidents; develop Safety Bulletins that describe remedial actions to avoid future occurrences
- Ensure ORT personnel have necessary level of safety training

PUBLIC AFFAIRS OFFICER

ROLE

Responsible for organizing and managing all public affairs activities associated with response operations. This includes developing and releasing information to news media, to incident personnel, and to other appropriate agencies and organizations.

RESPONSIBILITIES

- Provide Deputy Incident Commander with information on personnel, equipment, material, and supply needs
- Organize and manage all media activities
- Serve as principal advisor to IC on all matters relating to external communications and interactions with the media
- Work with IC and/or Legal Officer to establish incident-specific public affairs guidelines, and distribute guidelines to SMT and ORT members
- Advise IC on public affairs and public relations impacts of an incident and response operations
- Prepare “Fact Sheets”
- Identify “public” audiences and their concerns
- Develop proactive methods for addressing “public” concerns:
  - Press releases, briefings & conferences
  - Town Hall meetings
  - One-on-one interviews
  - Tours
- Obtain necessary approvals from IC prior to the release of information to the public
- Provide Planning Section with information on scheduled press briefings and conferences for posting in Information Center
- Work with other government agency Public Affairs personnel to: (1) coordinate statements to the public; (2) Establish location & times for media briefings; & (3) establish & maintain a Joint Information Center (JIC), if appropriate
- Prepare IC for interactions with media
- Monitor press reports
- Keep IC informed about the content and tenor of media reports
- Organize and conduct/assist in arranging media tours
- Work with Logistics Section to set up a media center, if warranted
- Maintain record of newspaper articles, radio and television broadcasts, press conferences, and briefings
- Ensure that Finance Section Chief is advised of all cost commitments
- Consider need for an alternate or backup person for extended (24-hour) coverage
- Compile and maintain appropriate documentation

LIAISON OFFICER

ROLE

Serves as the point of contact with other government agencies, community leaders, and non-governmental organizations who are either involved in the response or who have a vested interest in the incident.

RESPONSIBILITIES

- Provide Deputy Incident Commander with information on personnel, equipment, material, and supply needs
- Organize and manage all government and community affairs activities
- Serve as principal advisor to IC on all matters relating to external communications and interactions with non-directly involved government and non-governmental organizations
- Advise IC on government affairs and community relations impacts of incidents and response operations
- Serve as SMT contact person for non-directly involved government and non-government organizations
- Identify agency representatives, their location, and establish a communication link
- Develop proactive methods for addressing concerns of non-directly involved government and non-governmental organizations:
  - Fact sheets
  - Meetings
  - Town Hall meetings
  - Tours
- As appropriate, provide information to non-directly involved government and non-governmental organizations
- As appropriate, arrange and conduct meetings with non-directly involved government and non-governmental organizations
- Provide Planning Section *(i.e., Chief or Situation Unit)* with information on scheduled meetings for posting in Information Center
- As appropriate, organize and conduct/assist in arranging tours for non-directly involved government and non-governmental organizations
- Monitor statements made by non-directly involved government and non-governmental organizations
- Keep IC informed about content and tenor of statements made by non-directly involved government and non-governmental organizations
- Ensure that Finance Section Chief is advised of all cost commitments
- Consider need for an alternate or backup person for extended (24-hour) coverage
- Compile and maintain appropriate documentation

LEGAL OFFICER

ROLE

Responsible for providing advice on legal issues associated with response operations. Also responsible for handling all legal matters.

RESPONSIBILITIES

- Provide Deputy Incident Commander with information on personnel, equipment, material, and supply needs
- Serve as legal advisor to IC
- Provide legal advice to other members of SMT
- Prepare summary reports which examine the legal situation, key issues associated with the incident, and options and courses of action that can be followed; follow up on selected options and/or courses of action to determine their effectiveness
- Determine applicable laws, legal exposures, and validity of defenses, and develop necessary legal strategies
- Become familiar with all aspects of incident in order to identify and address legal issues that may arise during conduct of response operations
- Select, retain, and supervise outside legal counsel, if needed
- Determine legal relationship with other involved parties
- Ensure that no conflicts of interest arise with other parties, insurers, etc. during conduct of response operations
- Advise IC, Officers, and Section Chiefs on type of documentation that must be compiled to support incident-related litigation
- Review documentation to ensure that it is being compiled in a manner consistent with documentation guidelines
- If requested to do so by IC, review press releases and other correspondence directed to external parties
- Review information to be submitted to other agencies
- Handle all contract-related legal matters
- Review contracts before their execution, if requested to do so by Logistics Section
- Provide legal guidance to Logistics Section on terms and conditions of new or amended contracts
- Assist Finance Section in establishing and implementing third-party settlement procedures and arranging for adjustment assistance
- Provide legal guidance to Finance Section on processing of claims
- Assist Public Affairs Officer and Finance Section in preparing responses to inquiries regarding claims and other legal matters
- Ensure that information which may be relevant to the defense and/or settlement of future claims or litigation is gathered and preserved
- Provide Operations Section Chief and Planning Section Chief with legal advice on operations related to environmental concerns

- Ensure that response personnel restrict communications related to liability or fault that may otherwise hinder future legal proceedings
- Assist Finance Section in event of fatalities or major injuries during response operations
- Ensure that Finance Section Chief is advised of all cost commitments
- Consider need for an alternate or backup person for extended (24-hour) coverage
- Compile and maintain appropriate documentation

OPERATIONS SECTION CHIEF

ROLE

Provide strategic direction and support to OSC . Responsible for receiving information on nature and status of at-the-scene tactical response operations, and providing information to IC and other members of SMT.

RESPONSIBILITIES

- Provide Logistics Section with information on personnel, equipment, material, and supply needs
- Size up incident, identify Operations Section issues and concerns, and break work of Operations Section down into manageable tasks
- Assign tasks to appropriate Operations Section personnel; maintain proper span-of-control
- Assume responsibility for tasks delegated by IC
- Address issues and concerns and priorities of IC as they relate to work of Operations Section
- Serve as primary SMT contact person for OSC; receive Field Reports from OSC
- Review and ensure the appropriateness of strategy and tactics being employed by OSC to address all response issues. Work with the Logistics Section to provide the necessary resources to support response operations
- Provide Planning Section up-to-date information on nature and status of tactical response operations
- Represent Operations Section at all formal meetings; brief IC and the members of the Command and General Staff on nature and status of work being done by Operations Section
- Assist IC in preparation of Strategic Objectives and response priorities
- Assist Planning Section in preparation of objectives and field assignments for Incident Action Plans
- Ensure that personnel involved in response operations have the personnel, equipment, materials, and supplies needed to carry out those operations in a safe, effective, and efficient manner
- Ensure that Operations Section personnel are aware of and follow safety policies, appropriate government agency directives, and Site Safety Plan
- Ensure that concerns of other agencies and impacted citizens are adequately considered in formulation and execution of response strategies
- Keep OSC informed of changing weather conditions
- Receive information from environmental unit on location and movement of spilled materials and sensitive areas which may be impacted
- Work with the environmental unit in the Planning Section to develop an overall Shoreline Protection/Cleanup Strategy as may be appropriate
- Provide Public Affairs and Liaison Officers updates on nature and status of tactical response operations
- Authorize demobilization of tactical response resources
- Ensure that Finance Section is advised of all cost commitments by the Operations Section
- Ensure that appropriate documentation is compiled by OSC and forwarded to Planning Section
- Consider need for an alternate or backup person for extended (24-hour) coverage
- Compile and maintain appropriate documentation

OPERATIONS SECTION UNITS

The roles and responsibilities of the Units within the **Operations Section** are:

- **Protection Unit**

This unit is responsible for the development of shoreline protection strategies to protect sensitive shorelines that may be in the path of the spill. The unit is also tasked with developing appropriate cleanup methods for shorelines that have already been impacted. The protection unit will work closely with the environmental unit to prioritize areas for protection and develop the best shoreline cleanup methods that limit further environmental damage. The local area contingency plan should be used as a reference document to assist responders with protection and response measures. This unit should be staffed with coast guard & state DEP personnel.

- **On Water Recovery Unit**

This unit is responsible for the managing and implementing all on-water recovery operations in accordance with the incident action plan (IAP). The unit also directs, coordinates and assesses the effectiveness of on-water recovery operations. Modifications to response strategies are made based on the results of trajectory modeling and over-flight reports.

- **On Land Recovery Unit**

This unit is responsible for managing and implementing all shore-side recovery and cleanup operations in accordance with the incident action plan. The unit also directs, coordinates and assesses the effectiveness of on-land recovery operations. Modifications to response strategies are made based on the results shoreline cleanup and assessment surveys, cleanup & removal progress and the results of trajectory modeling and over-flight reports.

- **Waste Management Unit**

This unit is responsible for providing information and guidance to the operations section chief concerning the regulatory requirements pertaining to the transfer, storage, transportation, and disposal of liquid, solid, and/or hazardous wastes generated during response operations. The waste management unit leader determines the most effective methods to be employed and makes recommendations to the operations section chief on how best to minimize the amount of waste materials generated during response operations. The waste management unit leader also identifies waste management options and facilities appropriate for the waste being generated and coordinates with those facilities to ensure acceptance of the waste.

- **Air Operations Unit**

This unit will coordinate all air operations conducted in response to the incident. The unit will request appropriate aircraft and trained aerial observers to support response operations (e.g., surveillance, direct movement of on water resource, etc) The unit will establish aircraft flight schedules where appropriate and will prepare the air operations portion of the incident Action Plan. This section will also coordinate with the FAA to restrict air space around the incident when necessary.

- **Fire Suppression Unit**

This unit is responsible for coordinating/directing all fire-fighting activities related to the incident and identifying all resource needs. Fire rescue personnel from NASKW & Key West will staff the unit.

PLANNING SECTION CHIEF

ROLE

Responsible for provision of short-term and, if necessary, long-term planning; the compilation and display of information on the nature and status of incidents and response operations; and the compilation and retention of documentation. Also responsible for managing all environmental matters associated with response operations, including: environmental assessments; permitting; modeling; environmental monitoring and damage assessment. Also provides technical advice to Operations Section on activities including waste disposal, and sensitive habitat and wildlife protection and rehabilitation activities.

RESPONSIBILITIES

- Provide Logistics Section Chief with information on personnel, equipment, material, and supply needs for Planning Section
- Size up incident, identify Planning Section issues and concerns, and break work of Planning Section down into manageable tasks
- Assign tasks to appropriate Planning Section personnel; maintain proper span-of-control
- Assume responsibility for tasks delegated by IC
- Address issues and concerns and priorities of IC as they relate to the work of Planning Section
- Assist IC in evaluation of incident potential and preparation of Strategic Objectives and response priorities
- Represent Planning Section at all formal meetings; brief Incident Commander and other members of the Command and General Staff on nature and status of work being IC one by Planning Section
- Facilitate preparation and distribution of Incident Action Plans and any other incident specific plans, reports, or other required documents
- If appropriate, facilitate preparation of General Plan
- Facilitate collection and posting of information on nature and status of incident and response operations in Information Center
- Advise IC on all environmental aspects of source control and response operations, and ensure compliance with environmental laws, regulations, and/or government directives
- Facilitate collection and retention of appropriate documentation
- Ensure technical specialists are checked in and assigned to appropriate Units within ORT or SMT
- Provide Public Affairs and Liaison Officers with accurate, up-to-date information on response operations
- Assist Liaison Officer in responding to requests for information from other agencies
- Ensure that Finance Section Chief is advised of all cost commitments by Planning Section
- Consider need for an alternate or backup person for extended (24-hour) coverage
- Compile and maintain appropriate documentation
- Size up incident, identify Environmental issues and concerns, and assign personnel to address issues
- Assist Incident Commander in the evaluation of incident potential and preparation of Strategic Objectives

- Review environmental aspects of Incident Action Plans and provide Planning Section Chief with specific Environmental Messages as warranted
- Evaluate/recommend additional support in terms of environmental consultants and contractor services

STRATEGIC ASSESSMENT

- Identify sensitive resources that could be affected, and help determine priorities/protection methods
- Provide Operations Section Chief with information on potential environmental impacts of any response technique that could adversely affect the environment, including cultural resources
- Advise Public Affairs and Liaison Officers on impact of incident and response operations on environment

MODELING AND SURVEILLANCE

- Establish surveillance program; interface with the Air Operations Unit Leader to conduct daily over flights
- Work through Logistics Section Chief to obtain necessary resources to support surveillance operations, including maps, communications equipment, cameras, video recorders, and surveillance specialists
- Assist in interpreting remote sensing data
- Develop appropriate trajectory model(s) and forecast slick movements
- Maintain environmental databases
- Provide Operations Section Chief with current and predicted weather and oceanographic data

ENVIRONMENTAL MONITORING; DAMAGE ASSESSMENTS

- Determine need for/ability to conduct damage assessment operations
- Arrange for environmental specialists to collect data and assess impacts to:
  - Water & air quality
  - Wildlife
  - Sensitive environmental and cultural resource areas
  - Human resources
  - Human health
- Design monitoring program(s), including collection and preservation of samples from affected and unaffected resources and areas
- Identify expert witnesses and legal counsel assistance
- Document extent of affected area and resources

WILDLIFE AND SENSITIVE HABITAT PROTECTION

- Assess need for and feasibility of wildlife rehabilitation centers, including all financial aspects, procurement of staff and equipment, training, and center management
- Work through Logistics Section Chief to obtain necessary resources to construct and operate facilities for wildlife rehabilitation, as appropriate

- Coordinate wildlife & habitat protection and rehabilitation operations with appropriate resource agencies
- Identify experts to assess wildlife impacts and rescue and rehabilitation, as appropriate
- Work with Safety Officer to provide for the safety of personnel engaged in wildlife protection and rehabilitation operations
- Maintain accurate, up-to-date information on wildlife and habitat impacts and rehabilitation operations, including documentation of successes and mortalities

PLANNING SECTION UNITS

The roles and responsibilities of the Units within the **Planning Section** are:

- **Situation Unit**

The situation unit is responsible to collect, organize, evaluate and display information about the current and possible future status of the incident. The situation unit maintains the situation status boards and the base map, which depicts the overall status of response operation. These status boards and base map are located in the information center. These status boards compile the most current information on the nature and status of the incident. The situation unit may also provide oil spill trajectories modeling and other maps, which may be useful during a response (e.g., shoreline sensitivity maps, booming strategy maps, etc.).

- **Resource Unit**

This unit is responsible for maintaining the status of all resources (primary and support) at an incident. In general, the ORT will track the status of all on-scene resources, and will provide information, as necessary, to the Resource Unit Leader in the Incident Command Post. The Resource Unit will maintain the status of all resources on the resource status boards also displayed in the information center. This will include resources assigned to the field, resources ordered, resources available in staging areas, and resources that have been placed in an out-of-service status.

- **Documentation Unit**

Responsible to maintain accurate, up-to-date incident files such as Incident Action Plan, incident reports, communications logs, injury claims, situation reports, etc. This unit shall ensure each section is maintaining and providing appropriate documents. The unit also provides duplication and copying services.

- **Environmental Unit**

This unit is responsible for gathering environmental data and providing recommendations on methods to protect sensitive resources/wildlife and cleanup measures to reduce further impacts. Additionally, this unit also oversees the natural resource damage assessment process, obtains oil spill trajectory analysis and weather/sea conditions and addresses injured wildlife.

LOGISTICS SECTION CHIEF

ROLE

Responsible for obtaining the personnel, equipment, materials, and supplies needed to mount and sustain response operations, and for providing the services necessary to ensure response operations are carried out in a safe and efficient fashion.

RESPONSIBILITIES

- Obtain personnel, equipment, materials, and supplies needed for Logistics Section operations
- Size up incident, identify Logistics Section issues and concerns, and break work of Logistics Section down into manageable tasks
- Assign tasks to appropriate Logistics Section personnel; maintain proper span-of-control
- Assume responsibility for tasks delegated by IC
- Address issues and concerns and priorities of Incident Commander as they relate to the work of Logistics Section
- Assist IC in preparation of Strategic Objectives and response priorities
- Represent Logistics Section at all formal meetings; brief IC and other members of the Command and General Staff on nature and status of the work being done by Logistics Section
- Obtain personnel, equipment, materials, and supplies needed by balance of SMT and ORT
- Institute a requisition procedure
- Work with Staging Area Manager to establish and maintain Communication Support Network
- Work with IC and Section Chiefs to identify and ensure timely and efficient provision of support services:
  - Food, water, sanitation, and shelter
  - Incident facilities
  - Transportation
  - Communications systems
  - Medical services
  - Security services
  - Others, as necessary
- Ensure that logistics support and service needs are met in a timely and efficient fashion, and in a manner that maximizes personnel safety and efficiency of response operations
- Ensure that guidelines, procedures, forms, and data management systems necessary to manage acquisition of emergency response resources and control inventory are followed by Logistics Section personnel
- Provide Finance Section Chief with copy of all Purchase Orders
- Ensure that an overall inventory and inventory management system is maintained of all equipment, materials, and supplies purchased, rented, borrowed, or otherwise obtained during response operations.

- Ensure that records are maintained on equipment and services provided and contracts executed during response operations.
- Ensure that Finance Section Chief is advised of all cost commitments made by Logistics Section
- Provide Planning Section with up-to-date information on destination and ETA of all equipment and personnel resources obtained for response operations
- Assist Planning Section in preparation of Incident Action Plans
- Provide Operations Section Chief with recommendations on timing of release of logistics services and support personnel and equipment
- Consider need for an alternate or backup person for extended (24-hour) coverage
- Compile and maintain appropriate documentation

LOGISTICS SECTION UNITS

The roles and responsibilities of the Units within the **Logistics Section** are:

- **Communications Unit**.

The unit is responsible for developing plans for the effective use of communications equipment, installing and testing communications equipment, supervising incident communications center(s) and distribution of communications equipment to incident personnel. Representatives from each agency providing tactical response assets should staff the unit.

- **Supply Unit**

The unit is responsible for ordering equipment and supplies; receiving and storing supplies for the incident, maintaining an inventory of supplies and servicing non-expendable supplies and equipment.

- **Food Unit**

The unit is responsible for determining feeding needs and cooking facilities required, and food/water preparation/service needs. Red Cross and/or Salvation Army are excellent choices to serve as Food Unit Leader.

- **Facilities Unit**

The unit is responsible for the layout and activation of the Incident Command Post. The unit provides sleeping and sanitation facilities for incident personnel and manages Field Command Post operations, including physical security of the facilities. The unit should be staffed by representatives from agencies owning/contracting the facility sites. Municipal law enforcement agencies will likely provide physical security of land-based facilities while the Florida Fish & Wildlife Conservation Commission or the Coast Guard will provide security for waterside operations.

FINANCE SECTION CHIEF

ROLE

Responsible for managing and supervising all financial and administrative aspects of response operations, including: accounting, invoice processing, contracts, cost control, insurance coordination, and financial reporting.

RESPONSIBILITIES

- Provide Logistics Section with information on personnel, equipment, materials, and supply needs
- Size up incident, identify Finance Section issues and concerns, and break work of Finance Section down into manageable tasks
- Assign tasks to appropriate Finance Section personnel; maintain proper span-of-control
- Assume responsibility for tasks delegated by IC
- Address issues and concerns and priorities of IC as they relate to work of Finance Section
- Assist the IC in preparation of Strategic Objectives
- Represent Finance Section at all formal meetings; brief IC and other members of the Command and General Staff on the nature and status of the work being done by Finance Section
- Prepare short- and long-term cost information for IC
- Work with Legal Officer on issues regarding insurance coverage and exclusions, claims management processing, and approach to settlements
- Facilitate preparation and distribution of guidelines, procedures, forms, and establishment of a data management systems necessary to account for expenditures made during response operations
- Review all relevant insurance programs and ensure notification of insurers and appointment of loss adjusters
- Ensure that appropriate cost and accounting control systems are established
- Ensure that expenditure tracking sheet is utilized and kept current
- Provide adequate accounting systems, including: auditing, billing, and documenting labor, material, and services used
- Oversee administration of vendor contracts, and service and equipment rental agreements
- Ensure that adequate pool of personnel is retained and compensated
- Provide direct human resources services to response personnel and their families
- Consider need for an alternate or backup person for extended (24-hour) coverage
- Compile and maintain appropriate documentation

FINANCE SECTION UNITS

The roles and responsibilities of the Units within the **Finance/Administration Section** are:

Cost Unit
The Cost Unit is responsible for collecting all cost data, performing cost effectiveness analyses, and providing cost estimates and cost saving recommendations for the incident.

Claims Unit
The Claims Unit is responsible for the overall management and direction of all Compensation for Injury Specialists and Claims Specialists assigned to the incident.

SECTION VI: RESPONSE MANAGEMENT SYSTEM

A. OVERVIEW

This section provides an overview of the Response Management System (RMS) that has been developed to guide the local Incident Management Organization in the successful completion of response operations. The RMS outlines a process using the Incident Command System to manage any type of incident. The RMS process includes: (1) a schedule of meeting/briefings to inform responders of the status of response operations; (2) task(s) assigned to responders to accomplish field assignments; (3) development of strategic/tactical objectives to guide responders in carrying their roles and responsibilities; (4) ICS Forms (located in Appendix H) to capture/disseminate important aspects of the response; and (5) a defined planning process to prioritize response operations and assign resources (see Figure VI-I below).

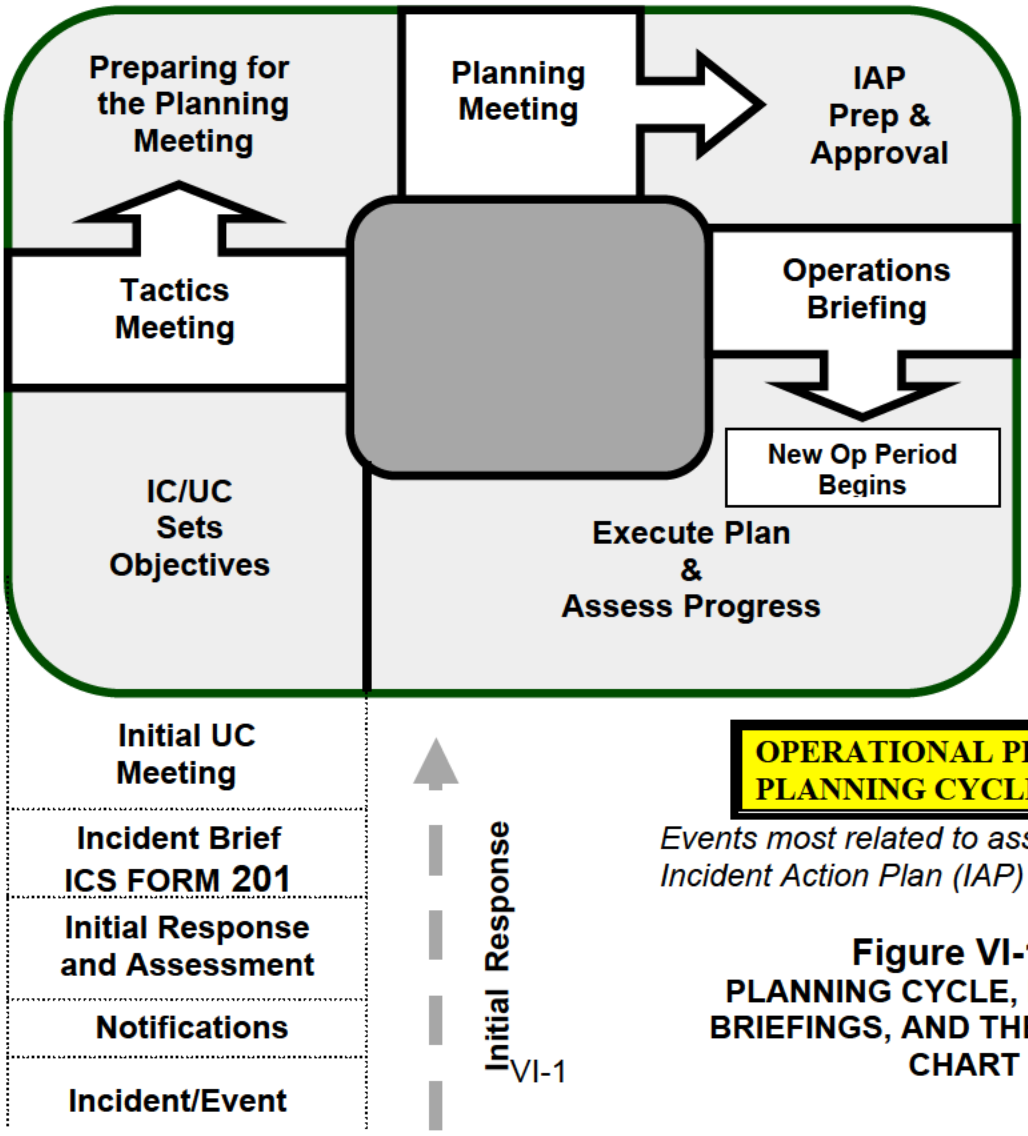


Figure VI-1
PLANNING CYCLE, MEETINGS, BRIEFINGS, AND THE PLANNING CHART

B. INITIAL RESPONSE AND ASSESSMENT

The period of **Initial Response and Assessment** occurs in all incidents. Short-term responses, which are small in scope and/or duration (e.g., a few resources working one operational period) can often be coordinated using only ICS Form 201 (Incident Briefing Form).

INCIDENT BRIEFING (ICS Form 201) - During the transfer-of-command process, an ICS Form 201-formatted briefing provides the incoming Incident Commander (IC)/Unified Commander (UC) with basic information regarding the incident situation and the resources allotted to the incident. Most importantly it functions as the Incident Action Plan (IAP) for the initial response and remains in force and continues to develop until the response ends or the Planning Section generates the incident's first IAP. It is also suitable for briefing individuals newly assigned to the Command and General Staff as well as needed assessment briefings for the staff. ICS Form 201 facilitates documentation of response objectives, situational awareness, resource employment and deployment, and significant actions taken. This form is essential for future planning and the effective management of initial response activities.

When: New IC/UC; staff briefing as required
Facilitator: Current IC/UC
Attendees: Prospective IC/UC; Command and General Staff, as required

General Tasks

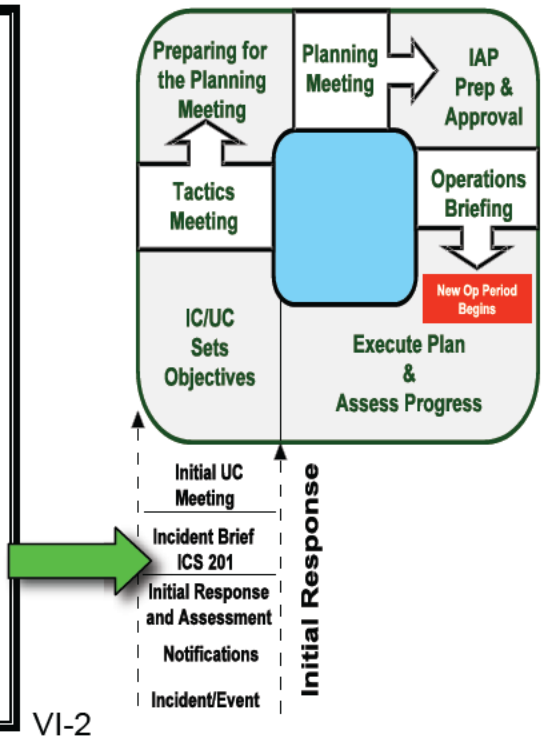
Incident Commander (IC)
- ❑ Obtain incident brief using ICS-201.
- ❑ Assess operational requirements.
- ❑ Determine organizational and response requirements and objectives.

Operations (OPS)
- ❑ Obtain briefing from IC.
- ❑ Consider available Contingency Plan.
- ❑ Develop strategies and tactics.
- ❑ Assemble resources.
- ❑ Conduct response using ICS-201.

Planning
- ❑ If/when activated orders staff.

Logistics
- ❑ If/when activated orders staff.

Finance/Admin
- ❑ If/when activated orders staff.



Using ICS Form 201 as an outline, include:

1. Situation (note territory, exposures, safety concerns, etc.; use map/charts).
2. Current priorities.
3. Strategy(s) and tactics.
4. Current organization.
5. Resource assignments.
6. Resources en-route and/or ordered.
7. Facilities established.

C. INITIAL UNIFIED COMMAND MEETING

Provides UC officials with an opportunity to discuss and concur on important issues prior to joint incident action planning. The meeting should be brief and important points documented. Prior to the meeting, parties should have an opportunity to review and prepare to address the agenda items. Planning meeting participants will use the results of this meeting to guide the operational efforts prior to the first tactics meeting.

When: The UC is formed prior to the first meeting

Facilitator: UC member

Attendees: Only ICs that will comprise the UC

General Tasks

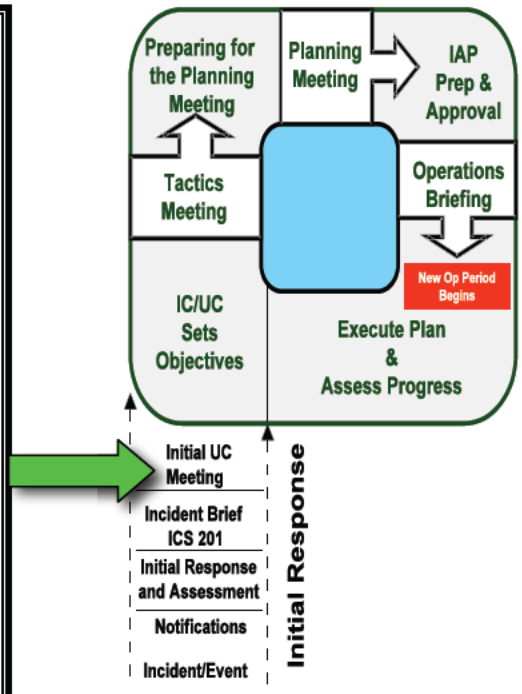
Incident Commander (IC)
- ❑ Determine need for UC.
- ❑ Negotiate/facilitate UC participation.
- ❑ Clarify UC roles & responsibilities.
- ❑ Negotiate and agree on response organization, facilities, and support.
- ❑ Determine Op Period length/start time.

Operations (OPS)
- ❑ Brief UC members on current operations.

Planning
- ❑ If activated, contact UC members as directed by IC.

Logistics
- ❑ May not be activated at this time.

Finance/Admin
- ❑ May not be activated at this time.



Agenda:

1. Identify UC, based on Chapter 6 criteria of the Incident Management Handbook.
2. Identify jurisdictional priorities and objectives.
3. Present jurisdictional limitations, concerns and restrictions.
4. Develop a collective set of incident objectives.
5. Establish and agree on acceptable priorities.
6. Agree on basic organization structure.
7. Designate the best-qualified and acceptable Operations Section Chief (OPS).
8. Agree on General Staff personnel designations and planning, logistical, and financial agreements and procedures.
9. Agree on resource ordering procedures to follow.
10. Agree on cost-sharing procedures.
11. Agree on informational matters.
12. Designate a Unified Command Information Officer.

D. UNIFIED COMMAND OBJECTIVES MEETING

The IC/UC will identify/review and prioritize objectives for the next operational period on the ICS Form 202. Objectives from the previous operational period are reviewed and any new objectives are identified.

When: Prior to tactics meeting.

Facilitator: UC Member

Attendees: UC Members; Command and General Staff as appropriate

General Tasks

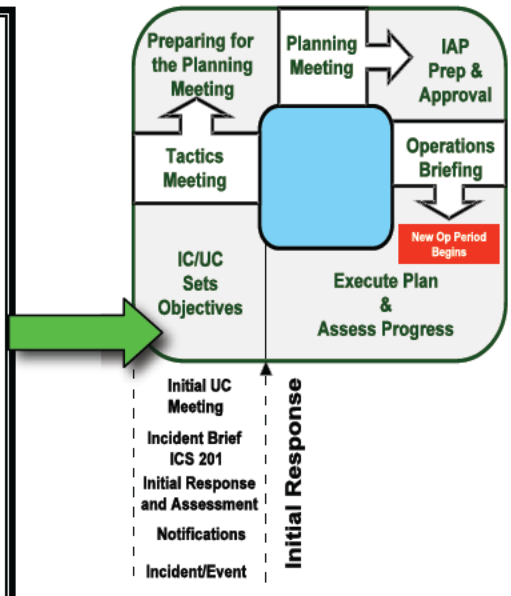
Incident Commander (IC/UC)
- ❑ Develop SMART incident objectives.
- ❑ Consider "Best Response".
- ❑ Delegate and provide guidance to Command and General Staff.

Operations (OPS)
- ❑ May be present if invited.

Planning
- ❑ May be present if invited.
- ❑ Propose draft SMART objectives to IC/UC.

Logistics
- ❑ May be present if invited.

Finance/Admin
- ❑ May be present if invited.



1. Review/identify objectives for the next operational period (Clearly stated and attainable with the resources available, yet flexible enough to allow members to choose tactics).
2. Review any open agenda items from initial/previous meetings.

E. TACTICS MEETING

This 30-minute meeting creates the blueprint for tactical deployment during the next operational period. In preparation for the Tactics Meeting, the Planning Section Chief (PSC), and OPS review the first stage of response operations or the current IAP situation status information as provided by the Situation Unit to assess work progress against IAP objectives. The OPS/PSC will jointly develop primary and alternate strategies to meet objectives for consideration at the next Planning Meeting.

When: Prior to Planning Meeting.

Facilitator: PSC

Attendees: PSC, OPS, Logistics Section Chief (LSC) , and Resources Unit Leader (RUL)

General Tasks

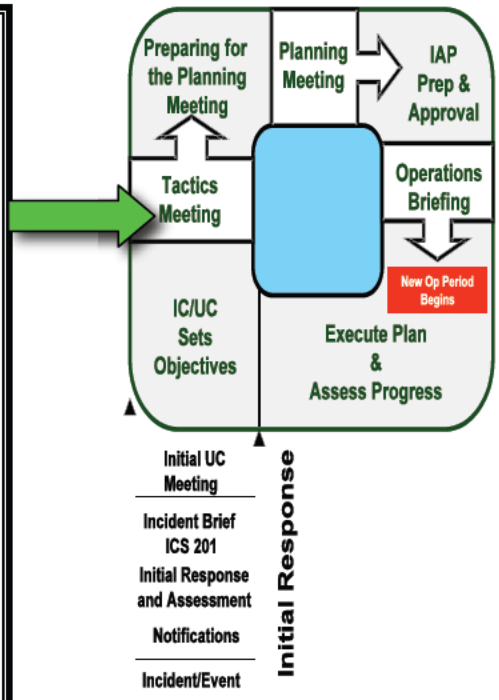
Incident Commander (IC/UC)
- ❑ Provide guidance/clarification.

Operations:
- ❑ Be prepared!
- ❑ Brief current operations.
- ❑ Develop strategies, tactics, and resource needs using ICS-215.

Planning
- ❑ Facilitate meeting.
- ❑ Determine support requirements for ICS-215.
- ❑ Consider alternative strategies.

Logistics
- ❑ Participate/contribute logistics information as necessary.
- ❑ Verify support requirements.

Finance/Admin
- ❑ Not normally present.



1. Review the objectives for the next operational period and develop strategies (primary and alternatives).
2. Prepare a draft of ICS Form 215 (used in planning meeting) to identify resources that should be ordered through Logistics.

F. PREPARE FOR THE PLANNING MEETING

During this phase of the Planning Cycle, the Section Chiefs and their associated staff members begin the work of preparing for the upcoming Planning Meeting. Each Section Chief is responsible for ensuring that his/her planning Meeting responsibilities are met. The PSC should facilitate this to the greatest extent possible to ensure that the material, information, resources, etc., to be used or discussed in the Planning Meeting is organized and prepared. There are to be no surprises in the Planning Meeting.

When: After the Tactics Meetings

Facilitator: PSC

General Tasks

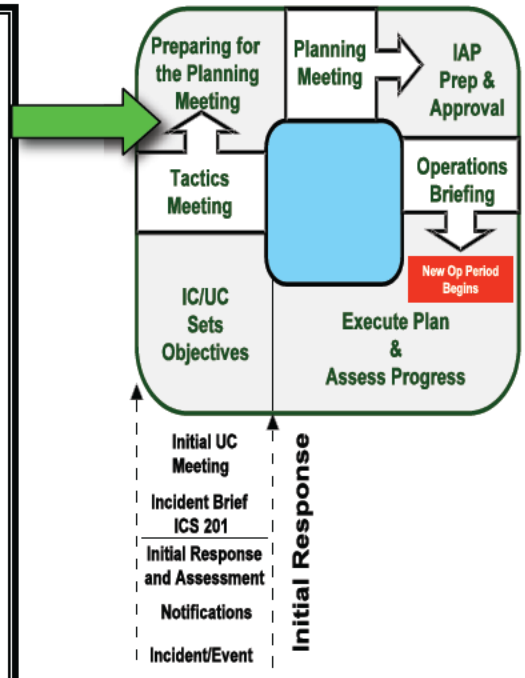
Incident Commander (IC/UC)
- ❑ Provide guidance/clarification.
- ❑ Monitor on-going operations.

Operations(OPS)
- ❑ Continue Operations.
- ❑ Prepare for Planning Meeting

Planning
- ❑ Facilitate General Staff and attendees' preparations for Planning Meeting.
- ❑ Publish/distribute meeting schedule and ensure attendees know roles.
- ❑ Allow no surprises.

Logistics
- ❑ Prepare for Planning Meeting.
- ❑ Verify support requirements.

Finance/Admin
- ❑ Prepare for Planning Meeting.
- ❑ Verify financial and administrative requirements.



G. PLANNING MEETING

This meeting defines incident objectives, strategies, and tactics and identifies resource needs for the next operational period. Depending on incident complexity, this meeting should last no longer than 45 minutes. This meeting fine tunes objectives and priorities, identifies and solves problems, and defines work assignments and responsibilities on a completed ICS Form 215 (Operations Planning Worksheet). Displays in the meeting room should include Objectives ICS Form 202 for the next period, large sketch maps or charts clearly dated and timed, a poster-sized ICS Form 215, a current resource inventory prepared by the Resource Unit, and current situation status displays prepared by the Situation Unit. After the meeting, ICS Form 215 is used by the LSC to prepare the off incident tactical and logistical resource orders, and used by the PSC to develop IAP assignment lists.

When: After the UC and Tactics Meetings

Facilitator: PSC

Attendees: Determined by IC/UC, generally IC/UC, Command Staff, General Staff, Air Operations Branch Director (Air Ops), the RUL, Safety Officer (SO), and Technical Specialists, as required.

General Tasks

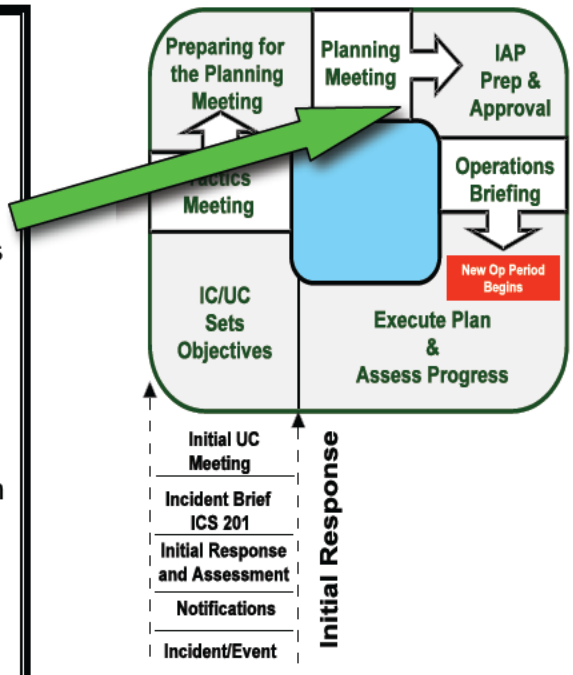
Incident Commander (IC/UC)
- ❑ Provide appropriate leadership.
- ❑ Brief incident objectives.

Operations (OPS)
- ❑ Brief operational strategies, and tactics using ICS-215, maps, charts, etc.
- ❑ Brief Branch/Division/Group functions and boundaries

Planning
- ❑ Facilitate Planning Meeting agenda.
- ❑ Brief present situation.
- ❑ Address/resolve response coordination issues as needed, gain consensus.

Logistics
- ❑ Brief logistical support and resource ordering status.

Finance/Admin
- ❑ Brief administrative and financial status/projections, etc.



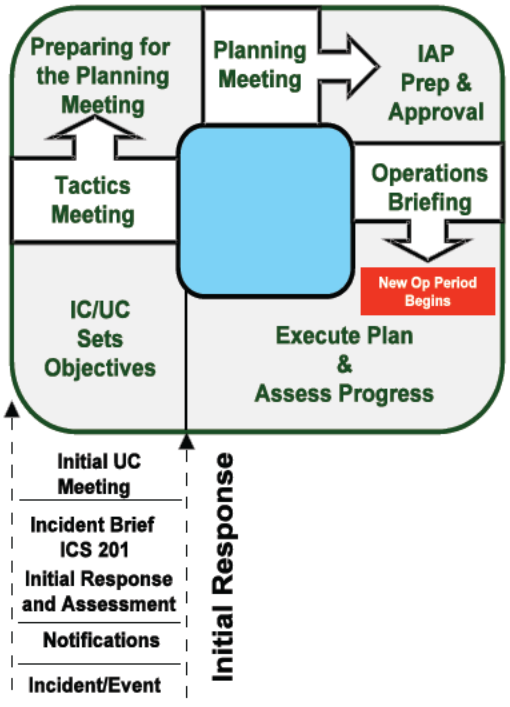
Agenda:	**Primary Responsibility**
1. State incident objectives and Policy issues.	IC/UC
2. Briefing of situation, critical and sensitive areas, weather/sea forecast, and resource status/availability.	SUL
3. State primary and alternative strategies to meet objectives.	
4. Designate Branch, Division, and Group boundaries and functions as appropriate, use maps and ICS form 215.	
5. Specify tactics for each Division, note limitations.	OPS
6 Specify resources needed by Divisions/Groups.	
7. Specify operations facilities and reporting locations and plot on map.	
8. Develop resources, support, and overhead order (orders).	
9. Consider support: communications, traffic, safety, medical, etc.	OPS /LSC LSC
10. Contributing organization/agency considerations regarding work plan.	LSC LO
11 Safety considerations regarding work plan.	SO
12 Media considerations regarding work plan.	IO
13. Report on expenditures and claims.	F/ASC
14. Finalize and approve work plan for the next operational period.	IC/UC

H. INCIDENT ACTION PLAN (IAP) PREPARATION

Attendees immediately prepare their assignments for the IAP to meet the PSC deadline for assembling the IAP components. The deadline will be early enough to permit timely IC/UC approval and duplication of sufficient copies for the Operations Briefing and for overhead.

When: Immediately following the Planning Meeting, the PSC assigns the deadline

Facilitator: PSC



General Tasks

Incident Commander (IC/UC)
- ❑ Review, approve and sign IAP

Operations (OPS)
- ❑ Provide required information for inclusion into IAP.
- ❑ Communicate incident status changes.

Planning
- ❑ Facilitate General Staff's IAP input.
- ❑ Ensure assignments and expectations are clear.
- ❑ Provide completed IAP to IC/UC for review/approval.
- ❑ Distribute completed IAP.

Logistics
- ❑ Provide logistics information for IAP.
- ❑ Verify resources ordered.

Finance/Admin
- ❑ Verify financial and administrative requirements for IAP.

Common Components	Primary Responsibility
1. Incident Objectives (ICS form 202).	Resources Unit
2. Organization List/Chart (ICS FORMS 203/207).	Resources Unit
3. Assignment List (ICS form 204).	Resources Unit
4. Communication Plan (ICS form 205).	Communications Unit
5. Medical Plan (ICS form 206).	Medical Unit
6. Incident Map.	Situation Unit
7. Safety Plan.	Safety Officer
8. Decontamination Plan.	Technical Specialist
9. Waste Management or Disposal Plan.	Technical Specialist

Optional Components (use as pertinent):

1. Air Operations Summary (ICS form 220).	Air Operations Branch Director
2. Traffic Plan.	Ground Support Unit
3. Demobilization Plan.	Demobilization Unit

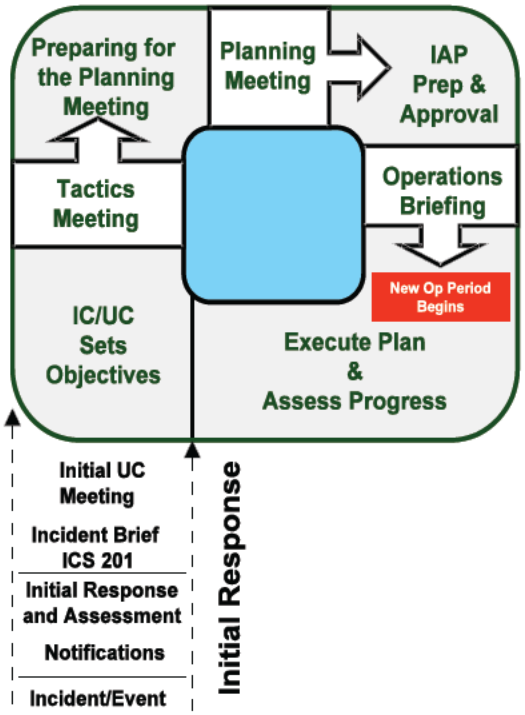
I. OPERATIONS BRIEFING

This 30-minute, or less, meeting presents the IAP to the oncoming shift of the response organization. After this meeting, off-going supervisors should be interviewed by their relief and by OPS in order to further confirm or adjust the course of the oncoming shift's IAP. Shifts in tactics may be made by the Division/Group supervisor in whose purview they are. Similarly, a supervisor may reallocate resources within that division to adapt to changing conditions.

When: About an hour prior to each shift change

Facilitator: PSC

Attendees: IC/UC, Command Staff, General Staff, Branch Directors, Division/Group Supervisors, Task Force/Strike Team Leaders (if possible), Unit Leaders, others as appropriate.



General Tasks

Incident Commander (IC/UC)
- ❑ Provide guidance/clarification.
- ❑ Provide leadership presence.

Operations (OPS)
- ❑ Provide Operations Briefing for next operational period.
- ❑ Ensure ICS-204 tasking is clear.

Planning
- ❑ Facilitate General Staff and attendees briefing responsibilities.
- ❑ Resolve questions.

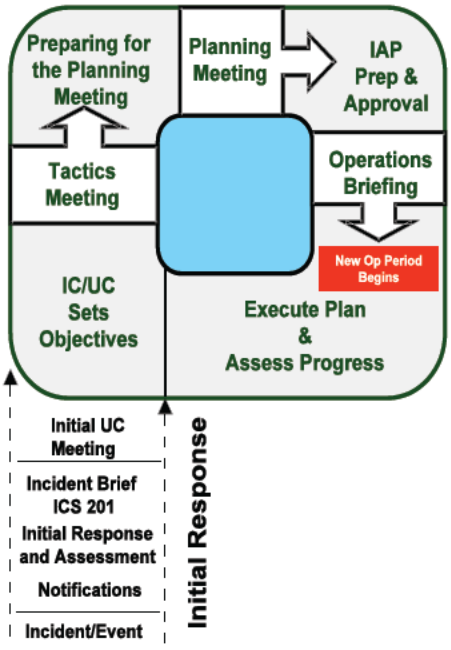
Logistics
- ❑ Brief transportation, communication, and supply issues.

Finance/Admin
- ❑ Brief administrative issues and provide financial report.

Agenda:	**Primary Responsible**
1. Review IC/UC objectives and changes to IAP.	PSC
2. Discuss current response actions/last shift's accomplishments.	OPS
3. Review weather and sea conditions forecast.	SUL
4. Division/Group and Air Operations assignment.	OPS
5. Trajectory analysis.	SUL
6. Transport, communications, and supply updates.	LSC
7. Safety message.	SO
8. Incident Action Plan (IAP) approval and motivational remarks.	IC/UC

J. ASSESS PROGRESS

Following the operation brief, all Section Chiefs will review the incident response progress and make recommendations to the IC/UC in preparation for the next UC Objective Meeting for the next operational period. This feedback/information is gathered from various sources, including Field Observers, responder debriefs, stakeholders, etc.



General Tasks

Incident Commander (IC/UC)
- ❑ Monitor on-going operations.
- ❑ Measure progress against stated objectives.
- ❑ Consider "Best Response."

Operations (OPS)
- ❑ Monitor on-going operations and make tactical changes as necessary.
- ❑ Measure/ensure progress against stated objectives.

Planning
- ❑ Facilitate General Staff's effectiveness and efficiency as appropriate.
- ❑ Provide response objectives recommendations to IC/UC.

Logistics
- ❑ Verify resources, resolve logistical problems.

Finance/Admin
- ❑ Facilitate smooth administrative and financial reporting.

K. SPECIAL PURPOSE MEETINGS

The **Special Purpose** meetings are most applicable to larger incidents requiring an **Operational Period Planning Cycle**, but may be useful during **Initial Response and Assessment**.

1. COMMAND STAFF MEETING - Coordinate Command Staff functions, responsibilities, and objectives. It is held before the Tactical Meeting. Command Staff (IC/UC, SO, LO, IO) attend.

2. COMMAND & GENERAL STAFF MEETING - An opportunity for the Command & General staffs to gather under informal conditions (breakfast/dinner) to discuss developing issues.

3. BUSINESS MANAGEMENT MEETING - This under-30-minute meeting develops and updates the operating plan for finance and logistical support. The agenda could include: documentation issues, cost sharing, cost analysis, finance requirements, resource procurement, and financial summary data. Attendees include: F/ASC, Cost Unit Leader (CUL), LSC, SUL, DUL.

4. AGENCY REPRESENTATIVE MEETING - This meeting is held to update Agency Representatives and ensure that they can support the IAP. It is conducted by the LO, and attended by Agency Representatives. It is most appropriately held after the Planning Meeting in order to announce plans for the next operational period. It allows for changes should the plan not meet the expectations of the Agency Representatives.

5. NEWS BRIEFING - This meeting briefs media and the public on the most current and accurate facts. It is set up by the IO, moderated by a UC spokesperson, and features selected spokespersons. This brief must be held away from the ICP. Spokespersons should be prepared by the IO to address anticipated issues. The briefing should be well-planned, organized, and scheduled to meet the media's needs.

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SECTION VII: DISCHARGE RESPONSE CAPABILITIES & STRATEGIES

A. RESPONSE CAPABILITIES

The following paragraphs discuss the Response Capability to Small, Medium & Worst-case Discharges from the KWPC facility. Actual response procedures and equipment are dependent upon the severity and location of the incident. Small, medium, and worst-case discharge scenarios are further discussed in Section IX of the Combined Plan.

- Detection of a **small discharge**, any spill volume less than or equal to 2,100 gallons, is immediately relayed to the QI who is responsible for setting the Combined Plan into action. A 1,000-ft-long containment boom with an 18-inch weighted skirt is located in a cargo container at the KWPC bulk storage facility and is available for deployment by the KWNAS oil spill response team. In addition, 12,150 ft of boom is located in building 284 at the Truman Annex. The total length of boom deployable within 1 hour is 3,950 feet, which, is greater than the required 1,000 ft and nearly seven times the length of the largest tanker regularly conducting transfers. In addition, two vacuum trucks, each equipped with weir skimmer, oil recovery device (ORD), with an effective daily recovery rate exceeding 2,100 gallons is available through the KWNAS oil spill response team in less than the required time of 2 hours of detection of the discharge. The absorbent pads at the KWPC bulk storage facility as well as the KWNAS oil spill response team's absorbent pads and recovery equipment are available within the required 2 hours of detection of a discharge, and exceed the effective daily recovery rate for a small discharge. The storage tanks located at the KWPC bulk storage facility are more than sufficient in meeting the required small discharge volume daily storage capacity of 4,200 gallons.

- The **medium discharge** is determined to be 36,000 gallons. Since this discharge would not impact a high-volume port or the Great Lakes, ORDs are able to arrive on-scene within 12 hours of detection of an oil discharge. The effective daily recovery rate of the ORDs equals 50 percent of the medium discharge or 18,000 gallons per day (gpd) (approximately 430 barrels per day [bpd]). The effective recovery rate of all the ORDs required for a medium discharge, assuming 20 percent efficiency, is 3,750 gph. The ORDs available through Eagle/SWS and KWPC are capable of meeting these requirements. Approximately 7,400 ft of containment boom is available for fuel collection and containment and shoreline protection. A 36,000-gallon discharge on water would cover an estimated area of 480 ft square or 1,700 ft in circumference. The required total temporary storage capacity is two times the effective daily recovery rate, or 36,000 gallons. This capacity is exceeded by both the total storage capacity available at the KWPC bulk storage facility and the storage capacity available through the emergency response

contractor. Two 2,000-gph skimmers (effective daily recovery rate of 19,200 gallons, assuming 20 percent efficiency) are available within 4 hours from Eagle/SWS.

- (b) (7)(F) [redacted] Since the discharge would not impact a high-volume port, ORDs are able to arrive on-scene within the time specified for the applicable response tier listed below.

Tier	Hours
1	12
2	36
3	60

- KWPC stores non-persistent or Group I fuel which would impact near shore waters if a worst-case discharge occurred. The following required effective daily recovery rates for water and the temporary daily storage capacity were determined for each response tier:

	Tier 1	Tier 2	Tier 3
On-water Recovery Capacity	69,300 gpd 1,650 bpd	115,500 gpd 2,750 bpd	184,800 gpd 4,400 bpd
Daily Storage Capacity	138,600 gpd 3,300 bpd	231,000 gpd 5,500 bpd	369,600 gpd 8,800 bpd

- Th (b) (7)(F) [redacted] quipment (pumps, vacuum trucks/tanks, and pump trucks) capable of meeting the required effective daily recovery rate is available within the required response time from Eagle/SWS. KWPC has adequate daily storage capacity located at the KWPC bulk storage facility for each response tier.

B. RESPONSE STRATEGIES

Incident Assessment

At the outset of an incident, the **Spill Observer** performs an immediate assessment of the situation and takes steps to ensure the safety of his/her co-workers and, if possible, to identify and secure the source if safe to do so. As quickly as possible, the **Spill Observer** assumes the role of, or notify the **OSC/QI**. Upon arrival at the spill scene, the **OSC/QI**

receives an initial briefing from the **Spill Observer**, activates the ORT, performs a Site Characterization and Analysis, and initiates response operations.

As soon as possible, the **OSC/QI** performs a more detailed assessment of the situation to determine as much information as possible. Table VII-1 presents a checklist of information that would assist in assessing the situation. Upon completion of this assessment, the **OSC/QI** classifies the spill and makes the appropriate notifications.

While the importance of responding rapidly to an oil spill incident is a recognized priority within KWPC, personnel safety shall always be accorded the highest priority during response operations. To ensure personnel safety, the following guidelines are observed:

- Deployment of equipment will not be attempted prior to conducting a Site Characterization and Analysis.
- Deployment of equipment will not be initiated until all personnel involved in deployment operations are wearing the required protective clothing.
- Containment operations will be suspended or terminated when unsafe operating conditions arise.

The **OSC/QI** will, to the extent possible, identify all hazardous substances or conditions present at the site before committing manpower to onsite response operations. Hazardous substances present (types, location, and amounts) will be identified, and response personnel will be briefed on their type, amount, and location. A more detailed discussion of onsite safety is provided in Appendix E. This Appendix also includes the appropriate Material Safety Data Sheets (MSDS) for the products stored at the KWPC bulk storage facility.

TABLE VII-1
DETAILED INCIDENT ASSESSMENT FORM
GENERAL INFORMATION
Date of Incident: _____ Time of Incident: _____ The type of product spilled: _____ The estimated amount of product spilled: _____ Source of spill: _____ Status of source: Controlled: _____ Continuing: _____ Unknown: _____ Cause of the spill: _____ Is the spill contained? _____ Shoreline impacts: _____ Status of Response operation: _____ An initial assessment of whether the spilled oil can be contained and cleaned up with onsite equipment, or whether Level II equipment is required: _____
SAFETY & HEALTH CONCERNS
The status of all personnel (injuries, etc.): _____ _____
Identification of possible health or fire hazards: _____ _____
ENVIRONMENTAL IMPACTS
Environmentally sensitive areas impacted: _____ _____ Wildlife impacted: _____ _____
ON-SCENE WEATHER & SURFACE WATER CONDITIONS
On-scene weather conditions to include: _____ State of tide: _____ Current speed and direction: _____ Wind speed and direction: _____ Sea state in wave height and direction: _____

Response Strategies

The onsite response strategy involves using the KWNAS oil spill response team, KWPC terminal personnel and the utilization of OSRO equipment and personnel to respond to Level I (small), Level II (medium) and Level III (large to worst case) spills. The contact information for the OSRO can be found in Sections I and III of the Combined Plan. In the event of a Level II or Level III spill, the focus of the initial response operations will be geared toward controlling the source of the spill and limiting the spread of the spill. In responding to a discharge, the **Immediate steps** to be taken by the Spill Observer/First Responder include the following:

1. Make an immediate assessment of the incident.

2. Stop the discharge & shutoff ignition sources, if safe to do so (e.g., act quickly to secure pumps, valves, motors, open flames, etc.). If the incident is clearly the result of an operation that the Spill Observer/First Responder can control safely, take immediate steps to correct the operation.

3. Warn personnel – Notify all personnel at or near the incident scene and the QI (terminal manager). Also, contact KWNAS Officials for assistance (i.e., OOD, Fire Department, & Security). Complete all notifications in Table II-3 below as appropriate. Call for medical assistance if an injury has occurred.

4. Serve as the OSC/QI until relieved by higher authority. Take steps deemed necessary to minimize threats to public health and safety and to reduce the severity of the incident by.

- With assistance from Fire Department, determine if spill is safe to respond to and whether evacuation procedures should be instituted. Coordinate evacuation procedures with KWNAS Security and KWPD if required.
- Activate all necessary response organizations (i.e., KWPC & KWNAS response teams & spill response contractor)
- Isolate the spill area and establish hazard control zones.
- Don appropriate PPE & initiate spill containment – Place containment or sorbent boom around the area as appropriate.
- Supervise spill containment and cleanup procedures until relieved by a higher authority.

In the event of discharge, action begins immediately to control, contain, and recover any discharge of product if safe to do so. The immediate responsibility for taking further action moves to higher levels of supervision depending upon the extent of the spill and the ability of the spill observer/first responder to stop the discharge and contain the incident. The

following paragraphs describe the general response actions to spills on-land and spills that reach surface waters.

- **Spills on Land**

  Fuel recovery measures must be undertaken quickly to limit the amount of fuel, which may seep into the subsurface soils. To contain a spill on land the response personnel should deploy sorbent boom around or in the path of the spreading fuel. Responders can also construct dams, or ditches to stop the flow of fuel and remove product with sorbent pads, vacuum trucks, or pumps as appropriate until all the fuel is removed from the land surface.

  For small releases, collected fuel/water soil should be stored in drums, vacuum trucks or frac tanks until the material can be properly disposed of. Contaminated soil and sorbent materials should also be drummed for proper disposal or placed in plastic bags as appropriate. For a large spill, fuel will be pumped from the secondary containment area into a tank or tanks with sufficient capacity to contain the amount of fuel released. These tanks may include one of the three KWPC ASTs, or the water bottoms holding tank, or the 9,000 gallon empty AST, or the empty U.S. Navy AST present at the Trumbo Point Tank Farm (providing the Navy agrees to such use). The impacted soil will be excavated and stored in lined roll-off boxes and disposed of at a licensed facility. The off-spec recovered product will be handled in an approved manner.

- **Spills on Surface Waters**

  For spills, which occur into surface waters near the KWPC facility, the primary response strategy is to use containment and deflection booms to collect fuel for recovery and to limit the spread of fuel into sensitive areas. Once fuel has reached the shoreline, the NOAA Manual - Characteristic Coastal Habitats Choosing Spill Response Alternatives will be used as a guide to remediate impacted shorelines. If the spill reaches surface water; responders should quickly determine the direction the spill is moving. (Note: current and wind direction and speed will drive the direction of the spill). After determining the spill direction, consult the booming

strategy & environmental sensitivity maps in Figures I-5 A-E and the Geographic Response Maps (GRP's) from the ACP in Figures I-6 A&B) in Section I to determine appropriate boom deployment locations and requirements. In general, responders should deploy containment boom down current to either deflect the fuel to a shoreline for recovery or surround the perimeter of the spill if there is little current or wind. If product cannot be contained, consult the environmental sensitivity maps in Figures I-5 A-E to determine sensitive areas in the path of the spill and deploy containment boom and/or sorbent boom to protect these areas. If the spill migrates offshore, the fundamental protection strategy will be to use all available resources to prevent the oil from reaching the shoreline, including the use of open water containment or deflection booms and skimmers. If shorelines become impacted, sorbent boom can be deployed along the shoreline to absorb and recover the fuel. Containment boom should also be placed on the waterside of the sorbent boom to capture any fuel that may escape beneath or from the sorbent boom. Continue the use of sorbent pads and, if necessary, skimmers and pumps until all the fuel is removed from water.

Once the sorbent materials become saturated with fuel, they will be recovered and placed in plastic bags for proper disposal. During larger spills, skimmers or vacuum trucks will be used to remove fuel from the water. The fuel water mixtures will be stored in drums, vacuum trucks, frac tanks or in the terminal AST's as described above awaiting proper disposal. Contaminated solid debris will also be stored in lined roll boxes.

Tidal Inlets

The Marine Spill Response Corporation (MSRC), Florida Department of Environmental Protection, and Research Planning, Inc. have developed strategies to protect Florida's tidal inlets. Volume I includes information on potential protection strategies for all of the 21 tidal inlets on the east coast of Florida north of Key Biscayne. Volume II provides the same information for the 28 tidal inlets of the Florida Keys from the Ragged Keys to Key West. Each inlet protection strategy contains schematic representations of boom placement, collection points, anchor points, and skimmer locations. It is important to note that the

protection strategies outlined in these Volumes represent "best case" response options, and assume unlimited resources. Response authorities may need to further reprioritize areas to be protected based on available resources. Copies of the inlet protection strategies near the KWPC bulk storage facility and pipelines locations are provided in Section I, Figure(s) I-7.

Containment Booming on Water

The primary objective of booming an oil spill is to prevent the oil from spreading and to herd the oil to a collection point where it can be recovered. If a spill is slow moving and remains at the site, a boom (primary) can be deployed to surround the oil. If oil is drifting away from the site, boom can be deployed in advance of the movement of the slick. An additional boom (secondary) may be deployed down current of any previously deployed boom to capture any oil that may spread outside of or move under or over the primary boom.

Level II and Level III oil spill incidents may require protection of sensitive surrounding areas. Areas to be protected are dependent on such things as weather and water conditions at the time of the incident as well as the quantity of oil spilled. Various booming techniques may be used to contain the spilled oil and to protect the surrounding sensitive areas. These booming techniques are described below:

Exclusion Booming involving the use of containment and/or sorbent booms to close off and prevent oil from entering sensitive areas could be implemented. Multiple layers of boom may be required to effectively protect areas.

Diversion Booming entails the use of containment or sorbent boom to direct the flow of oil away from a sensitive area or toward a preferred collection point. Deployment configurations vary depending upon the strength of currents, the location of collection points, the presence and configuration of land forms, water flow patterns, the type and length of boom available, the availability of anchors, and time.

Entrapment Booming involving the use of containment and/or sorbent boom could be utilized to close off impacted areas containing temporarily immobilized oil, and prevent resuspended, mobile oil from moving toward unaffected sensitive areas.

Nearshore Trapping involves the use of shallow draft vessels to deploy containment boom and move through thick patches of mobile oil approaching sensitive shoreline areas. Contained oil is held offshore until it can be recovered by skimming devices.

Dynamic Skimming involves the use of shallow draft skimming vessels that move through mobile oil approaching sensitive shoreline areas. Lengths of boom may be deployed from or out in front of skimming vessels to concentrate oil toward recovery devices.

Passive Collection involves the use of sorbent boom materials that are deployed along beach faces, across narrow channels leading to sensitive areas, in front of vegetated, waterfront areas, or in front of or within difficult to clean spaces (i.e., rocky areas) to both exclude oil from and capture oil as it moves through the materials toward a sensitive area. Sorbent materials are replaced when oiled.

Cleanup and Recovery

A variety of cleanup and recovery equipment and techniques are available to remove oil from the water depending upon:

- The type of oil spilled.
- The surface water conditions.
- The presence of debris.
- The degree of weathering that the oil has undergone.

Table VII-2 lists and describes recovery techniques that may be used to remove spilled oil in the event of an oil spill incident.

C. IDENTIFICATION OF ENVIRONMENTALLY SENSITIVE AREAS

Environmentally sensitive areas are identified in Section VIII.

D. PROTECTION OF ENVIRONMENTALLY SENSITIVE AREAS

The protection of environmental sensitive areas, including specific booming strategy techniques, are provided in Figures I-5A-E in Section I.

TABLE VII-2	
CLEANUP AND RECOVERY TECHNIQUES	
TECHNIQUE	**DESCRIPTION**
Non-oily Debris Removal	Involves the removal of un-oiled debris from beach faces before the arrival of spilled oil. The debris can be moved above the mean high water mark or collected for onsite (i.e., burning) or remote site disposal.
Oily Debris Removal	Involves the removal of small sized, oily debris by hand or with hand tools and their placement in storage containers. Large debris may be cleaned in place or reduced in size (e.g., with a hand or chain saw) for placement in storage containers.
Passive Collection	Involves the use of sorbent materials deployed to capture oil as it moves onto a shoreline area.
Manual Recovery	Involves the use of hand tools and sorbent materials to remove surface oil in lightly oiled areas, environmentally sensitive areas, and areas with poor accessibility to heavy equipment. In areas where oil forms small pools, small pumps, vacuum devices, buckets, or sorbent materials are used to remove heavier concentrations of oil.
Mechanical Recovery	Involves the use of heavy equipment (e.g., graders, bulldozers, front-end loaders, and beach cleaners) to remove oil from heavily oiled substrates (e.g., sand) areas that can support the use of wheeled or tracked equipment.
Cold Water Deluge	Involves pumping cold water through a header system deployed above the mean high water mark to suspend and wash fresh oil from an oiled surface and transport the oil to a collection point.
Cold Water Flush	Involves pumping cold water through hand held, pressure regulated sprayers to: (1) loosen fresh oil and to suspend loosened oil in a cold water deluge that transports the oil to a collection point; or (2) to herd oil on a water surface toward a collection point.
Warm Water Flush	Involves pumping warm water through hand held, pressure regulated sprayers to loosen slightly weathered oil and to suspend the loosened oil in a cold water deluge that transports the oil to a collection area.
Hot Water Flush	Involves pumping hot water through hand held, pressure regulated sprayers to loosen very weathered oil and suspend the loosened oil in a cold water deluge that transports the oil to a collection area.
Sump Collection and Recovery	Involves using booms or water spray to direct spilled oil toward natural or excavated sump where the oil will collect for removal by a recovery device.
Bioremediation	Involves using introduced or fertilizing naturally occurring oil eating bacteria on a contaminated beach to remove oil.
Natural Recovery	Involves relying on natural cleaning or degradation processes to remove oil from a contaminated area.

E. WASTE MANAGEMENT

The transfer, storage, and disposal of wastes are important aspects of any response. Because of the complexity of waste management issues, this topic is addressed in detail in Section X.

F. COMMUNICATIONS

General

Emergency communications covers two separate functions. First, it covers both internal and external notifications (See Table I-3 for phone numbers). Second, it facilitates the management of response operations. Communications networks, as described below, will be established to link the command post to all field operations as necessary. The primary method of communication during an oil spill will be through the use of intrinsically safe handheld radios. Radios are available at the KWPC Office and also from Eagle/SWS once they arrive on-scene. Cellular phones will serve as a secondary communication device as necessary. Radio frequencies used for communication between response team members and other response organizations are coordinated with the local county emergency coordinator. The facility may also communicate via facsimile (305) 294-0844.

Networks

To facilitate the exchange of critical information and to ensure the most effective and efficient use of communications equipment, the National Incident Management System stresses the importance of preparing and maintaining a comprehensive, integrated communications plan. Under such a plan, all communications equipment resources are organized into networks. The primary networks include:

- Command Network: Links the OSC or a Supervisor in an FCP with the Spill Management Team (SMT) Incident Commander,

Operations Section Chief, or a Branch Director in the Incident Command Post (ICP)

- Tactical Network: Links the OSC or a Supervisor with Task Force Leaders
- Support Network: Links a Staging Area Manager with the SMT Supply Unit Leader in the ICP

Once established, commerce over the Tactical and Command Networks will be regulated through the definition of communications protocols. A protocol not only defines who will talk to whom over a network, it specifies what they will talk about and when.

One of the keys to success is to distinguish between Routine Updates versus urgent communiqués. Routine Updates are those that are covered by the Tactical and Command Network Communications Protocols, and should take place at a predefined frequency. All Routine Updates over these Networks should originate from the OSC or a Supervisor. Urgent communiqués originate with the party who needs to talk about something that cannot wait until the next Routine Update. Urgent communiqués should always take precedence over Routine Updates. The Command Network can also be used to transmit tactical information from the field to the SMT.

One of the principal uses of the Support Network is the upward communications of unmet resource needs from personnel in the field to a Staging Area Manager, and from a Staging Area Manager to the SMT Supply Unit. Resource orders from the field usually are communicated orally.

All communications that occur over the networks are conducted in plain English; no “ten codes” are used. Also, all communications are confined only to essential messages.

G. COMMAND POST

Should it become necessary to establish a formal Incident Command Post (ICP), one will be setup within the KWPC Office, if accessible. If the discharge is more than minor in nature, an ICP will be established at one of the alternate ICP locations, USCG Sector Key West or the Navy Fly Building. See Figure I-4 for the ICP locations.

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I. SURVEILLANCE

The **OSC/QI** will use surveillance to determine:

- Spill location;
- Spill characteristics, including estimation of quantity;
- Areas of heaviest oil concentrations;
- The direction of spill movement, if any;

- The areal extent of the affected area;
- The position of the spill in relation to unaffected environmentally and/or economically sensitive areas;
- The location of wildlife; and
- The location of response equipment.

The **OSC/QI** may also use surveillance information to keep track of spill response resources and to place response resources in optimum positions for containment, recovery, and ecosystem protection operations depending on the size of the incident. Moreover, those conducting surveillance may take videotapes and/or photographs for documentation purposes. A surveillance team will consist of the aircraft's pilot and a trained observer from Eagle/SWS. Whenever possible, a surveillance team would be kept intact throughout response operations to ensure consistency and continuity in their observations.

In the event of a Level II or Level III oil spill requiring aerial surveillance, surveillance operations will be carried out from an aircraft that will be obtained through Eagle/SWS.

J. EVACUATION PLAN

The QI, with support from other KWPC personnel, is responsible for assessing the incident situation and determining the need for evacuations. The QI is also responsible for directing evacuations of the storage facility and immediate vicinity around the terminal. The Evacuation Plan will become effective upon verbal notification by the QI or designated personnel. Evacuation activities will proceed in accordance with routes identified in the site evacuation diagram Figure I-4 and the procedures set forth below.

Table VII-3 EVACUATION PLANS	
TOPIC	**DESCRIPTION**
• **Location of stored materials**	Limited quantities of materials are stored and used onsite. The bulk of the hazardous materials are JP-5 (petroleum hydrocarbon), and ethylene glycol (methyl cellosolve) a fuel system ice inhibitor. All other chemicals are used and stored in consumer size quantities. Locations of the storage tanks are shown in Figure I-3A.
• **Hazard imposed by spilled materials (MSDS)**	Material Safety Data Sheets are maintained onsite. Health hazards associated with JP-5 fuel and ethylene glycol are: • Inhalation, ingestion and skin contact hazards from potential exposure to benzene, toluene, xylene & PAH's. • Combustibility hazard (flash points 125°F or above) • Possible cancer hazard (PAHs - Polynuclear Aromatic Hydrocarbons)
• **Spill flow direction**	See Table XI-4 for a prediction of spill flow direction. Actual direction is also dependent upon: • Wind • Immediate Area Drainage • Air and Fuel Temperature • Immediate Physical Barriers • Surface characteristics (soil, asphalt, etc.) • Location of release • Condition of release (line pressure, location of break, etc.)
• **Prevailing wind directions and speed**	Call Weather service (see Emergency Notification Phone List) for current conditions.
• **Water currents, tides, or wave conditions (if applicable)**	KWPC facility is adjacent to surface waters. Use www.tides.com to obtain daily tidal information.
• **Arrival route of emergency response personnel and response equipment**	Arrival route of emergency response will approach the Terminal from the Main Gate at Ely Street and Palm Avenue. In the event of an emergency that warrants evacuation, the KWNAS Security & KW Police Department will be contacted to block off streets and limit travel in the vicinity of the site to emergency and rescue vehicles to and from the terminal.

Table VII-3
EVACUATION PLANS

TOPIC	DESCRIPTION
• **Evacuation routes (see Figure I-4)** • **Alternative routes of evacuation**	Persons not involved in emergency response efforts (visitors, contractors, vendors, etc.) shall leave the facility area. The QI will remain at the site or Incident Command Post and perform response-related tasks; however, the QI will likewise exit the facility if life-threatening conditions are present. **Primary route:** The main exit from the facility is the front gate at Trumbo road. As an alternate, the facility may be exited east to Fleming Road. In either event, the storage facility and KWPC office location can be evacuated by following Trumbo Road or Fleming Road south to Whiting Avenue then east on Whiting Avenue to Flatley Street, turning right and then left onto Chevalier Avenue, and heading east on Chevalier Avenue to the Navy Fly building at Ely Street. The route of evacuation is shown on Figure I-4. **Alternate route:** Exit the KWPC bulk storage facility using main gate and proceed south on Trumbo Road to Whiting Avenue then east on Whiting Avenue to Flatley Street, turning right and then left onto Chevalier Avenue, and heading east on Chevalier Avenue and turn right on Ely St to parking area outside of main gate.
• **Transportation of injured personnel to nearest emergency medical facility**	Injured personnel will be transported by ambulance to the Lower Keys Medical Center located at 900 College Road Key West PH: (305) 294-5531. Call 911 for medical assistance.
• **Location of alarm/notification systems**	Handheld two-way FM radios are located in office. All personnel that leave office area will carry a radio. Due to the size of the terminal and the limited number of employees involved, the signal for emergency evacuation will be communicated verbally and/or via hand held radio.
• **Centralized check-in area for roll call**	The primary check-in station is the **KWPC Office** and the secondary location is the **Navy Fly Building**. A third location is the parking lot at the main gate. The QI shall be responsible for accounting for all persons on-site following an emergency and notifying the police or fire department if any person is believed missing.
• **Mitigation command center location**	An Incident Command Post (ICP) will be established by the QI or the Incident Commander depending on the type and magnitude of the emergency (e g., Catastrophic spill, major fire, or multiple events) and the location of the incident. The designated ICP locations are as follows: **Primary ICP: KWPC Office** **Alternate ICP: CG Sector Key West** **Alternate ICP: Fly Navy Building**
• **Location of shelter at facility**	The designated place of shelter within the facility is the **KWPC Office**; however, in the event of an evacuation, persons shall proceed directly to the Alternate Command Post at US**CG Sector Key West** or the **Navy Fly Building** at the corner of Chevalier Ave and Ely Street as directed by the QI. At this location, a head count can be accomplished and further instructions given.

Evacuation Procedures for Surrounding Area

In the event that evacuation of the surrounding areas is deemed necessary, the QI shall contact the Key West Police Department, KWNAS Security and the Monroe County Emergency Management. The QI shall advise each agency of the nature of the emergency, the reason for requesting an evacuation, and the location and phone number where the QI can be reached.

Evacuation of nearby KWNAS Trumbo Point Annex buildings and facilities is the responsibility of KWNAS Security working in concert with the QI and emergency response contractor. Evacuation of communities is the responsibility of local emergency response authorities (such as Key West police and fire departments) working in concert with the QI and emergency response contractor.

K. REPORTS AND DOCUMENTATION

Incident documentation is a critical response function and would begin at the start and continue through completion of response operations. Documentation will be used to:

- Monitor response operations;
- Develop plans and requests for government agency approvals;
- Substantiate decisions made during response operations;
- Plot progress throughout the response effort;
- Track equipment, manpower, materials, and supplies;
- Assess claims;
- Audit expenditures; and
- Prepare a history of the response effort.

Complete and accurate documentation is essential, particularly if the spill and/or the response effort results in subsequent litigation. Documentation of the response efforts may take many forms including:

- Logbooks, meeting notes, and telephone logs;
- Forms;
- Environmental and technical data recorded during response operations;
- Aircraft logs;
- Video tapes and still photography;
- Press releases; and
- News broadcasts and published reports.

Although it is difficult to take time out during an emergency to document activities, and most notably to maintain a daily log and telephone log, it would be imperative that all response personnel participate fully in the documentation process. An incident file system will be established at the start of the spill and copies of the file index will be distributed to appropriate response personnel. The files will be maintained and stored in a convenient secure location.

L. DISCHARGE DETECTION

Personnel Discharge Detection

All KWPC personnel are able to assess the potential for any spill or uncontrolled release. This is accomplished through the inspections discussed in Section XI.L and through daily visual observations of KWPC equipment. In the case a discharge is detected, the QI is notified immediately. The QI will immediately respond to physically locate and identify potential spills and leaks based on detection. If a spill is detected, spill response procedures are implemented as detailed in Section I and in Section VII.B of the Combined Plan.

To prevent tank overfills, the KWPC ASTs are monitored during filling operations by a tank gauger who is equipped with a hand held radio and in communication with a person at the tanker monitoring transfer operations. The hand held radios

are intrinsically safe and allow the tank gauger to instruct the vessel transfer monitor or operator to shutoff the vessel transfer pumps if problems arise. Each KWPC AST is equipped with a digital liquid level gauge. In addition to the digital gauges, each KWPC AST is equipped with electronic level indicators and alarms as discussed in Section XI.F. Prior to filling the KWPC ASTs, the liquid level gauge reading is verified by actually gauging the tank with a measuring tape and plumb bob. During filling operations, the site gauge is verified by visually observing the floating roof level. During FSII filling operations, a KWPC employee is present next to the FSII tank to ensure there is no overfill. A KWPC employee is also present next to the water bottoms holding tank when the tank is being drained to a tank truck.

To detect releases from the 12-inch receipt and delivery pipeline between Pier D-2 and the KWPC bulk storage facility, and the 4-inch delivery pipeline from the KWPC bulk storage facility to KWNAS, Boca Chica, the transfer operations are monitored by individuals at KWPC and KWNAS and, where applicable, USCG. These individuals are in contact hourly (and constant visual contact while fueling vessels at Pier D-2) and are able to compare the decrease in volume of the KWPC AST to the volume increase or received at KWNAS, Boca Chica or vessels receiving fuel at Pier D-2. In addition, the delivery pipeline to KWNAS Boca Chica is equipped with automated meters as discussed below.

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M. SOURCE VERIFICATION

Source verification would be accomplished by determining which tank is involved in a discharge and the characteristics of the spilled product. JP-5 is the only product stored in KWPC Tanks, 1, 2 and 3 while water bottoms are stored in KWPC Tank 4. KWPC Tank 5 contains FSII a fuel system icing inhibitor composed of ethylene glycol monomethyl Figure II-2 identifies the location and type of products stored in each tank while Table I-3A and shows the type and volume of petroleum product stored in each tank. In general, JP-5 fuel is clear white and has a kerosene odor while FSII is a clear and colorless liquid.

At the dock and along the 4-inch pipeline route between the KWPC bulk storage facility and the NASKW ASTs, source verification would be aided by the fact that only one type of fuel, JP-5, is transferred in the pipeline. The quantity of product spilled may be difficult to determine, particularly at the outset of an incident. If a discharge comes from the tank, an estimate would be developed by taking the last recorded gauge reading and subtracting it from the current gauge reading. In the event of a spill from the pipeline, an estimate of the amount spilled would be determined by estimating the length of time of the discharge and multiplying it by the pumping rate at the time of the incident.

N. SOURCE CONTROL

Securing the source is an extremely important step in spill response actions. However, a source should only be secured if it can be performed safely and poses no threat to human health. The QI will direct all source control activities. The areas of source include: truck unloading area, transfer equipment, pipelines, and storage tanks. Steps taken to secure the source include the following:

- **Transfer Equipment –** If a manifold fails, shut down upstream pumps, close upstream valves. If a hose failure is encountered shut down upstream pumps, close upstream valves and drain hose into secondary containment, if feasible.

- **Tank Overflow –** If the source of the spill is identified as a tank leaking or overflowing, shut down pump operations and close fill line valve.

- **Tank Failure –** If the source of the spill is identified as a catastrophic tank failure (i.e., collapse) and safety conditions permit, contain the oil within the secondary containment area and shut down all valves associated with the tank. If this is not possible, utilize earth-moving equipment to create temporary berms to prevent the spill from spreading.

- **Piping Rupture –** If the source originates from a pipeline (low pressure), shut down pumps, close pipeline block valves on both side of the spill, and drain blocked section of line. If the source originates from a pipeline (high pressure), shut down pumps, close pipeline block valves on both sides of

the spill, construct or obtain temporary containment, and bleed pressure from the pipeline into containment.

- **Equipment Failure –** For equipment failures, upstream valves will be closed and the appropriate lines or vessels will be drained or, if pressurized, will be bled down into containment structures.

- **Explosion or Fire –** In case of fire,
  (1) Stop operations, shutdown pumps, close valves and warn others.
  (2) Notify terminal manager, Houston office and KWNAS & KW & Monroe County Fire Departments if needed (see Table I-3 for phone numbers)
  (3) Extinguish the fire using hand extinguishers, dry chemical extinguishers, or dirt or sand if the fire is small and it is safe to do so.
  (4) Fire fighters should control or disperse vapors and cool heated structures; (5) Emergency responders should divert/control runoff; and recover product(s). Appropriately trained personnel will secure the sources of discharge by appropriate means and deploy containment and control equipment to contain the spilled material. The QI will implement other response activities as needed.
  (6) In the event of an uncontrolled release, notify the response contractor, other federal, state, and local officials as set forth in the Emergency Notification Phone List. Note: Fire wells in the vicinity of Trumbo Point tank farm are not used to fight a fire since the presence of free product has been observed in these wells.

O. EMERGENCIES (FIRE)

The KWNAS Fire Department has two fire trucks with pumpers at Trumbo Point Annex and additional fire fighting vehicles at Boca Chica available for emergency response at the KWPC facility. All trucks are equipped with aqueous film-forming foam units (AFFF). The KWNAS Fire Department has approximately five-fire fighters/day at KWNAS Trumbo Point Annex. Additional fire fighting personnel may be mobilized from Boca Chica, if necessary. Approximately one-third of the fire fighters are trained in hazardous material response.

SECTION VIII: IDENTIFICATION OF ENVIRONMENTALLY SENSITIVE AREAS/RESOURCES

A. DESCRIPTION OF ENVIRONMENTALLY SENSITIVE AREAS

The coastline of the Florida Keys varies dramatically according to location. Most of the Keys island chain are connected via US 1, however there are many islands, which cannot be accessed by land. These mangrove islands are extensive throughout the Upper Keys and Florida Bay, as well as near the Big Pine Key and Key West area. The Ten Thousand Islands area and the shoreline of Florida Bay is an area comprised of extensive sheltered mangroves. The coastline of the Keys mainland along US 1 is often narrow beach or rocky shores fringed by mangroves. Much of the area along US 1 consists of dredged fill areas. The Keys harbor many unique environmentally sensitive habitats. Seagrass beds are extensive throughout Florida Bay and shallow ocean side waters. The coral reefs for which the Keys are so famous continue from Biscayne Bay through the Marquesas to the Dry Tortugas. There are extensive patch reefs inside the main reef line as well as the outer reefs. Due to the environmental uniqueness and sensitivity of the area, there are many preserves/reserves including the Florida Keys National Marine Sanctuary, Great White Heron National Wildlife Refuge, Crocodile Lake National Wildlife Refuge, National Key Deer Refuge, Key West National Wildlife Refuge, Dry Tortugas National Park, Everglades National Park, John Pennecamp State Park, Bahia Honda State Park, San Pedro Underwater Archeological Preserve as well as sensitive areas under Federal, State and Local Jurisdiction. Crocodiles occur in the Upper Keys and Florida Bay. Manatees occur in sheltered waters throughout the year. Sea turtles are known to nest throughout the Keys from April through September in areas where conditions permit.

Threatened and Endangered Species

The Florida Keys contains many rare and endangered birds and marine

mammals. The vulnerability of each species depends on a number of factors, including properties of the material spilled, life stage of the species affected, and time of year since the distribution and concentration of species varies widely according to season. A list of threatened and endangered species is provided in Table XII-6 (Section XII). Some species frequently encountered in South Florida include the following:

Manatees - The West Indian manatee is a threatened species of estuarine/aquatic mammal, which ranges throughout Florida. They are present year-round. Manatees tend to cluster around the warm water effluents of power plants during the colder months from November to March. Manatees have been shown to avoid oiled areas, but they can become trapped in spilled oil. This can cause respiratory stress from the inhalation of oil or oil fumes after only a short period of time. Herding manatees away from impacted areas may be effective. Since manatees are herbivorous, feeding primarily on seagrasses, seagrass beds and mangrove shorelines would need to be carefully monitored to prevent damage from a spill.

Dolphins and Whales - Of the 26 species of dolphins and whales known to inhabit Florida waters, most live offshore and are not likely to be directly affected by a nearshore spill. The Atlantic bottlenose dolphin is frequently sighted in nearshore waters, and the Atlantic spotted dolphin is found in nearshore waters during spring and summer. Toxic effects of an oil spill may include eye irritation and respiratory stress. Oil has been linked to whale stranding incidences as well.

Sea Turtles - Five species of sea turtles are found in South Florida waters: Loggerhead, Atlantic Green, Leatherback, Kemp's Ridley, and Hawksbill. Loggerheads are threatened and the remaining four species are endangered. Sea Turtles nest on South Florida beaches, and oil could impact adults, nests, and eggs.

Key Deer - One of the world's most endangered animals is the Key deer, nature's smallest version of the white-tailed deer. These animals, which weigh no more than a large dog, have a population almost as tiny as their size. An estimated 700 to 800 animals remain, surviving on a handful of landfalls in the lower Florida Keys. This is a huge population increase from several years ago when only 200-400 were thought to inhabit the Keys.

Coastal Birds - Florida wetlands provide nesting and feeding habitat for coastal birds, some of which are endangered or threatened species. The primary effect of oil on a bird is to coat its feathers, inhibiting their heat insulation and water repellent properties. This can cause death by hypothermia and drowning. Birds also ingest oil by preening their oil-coated feathers or by eating oil-contaminated prey.

Boom sites have been selected to protect nesting areas, and timely deployment of boom is critical. Oil spilled during the nesting season (late April through early September) could necessitate the removal of nests from impacted areas.

The Key West area includes two wildlife refuges: Great White Heron National Wildlife Refuge and Key West National Wildlife Refuge; and one marine sanctuary: Florida Keys National Marine Sanctuary. Fort Zachary Taylor State Historic Site is also located in Key West. Discharges could potentially reach the boundaries of any of these areas.

- The KWPC facility is located within the Florida Keys National Marine Sanctuary.
- The Key West National Wildlife Refuge is located 1.5 miles west of the KWPC facility.
- Fort Zachary Taylor State Historic Site is located 3 miles southwest of the KWPC facility.
- Great White Heron National Wildlife Refuge Preserve is located 3 miles North of the KWPC facility.

Some sites within the Florida Keys also contain important archaeological sites. Many of these sites have been mapped by the Division of Historical Resources, Florida Department of State. Due to the sensitivity of these areas, the exact location of archaeological sites are often times not made available to the public. Therefore, a discharge that impacts any historical resources located in the Key West area should be reported to the Division of Historical Resources in Tallahassee (see contact information below) prior to commencement of clean up activities. If the State determines that an archaeological site(s) is threatened by either the pollution event or the subsequent clean up, they will provide a professional archaeologist for consultation.

Bureau of Archaeological Research, (8am – 5pm Only)
Tallahassee, FL - Jim Miller
(850) 245- 6444 Fax (850) 245-6436

B. DESCRIPTION OF ECONOMICALLY SENSITIVE AREAS

Economic areas of concern within the Key West area primarily consist of marina and the cruise ship and ferry terminals. The Port of Key West now consists of three docking facilities: Mallory Square Dock, Pier B (privately owned) and the Navy Mole Pier located along the Key West waterfront. The Ferry Terminal is located in the Key West Bight Historic Waterfront. Marinas in the area, their location in relation to the terminal and their contact information is as follows:

Table VIII-1

Marinas within the Planning Distance

NAME	LOCATION FROM KWPC OFFICE	TELEPHONE NUMBER
Conch Harbor Marina	0.1 miles	(305) 294-2933
Key West bight Marina	0.1 miles	(305) 809-3984
A & B Marina	0.4 miles	(305) 294-2535
Galleon Marina	0.4 miles	(305) 292-1292
Garrison Bight Marina	0.6 miles	(305) 294-3093
Harborside Motel & Marina	0.7 miles	(305) 294-2780
Pelican Landing of Key West	0.7 miles	(305) 293-9730
City Marina of Garrison Bight	0.9 miles	(305) 809-3981
Luz Marina	1.0 miles	(305) 766-0443
Wyndham Casa Marina	1.2 miles	(305) 296-4633
Banana Bay Resort & Marina	1.2 miles	(305) 296-6925
Coconut Mallory Resort & Marina	3.0 miles	(305) 296-6925
Cow Key Marina	3.2 miles	(305) 292-9111
Sunset Marina	3.3 miles	(305) 296-7101
Robbies Marina	3.7 miles	(305) 294-1124
Old Island Marina	3.7 miles	(305) 294-2288
New Stock Island	3.7 miles	(305) 294-2288
Murray Marine	4.3 miles	(305) 296-0364
Kings Point Marina	4.4 miles	(305) 294-4676
Key West Harbor Yacht Club	4.4 miles	(305) 292-3121

C. RESPONSE ACTIONS TO PROTECT SENSITIVE AREAS/RESOURCES

Sensitive areas within the Florida Keys have been identified on Environmental Sensitivity Index Maps, which are contained within Volume II of the Florida Keys Area Contingency Plan (ACP). Sensitivity Maps from the ACP covering the planning area for the KWPC facility are provided in Figures I-5 A-E. Additionally, the Sector Key West Area Committee has identified sensitive area types and prioritized the areas for protection in the event of a spill. Area types were assigned high (A), moderate (B) or low (C) priority classes, as shown on in Table VIII-2 below. Criteria used to prioritize area types include biological significance (including biodiversity, productivity, habitat value, and functional significance); human health and safety; sensitivity to oiling (including physical and toxic effects, oil persistence and habitat recovery period); cultural and aesthetic value; degree of damage to area resulting from attempted clean-up; rarity of area type; and economic value.

Each sensitive area was given a name and identification code (the high (A), moderate (B) or low (C) protection priority letter and a number). Pertinent information such as habitat types, resources at risk, endangered species, contact agency, response strategies and operational data were summarized on separate data sheets for each sensitive area.

TABLE VIII-2
AREA COMMITTEE
PROTECTION PRIORITIES FOLLOWING A SPILL

Order of Importance	Habitat
High (A)	Mangroves Coral Reefs, shallow (<3m deep) Seagrass, shallow (<1m deep) Rare species and their critical habitats Breeding, nesting, spawning areas (some seasonal) Inlets, tidal creeks, passes which could convey oil to high priority habitats or areas Hard live bottom, shallow (<1m deep) Human health and safety Public utilities water intakes
Medium (B)	Coral Reefs, deeper (>3m deep) Seagrass (>1m) Hard live bottom, deeper (>1m deep) Rocky shores Tidal flats (sand/mud; no vegetation) All other natural shores (including sand beaches) within conservation areas Riprap
Low (C)	Sand beaches (not included in above habitats) Man-made canal systems (w/o riprap shoreline) Sea walls Industrial facilities Stormwater drains Developed and agricultural lands

Notes:
1. Priority list is specific for Sector Key West planning area.
2. Government parks, refuges, reserves, etc. for natural resource conservation and management have not been included. This is because the above designated habitat types provide more effective and detailed delineation.

It is important to note that the habitat impacts described above are based on impacts from heavy oil or crude. The JP-5 fuel is a non-persistent petroleum product made of high vapor pressure petroleum distillates. Given the volatility of JP-5, a significant portion of the fuel will dissipate. The Planning Volume of Response Resources for a Worst Case Discharge Guidelines provided in both the USEPA and USCG rules predict 80 percent of non-persistent oil or fuel will dissipate within 4 days. Volatility is dependent on temperature, pressure, wind

speed and other weather conditions. A larger percentage of the JP-5 fuel is expected to dissipate, since it is significantly more volatile (boiling point approximately 320 to 550^{o}F) than the limits defining a non-persistent oil or fuel (boiling points between 645 and 700^{o}F). In addition, the JP-5 fuel will not emulsify or create a mousse like heavy oils and has been assigned an emulsification factor of one under the USEPA and USCG rules.

Based on the protection priorities established in Table VIII-2 above, the area committee developed Geographic Response Plan (GRP) Maps to prioritize areas for protection and depict specific protection strategies. The GRP Maps specific to the KWPC facility planning distance are provided in Figures I-6 A&B. Because the GRP maps do not provide protection strategies for all of the sensitive areas within the planning distance, KWPC has developed additional booming strategy maps, which are provided in Figures I-5 A-E. Booming strategies can be implemented within the Tier I-3 timeframes.

In addition, Tidal Inlet Protection Strategies were developed for the State of Florida in 1994 to protect the coastal inlets within the State. Excerpts from the Key West area are provided in Figure(s) I-7 in case they are needed. The QI and ORT will use these booming strategy maps as appropriate to protect potentially threatened environmentally sensitive areas and to direct containment and recovery operations. Containment and recovery measures will be implemented as quickly as possible to limit the potential impacts to environmentally sensitive areas including those identified in the preceding section. Containment booms are to be placed in the path of the spill to limit its spread. Additional booms may also be used to isolate environmentally sensitive areas (such as at the entrance to channels or along vulnerable shoreline).

D. WILDLIFE PROTECTION

During conduct of ground and shoreline protection and clean-up operations, efforts will be made to minimize disruptions to wildlife. Table VIII-3 presents

techniques that may be utilized to protect wildlife that may be threatened by an oil spill incident.

TABLE VIII-3	
WILDLIFE PROTECTION TECHNIQUES	
TECHNIQUE	**DESCRIPTION**
Chumming	Involves the distribution of food to lure birds away from an area affected by an oil spill. Food is dumped into the water from a vessel positioned near the spill site. Once the birds have gathered near the vessel, chumming continues as the vessel moves toward an unaffected area.
Hazing	Involves the use of scare-away guns and/or helicopter overflights to prevent birds from landing on a potentially affected area, or to divert birds from marshes, wetlands, refuges, and other sensitive areas.
Translocation	Involves the transfer of animals to an area unaffected by the spill. Animals are captured and moved to a habitat that fulfills their survival needs, but is of sufficient distance from the spill to discourage their return.

Efforts will be made to protect and to rescue affected wildlife. The following agencies can be contacted for assistance:

1. Key West Wildlife Rescue Center

(305) 292-1008

2. Tri-Sate Bird Rescue

(302) 737-9543

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SECTION IX: SPILL SCENARIOS

A. OVERVIEW

Spill response scenarios provide chronological and summary records of emergency responses to hypothetical emergency situations. Each scenario attempts to address many of the actions that might occur in an actual spill incident. Scenarios are designed to give team members an opportunity to practice their skills. Additionally, team members can relate to the duties and responsibilities of other team members. This interaction should help team members to understand their overall role in an actual spill response.

Scenarios are based on sets of circumstances that may or may not occur in the same sequences or combinations in an actual spill incident. While helpful in providing response personnel and regulators with an understanding of the major activities involved in a response effort, these hypothetical spill and response scenarios may not reflect the actual circumstances surrounding, or actions taken during, an incident. Since the actual spill circumstances are unpredictable and the response effort must be tailored to these circumstances, the specific response actions taken during an incident are unique. Consequently, these scenarios are intended to serve as planning or training tools, rather than depictions of expected spill response actions or performance guarantees.

Based on the KWPC facility's normal operations and the probability of an incident occurring, three different scenarios have been developed:

- Level I – a small discharge
- Level II – a medium discharge
- Level III – a worst case discharge

The risks of a major spill at the KWPC facility that would reach surface waters are associated with the potential occurrence of a storage tank failure (hurricane-related), pipeline failure, or the collision of a vessel with the dock or another

vessel. The consequences of an accident involving the vessels prior to unloading or after loading are the responsibility of the vessel, and therefore beyond the scope of this Combined Plan. Should such an incident occur, KWPC personnel will respond to the incident as appropriate and assist until the Oil Spill Removal Organization (OSRO) arrives on-scene.

At present, the quantities of oil described in Section II are used to describe the three levels of incidents that may occur at the KWPC facility. The worst-case spill incident is based upon the contents of the pipelines and storage tanks at the KWPC facility. The occurrence of a level III incident at the KWPC facility resulting in a large release of fuel into the water is unlikely, because of the policies, practices, and procedures described in Section XI of this Combined Plan. Because of these facts, plausible scenarios have been developed which have a conceivable possibility of occurrence. Actions taken during any major spill incident would be similar with variations according to the conditions (e.g., weather, available equipment and personnel) existing during the response. Response to any major spill incident would involve the activation and mobilization of all available resources. The scenarios will partially incorporate the following operations at the KWPC facility, additional scenarios for this terminal will be generated during tabletop drills and other exercises:

- Unloading of oil
- Facility maintenance
- Facility piping
- Pumping stations
- Oil storage tanks
- Age of KWPC facility and components
- Refueling vehicles.

Scenarios will consider factors in the following areas, as appropriate:

- Incident description (size of discharge, material discharged, direction of discharge, location of discharge)
- Environmental conditions (weather or aquatic conditions)

- Proximity to down gradient wells, waterways, and drinking water intakes
- Proximity to fish and wildlife and sensitive environments
- Likelihood of discharge moving offsite
- Immediate response actions
- Management
- Probability of a chain reaction of failure
- Incident command
- Monitoring
- Containment and recovery
- Storage and disposal
- Response equipment and management
- Public relations.

B. LEVEL I SPILL SCENARIO

USCG (MTR) Unloading Hose Incident

Incident Description

A vessel has just started to unload JP-5 Jet fuel at 0700 on 8 September when the transfer hose ruptured. The Dock Operator immediately radioed the Vessel Operator to shut down the pumps and terminated transfer operations by manually closing the discharge valve. The incident resulted in the release of approximately 8 barrels (336 gallons) of JP-5. The fuel sprayed onto the dock and into the water between the dock and the vessel.

Environmental Conditions

At the time of the incident, winds are light (less than 5 miles per hour) out of the southeast. The winds increase to 10 miles per hour out of the southeast during the day. Air temperature range from 85°F to 93°F; water temperatures are approximately 88°F. The tide is ebbing (high tide at 0430; low tide at 1024).

Response Actions

TIME	EVENT
0703	KWPC personnel located at Pier D-2 and the KWPC bulk storage facility ensure that all valves are closed and flow of fuel has stopped. An assessment is made that approximately 200 gallons of JP-5 is in the water and the remainder of the product is contained on the dock. Assistance is required for cleanup. All of the fuel in the water is contained within the boom that was deployed around the vessel prior to the unloading operation beginning.
0705	The OSC/QI makes the necessary internal contacts to ensure that sufficient backup terminal personnel are available for response. The KWNAS oil spill team and the OSRO are also contacted for assistance. Next, the QI makes the necessary external contacts (USCG Sector Key West, National Response Center, FDEP, etc.).
0715	KWPC personnel located at Pier D-2 with the assistance of the Vessel crew is able to put additional boom into place between the dock and the boat to further ensure that the oil is contained within that area.
0745	Additional responders (KWPC & KWNAS, USCG Sector Key West personnel) begin to arrive on-scene including the Federal On-scene Coordinator (FOSC). The OSC/QI begins to organized the On-site Response Team (ORT) and develop response strategies.
0800	The QI directs the ORT to place a second containment boom around the vessel using a boat and containment boom from KWNAS. A vacuum truck and skimmer is also requested from KWNAS to begin removal of the product. The remaining responders begin deploying sorbent booms and pads from the SWS trailer to soak up the fuel in the water and on the dock until the vacuum truck arrives.
0900	The vacuum truck and skimmer arrives on-scene. While the ORT readies the vacuum truck & skimmer for operations. All of the sorbent are removed from the water so as not to interfere with the vacuum truck operations. The contaminated sorbent materials are placed in 55-gallon drums for temporary storage. The FDEP State On-scene Coordinator (SOSC) arrives to inspect cleanup operations.
0930	The on-water unit completes the installation of the second containment boom around the vessel and the vacuum truck & skimmer begin skimming operations between the dock and the vessel.
1130	Response contractor arrives and assists with the final stages of the on-water cleanup. Their assistance will be used for equipment recovery and decontamination and the disposal of recovered materials.
1200	The President of Pipeline & Terminal Management Corp. arrives on-scene and begins serving as the On-Scene Commander (OSC). He engages immediately with the FOSC & SOSC to ensure that all agency response objectives are being addressed.
1400	The dock area has been cleaned and all free product has been removed from the water. Only traces of sheen remain around the dock area. Sorbent boom will be placed inside of the hard boom that surrounds the vessel and left overnight to capture any traces of sheen.
1430	The fuel transfer hose is replaced and unloading operations begin with the approval of the Coast Guard.

Complete site remediation requires one additional day. The OSRO is responsible for the transport and disposal of oiled debris and equipment and

collected fuel/water mixture. If there were media interest concerning the spill, a representative of KWPC would coordinates a press release and meet with the local media officials. There are no impacts to wildlife or sensitive areas from this incident. If wildlife had been affected, the OSC would contact the US Fish and Wildlife Service to check on the status of fish and wildlife. There are no down-gradient wells or drinking water intakes that will be affected. If the fuel were to have escaped the Pier D-2 area, the geographical response maps in the Area Contingency Plan would have been used to develop protection strategies for sensitive areas in the path of the fuel.

The probability of this event causing a chain reaction of failures is very low since a rupture in the hose would not cause a failure of any other pipeline or storage tank system. The likelihood of the discharge moving offsite is low since a containment boom was deployed prior to beginning unloading operations.

C. LEVEL II SPILL SCENARIO

DOT (OTR) Pipeline Incident

Incident Description

At 1000 hours on 12 October, during a transfer operation of JP-5 between the KWPC bulk storage facility and the KWNAS ASTs located on Boca Chica a significant pressure drop and alarm is signaled in the KWPC control room. The KWPC operator immediately begins to terminate the transfer operation by shutting down the transfer pumps and closing all appropriate pipeline isolation valves. The KWPC operator notifies the KWNAS terminal personnel of the pipeline condition and immediately begins to investigate the pressure loss. Additional KWPC personnel are dispatched along the pipeline route to look for a discharge. At 1010 a significant amount of Jet fuel has been found by one of the operators in the Fleming Channel next to the old Navy Sea-plane hangar. A passing weather front at the time of the transfer has resulted in strong winds and rain in the area. Initial estimates are that the pipeline system has lost approximately 5,000 gallons and that the release is on going.

Environmental Conditions

The winds are strong (35 miles per hour, gusting to 45 miles per hour) out of the north. Skies are cloudy with a strong, steady rain; the air temperature is approximately 75°F; and the water temperature is 82°F. The tide is incoming - low tide was at 0610 hours. The next high tide is at 1230 hours.

Response Actions

TIME	EVENT
1005	The KWPC Operator completes the shutdown of the pipeline system by terminating the transfer pump and closing all the appropriate valves including the pipeline isolation valves on Stock Island and Boca Chica. The KWPC operator immediately notifies the KWNAS of the pipeline shutdown and dispatches other employees to survey the pipeline route to look for evidence of a discharge.
1010	At 1010 one of the operators notices a significant amount of Jet fuel bubbling up to the surface of the water in Fleming Chanel next to the old Navy Seaplane hangar ramp. The operator conducts an initial assessment of the incident and immediately informs the OSC/QI of the situation indicating that a large quantity of fuel has entered the water just north of the Navy Sea-plane hangar ramp.
1010	The OSC/QI makes the necessary internal contacts to ensure that sufficient backup terminal personnel are available for response. The KWNAS Oil Spill Team and the OSRO are also contacted to respond with additional personnel and equipment. Next, the QI makes the necessary external contacts (USCG Sector Key West, National Response Center, FDEP, etc.). The KWNAS fire and security departments are also called for assistance in securing the site and monitoring vapors during response and cleanup operations.
1025	Additional responders (KWPC & KWNAS, USCG Sector Key West personnel) begin to arrive on-scene including the Federal On-scene Coordinator (FOSC). A detailed assessment of the incident by the QI has found that the fuel is being blown toward the shoreline in front of the Seaplane base as the tide continues to rise. The OSC/QI begins to organize the On-site Response Team (ORT) and develops initial response strategies. The QI also determines that a diver is needed to examine the pipeline leak and to install a temporary patch to secure the leak. The QI notifies a qualified diving company and dispatches an operator to verify that the pipeline isolation valve on Stock Island is closed to limit the volume of the on-going discharge.
1045	A strong north wind and the incoming tide are keeping the fuel from spreading significantly; however, the fuel will likely move toward the Key West Harbor when the tide changes after 1230. Under the direction of the QI, the ORT begins to deploy sorbent boom along the impacted shoreline to capture fuel in this area (Task 1). One of the KWNAS vacuum trucks & skimmer has arrived on-scene and begins recovering product (Task 2).
1130	KWPC establishes an Incident Command Post at the NAS Fly Navy Building lounge area and forms a Unified Command with the USCG, Navy and the DEP.
1230	In anticipation of the tide change, the Operations Section Chief directs the ORT to deploy double deflection booms in the Fleming Channel from the Fleming Key Bridge back toward the bank on the west end of the terminal (Task 3) to protect Key West Bight. Since the current is strong in this area, booming may not be effective. A vacuum truck and skimmer has also been requested from NASKW (Task 4).
1330	The double deflection booms are now deployed along with the vacuum truck. Recovery operations continue at the Seaplane ramp (Task 2). The diver arrives on-scene and begins

TIME	EVENT
	preparations to survey and secure the leak (Task 5). Two pelicans have been spotted diving in the spill impact area. A bird wildlife rehabilitator has been placed on standby if needed.
1400	The diver completes his survey and reports that a quarter-sized hole was found on the topside of the pipeline from what appears to be an impact from a foreign object. The diver was also able to almost completely plug the leak with a wooden plug. Only minor amounts of fuel are leaking from the damaged pipeline. The diver will make a permanent repair by noon tomorrow.
1500	The OSRO arrives on-scene and relieves the KWNAS OSR members from their assignments. Some fuel is now being captured and recovered in the double deflections booms (Tasks 3 & 4) at the west end of the terminal with the tide change.
1530	Sorbent boom is placed along the on the east shoreline side of Fleming Key to protect sensitive shorelines in the area (Task 6).
1600	The Unified Command (UC) produces an ICS 201 Incident Briefing form describing the status of response operations. The UC now estimates that approximately 6,000 gallons of JP-5 fuel has been released from the damaged pipeline. Cleanup and recovery operations will continue throughout the night using vacuum trucks, skimmers and sorbent materials.
1700	A press release is prepared for the local media describing the status of ongoing response operations, source control activities, and the establishment of a UC with the USCG, Navy and the DEP

The UC continues operating from the ICS 201 form, which is updated on a daily basis. The cleanup continues for 3 days following the initial response and the pipeline was permanently repaired on day two of the event. The wildlife rescue and rehabilitation team arrive on day two to rescue and cleanup any oiled seabirds. The US Fish and Wildlife Service is contacted to check on the status of fish and wildlife. There are no down-gradient wells or drinking water intakes that will be affected. There is no impact to fish or sensitive areas as the majority of the fuel has dissipated from dispersion and evaporation.

Fuel transfer operations are suspended until permanent repairs can be made on the pipeline and the repaired pipeline passes a pressure test pursuant to 49 C.F.R. Part 195.

The probability of this event causing a chain reaction of failures is very low since the rupture of a pipeline would not make a rupture of the tank, or other oil storage areas more likely.

D. LEVEL III SPILL SCENARIO

USEPA (NTR) Storage Tank Incident

Incident Description

At 2000 hours on 24 August, the Key West area sustained a direct hit by a hurricane. Winds reached 135 miles per hour with gusts up to 150 miles per hour. Storm surge within Key West harbor was 12 to 14 feet above sea level. Most roads are impassable and electricity is out for the entire area. All personnel at the KWPC facility were evacuated prior to the arrival of the storm.

One of the QI's (all of whom were subject to mandatory evacuation) is allowed to return and inspect the KWPC bulk storage facility at approximately 0700 hours on 25 August. Damage to the bulk storage facility is extensive. The most severe damage resulted from the storm surge, which moved KWPC Tank 2, a 55,000-barrel jet fuel storage tank off of its foundation causing the piping to be ripped away from the tank. As a result, all of the tank's contents were released spilling approximately 1,000,000 gallons of JP-5 fuel into the containment area (Note: AST was not completely full at the time of the incident). Winds have blown the mixture around the site and coated the tanks and KWPC office building. The rain and storm surge have caused a breach in the concrete sea wall on the north side of the tank farm, releasing a significant quantity of spilled fuel water mixture to Fleming Channel. The release is estimated at approximately 200,000 gallons onto surface water.

Environmental Conditions

The hurricane passes within a matter of hours traveling from southwest inland toward the northeast. After the storm passes, weather conditions gradually return to a normal weather pattern of clear skies, winds from the southeast at approximately 12 miles per hour. Air temperature is 92°F; water temperature is 85°F. High tide is at 0733; low tide is at 1316.

Response Actions

Because of the unique nature of this type of incident and lack of immediately available personnel at the KWPC facility to respond to this size and type of incident, the response to this scenario will be described as actions within a phased response. This incident will require the implementation of a Spill Management Team using the concepts of the Incident Command System (ICS) to manage the emergency. A general time line will be described as follows.

TIME	EVENT
Day 1 0700	**Initial Assessment –** The OSC/QI is allowed on the site to make an initial assessment. The initial assessment reveals that the terminal has received extensive damage. Tank 2 has been moved off of its foundation and integral piping has been torn away from the tank. The concrete sea wall has been beached in one location on the north side of the tank farm causing a significant amount of JP-5 fuel to be released to Fleming Channel. No more fuel is being discharged to the Channel as the level of fuel/water mixture has dropped below the point of overflow from the berm. However, the bermed area is still filled with a large volume of fuel/water mixture.
Day 1 0710	**Notifications –** The OSC/QI makes the necessary internal contacts using a cell phone to ensure that sufficient backup terminal personnel are available for response. The KWNAS oil spill team and the OSRO are also contacted to respond with additional personnel and equipment. Next, the QI makes the necessary external contacts (KWPC Sector Key West, National Response Center, FDEP, etc.). The KWNAS fire and security departments are also called for assistance in securing the site and monitoring vapors during response and cleanup operations. The QI also notifies the KW Police Department, Port Director and Monroe County Emergency Management for assistance.
Day 1 0730	The OSRO immediately begins to mobilize to the area. Based on the information from the initial assessment, The OSRO will mobilize pre-staged response equipment and personnel from several locations in Florida.
Day 1 0830	**Initial Response & Detailed Assessment –** Additional responders (KWPC & KWNAS, USCG Sector Key West personnel) begin to arrive on-scene including the Federal On-scene Coordinator (FOSC). The responders who make up the Onsite Response Team (ORT) are initially assigned to conduct damage assessment surveys to examine the condition of the onsite response equipment, the general facility equipment, and the integrity of the secondary containment systems.
Day 1 1000	**Detailed Assessments –** KWPC and the USCG establish an Incident Command Post (ICP) and Unified Command at USCG Sector Key West. Positions on the Spill Management Team (SMT) will be filled as responders arrive at the ICP. The DEP State On-scene Coordinator (SOSC) arrives at the ICP. The FOSC immediately request a helicopter from CG Air Station Miami to conduct site surveillance & pick up NOAA's Scientific Support Coordinator (SSC) in Miami. The helicopter ETA is 1100. The QI begins a detailed assessment of the spill site to determine the damage to facility infrastructure, extent of impacted areas, resources at risk, and the amount of fuel at risk of being discharged from other damaged equipment. Reports from the initial damage assessments from the ORT reveal that both KWPC & KWNAS oil spill response equipment is in tack and available for deployment. The breach in the concrete retaining wall needs to be

TIME	EVENT
	shored-up with heavy equipment to prevent additional breaches. The other KWPC tanks, piping systems and auxiliary equipment have received some damage & need further professional evaluations to determine potential spill risks from these systems.
Day 1 1100	The FOSC, DEP SOSC and KWPC QI meet the helicopter at the Navy Sea-plane hangar and begin an over-flight of the area along with NOAAs SSC. The over-flight reveals that heavy sheen is located in the vicinity of the Fleming Channel next to the KWPC bulk storage facility and USCG Sector Key West. Lighter areas of sheen were noted in the Garrison Bight area between Fleming Key & Dredgers Key (Sigsbee), berths at Piers D-1, D-2 and D-3, USCG Sector Key West and Key West Bight. The shoreline has also been impacted in these areas and along the east and west sides of Fleming Key. Much of the fuel has been dispersed due to the extreme wind and wave conditions during the passage of the hurricane. The NOAA SSC estimates that approximately 50,000 gallons of fuel still remains on the surface of the water and about 80% of this product can be expected to evaporate within four days due to the volatility of this product & the high daytime air temperatures and high water temperature.
Day 1 1200	**Initial Unified Command Meeting -** The SMT completes the ICS 201 Initial Incident Briefing Form based on the current situation, results of the detailed incident assessment and the over-flight information. The UC holds a brief meeting with other UC members and NOAA's SSC to review the ICS 201 form and to agree on strategic objectives for the next operational period. The ORT is requested to deploy double deflection booms in the Fleming Channel from the Fleming Key Bridge back toward the bank on the west end of the KWPC bulk storage facility. Since the current is strong in this area, booming may not be effective. A vacuum truck and skimmer has also been requested from NASKW to assist with product recovery (Task 1).
Day 1 1300	**Initial Incident Briefing & UC Objectives Meeting** The Incident Commander calls a meeting of the Command Staff to brief the team on the status of the incident (using the ICS 201 form) and the objectives for the next operational period. The objectives & response priorities are: **Objectives** • Ensure the safety of the public & all responders; • Contain and remove product as quickly as possible; • Minimize impacts to wildlife & economic/environmentally sensitive areas; • Prevent additional releases from the facility; • Return the facility to operational status as quickly as possible; and • Keep the public & media informed of the status of response; operations **Response Priorities** • Contain and begin cleanup of the fuel in the Fleming Channel and Fleming Key area (i.e., some damage has already occurred within sensitive shorelines; further damage should be minimized); • Contain and begin cleanup of fuel in the berths at Piers D-1, D-2 and D-3, USCG Sector Wey West, and Key West Bight • Conduct trajectory analysis & develop shoreline protection strategies to protect sensitive areas in the path of the fuel; • Repair concrete sea wall breach and other compromised sections of the secondary containment berms; • Remove fuel and water within the secondary containment area; and • Isolate & repair any damaged facility infrastructure
Day 1 1330	**Initial Tactics & Planning Meeting** The Operations Section Chief holds a meeting with the Section Chiefs, and the Resource Unit leader to develop strategies to meet the objectivities and response priorities established by

TIME	EVENT
	Unified Command. During this meeting, they determine the equipment required to achieve the strategic objectives and response priorities for the next operational period. • A minimum of 15,000 feet of boom is required to boom sensitive resources and marinas and to begin to contain oil for recovery. Associated anchors, chain, lines, etc. are required. Five thousand feet of absorbent boom, miscellaneous absorbents, sweeps, etc. are also required. • A minimum of six vessels is required to assist in boom deployment in these areas. • Five vacuum trucks & three skimmers are required to be used from the shoreline. • Communications equipment is required for each vessel and base station • The helicopter is required for continued surveillance. • Three frac tanks are initially required for product recovery operations. • Two shallow-water skimming vessels and other vessels to assist in containment are required to begin near-shore recovery operations. Approximately 50 people (46 SWS & 4 KWPC personnel) are required for the near-shore/onshore activities. All personnel must have required HAZWOPER training. Task 1 containment boom has been deployed and the vacuum truck is recovering product. The ORT is requested to place containment boom at the mouth of Piers D-1, D-2 and D-3, USCG Sector Key West to contain the fuel. A second vacuum truck has been requested from NASKW for recovery at this location (Task 2).
Day 1	The Initial Tactical Operations Planning Meeting results in a list of activities, which need to be conducted over the course of the response. The manpower, equipment, and resources required for these activities must be developed over the next 24 to 48 hours. These activities include: • Continued high capacity recovery; • Trajectory analysis; • Recovered fuel storage; • Continued containment and recovery in the near-shore areas; • Support infrastructure (e.g., food, lodging, water, sanitation facilities, transportation, etc.) • Sensitive area identification and characterization; • Wildlife hazing, capture, and rehabilitation; • Waste handling and disposal; • Vessel/equipment cleaning; • Natural Resource Damage Assessment surveys; • Eventual site restoration, including the ability to store and transfer fuel to the NASKW tank farm; • Eventual demobilization.
Day 1 1430	**Planning Meeting –** A meeting is held to discuss the current status of response operations, discuss and approve the IAP, and issue division/group assignments for the next operational period. The incoming tide during the afternoon has resulted in a spread of the fuel towards Dredgers Key (Sigsbee). Additional boom needs to be mobilized to these areas to protect or deflect the fuel away from sensitive areas. The shallow water skimmer(s) will also likely be needed to recovery the product. A number of plans are identified that need to be prepared including: • A communications plan; • A shoreline cleanup & assessment plan;

TIME	EVENT
	• A wildlife plan; • A health & safety plan; • A vessel cleanup plan; • A waste disposal plan; • A secondary containment area cleanup plan; and • A facility assessment & return to operations plan The operations section prepares the ICS 204 field assignment forms for the next operational period (NOP). The Logistics Section Chief evaluates the resources required to carry out the IAP and determines if the resources can be supplied in time to implement the IAP. The OSRO arrives on-scene and engages with the SMT.
Day 1 1530	**IAP Preparation -** The Planning Section Chief compiles the information from the Initial Tactics and Planning Meetings and prepares the Incident Action Plan (IAP) using the completed ICS 204 forms. This plan defines the strategic objectives and response priorities and division/group assignments for the next operational period. The Command Staff are briefed on the Initial Planning Meeting and the Initial IAP. The IAP is a dynamic Plan, which will be revised and updated on a daily basis throughout the response effort to reflect the changes in the spill and input from the Command Staff and regulatory authorities. Task 2 is complete and product recovery is ongoing.
Day 1 1630	**Operations Briefing –** The Planning Section Chief presents the IAP to the oncoming shift. The field personnel conduct response operations in accordance with the Initial IAP, which has been prepared by activity through the night and into the morning of Day 2. The Planning Section Chief is beginning a new IAP based upon continuing input from the Command Staff, field management, and responsible agencies. The OSRO begins to deploy boom to contain fuel in the Key West Bight area (Task 3). Sorbent boom will also be placed along the impacted shorelines along Fleming Key (Task 4)
Day 2 0800	**Command Staff Meeting –** The Incident Commander conducts a Command Staff Meeting to brief the staff on the status of the incident and describe the strategic objectives. Topics receiving particular attention include: • Wildlife capture and rehabilitation; • Sensitive area protection and cleanup; • Availability of additional equipment and personnel; and • Economic impacts to vessels within Key West Bight Tasks 3 & 4 have been completed. Task 3 has been supplemented with a shallow water skimmer to recovery product
Day 0900	**Unified Command Objectives Meeting –** A meeting is held with representatives of the federal state, and local agencies and representatives of KWPC to explain and discuss the status of the incident, KWPC's proposed course of action, and strategic objectives and response priorities. The Initial IAP is distributed and discussed. State and local agencies express a concern toward cleanup in the sensitive shorelines along Fleming Key. The agencies agree to work with the Operations Section Chief and The Planning Section Chief to further develop appropriate protection and cleanup techniques. All parties agree to KWPC's proposed strategic objectives and response priorities.
Day 2	**Tactics Meeting –**

TIME	EVENT
1000	To complete the initial planning cycle and begin the daily planning cycle, a meeting is held to define specific activities that will be undertaken to achieve the strategic objectives and response priorities. Appropriate protection/response techniques are selected for areas, which have been impacted or are predicted to be impacted during the immediate and future operational periods. Additional manpower, equipment, and resource requirements are predicted. The major response areas still include the areas around Fleming Key, USCG Sector Key West, Garrison Bight and Key West Bight. Within these areas, additional personnel, boom (and associated line and anchors), boats, and cleanup equipment are required to protect sensitive areas and force the oil into collection areas for recovery and cleanup. At the KWPC bulk fuel storage facility, the containment area needs to be drained so that site remediation can begin. Tactical Operation Plans and draft Division/Group Field Assignments (ISC 204) forms are compiled based upon the field activities planned for the next operational period and distributed to appropriate members of the response organization. Each person is required to review the plans for personnel, equipment, etc. as requirements for the next operational period.
Day 2 1200	**Planning Meeting** - A meeting is held to discuss the progress of implementation of the Initial IAP and the strategic objectives and response priorities within the proposed tactical operation plans for the next operational period. The Operations Section Chief reports that surveillance and trajectories continue to indicate that the fuel has been trapped within the berths at Piers D-1, D-2 and D-3, USCG Sector Key West and within Key West Bight. Some fuel continues to leach out of the shorelines along Fleming Channel and Fleming Key. Protection and containment has been fairly effective; however, collection points for recovery need to be developed. Approximately 6,000 gallons of oil/water have been recovered in near-shore operations. The Planning Section Chief reports that wildlife cleaning and rehabilitation facility has been set up Key West Wildlife Rescue Center. Personnel from the state and the environmental unit within the planning section are working with volunteers to clean captured birds. A briefing meeting is held to discuss the status of the incident and response operations. Division/Group Assignments for the next operational period are discussed along with safety and environmental considerations. The Logistics Section Chief reports that sufficient quantities of personnel and equipment are arriving. Arrangements have been made for expanding accommodations, food, water, and sanitation for the personnel at various locations in Key West. A temporary staging area for oily debris is being designed and constructed to hold this material until it can be properly disposed of. The three frac tanks ordered to collect the recovery oily water are almost full and additional frac tanks will be needed to manage onsite/offsite recovery operations. Considerations are being given to transfer fuel from KWPC tanks 1 & 3 to NASKW via tank truck until the pipeline & transfer equipment can be thoroughly assessed as to its condition. The Planning Section Chief reports that the Natural Resource Damage Assessment (NRDA) contractor has been selected. The environmental unit and agencies will work with the NRDA contractor to conduct the cooperative assessment.

TIME	EVENT
Day 2 1330	**IAP Preparation –** The Division/Group Field Assignment (ICS 204) forms are compiled and the Planning Section Chief begins to compile the Incident Action Plan to reflect the activities to be conducted to achieve strategic objectives and response priorities. The Command Staff are briefed on the Initial Planning Meeting and the IAP for the next operational period.
Day 2 1600	**Briefing Meeting –** The Planning Section Chief presents the IAP to the oncoming shift & the field personnel conduct response operations in accordance with the IAP assignments.

Continued Response and Related Activities

For the duration of the incident response, the same Daily IAP Planning Cycle was conducted so that field response operations are implemented while the Command Staff develops plans to achieve the strategic objectives and response priorities (as agreed upon during Unified Command Meetings) for the next operational period. As new issues and impacts arise, they are incorporated into the response priorities and addressed during subsequent operational periods.

The Public Information Officer (PIO) prepares a daily press release from the situation status reports prepared by the command staff. The PIO and Claims Specialists begin to field complaints and claims.

The spill response requires approximately 12 days to complete. The impacted shorelines areas around Fleming Key will have to be monitored for viability and potentially have to be restored if the damage from the fuel is permanent. KWPC Facility site remediation and cleanup continues for approximately four months. The facility is operational within 21 days for all but Tank 2, which takes 6 months to repair. The probability of this event causing a chain reaction of failures is high due to the extensive damage form this severe weather related event. To address this possibility, KWPC will thoroughly assess and repair all affected tanks and piping systems in accordance with appropriate industry standards.

SECTION X: WASTE MANAGEMENT

A. TRANSFER, STORAGE, AND DISPOSAL OF WASTES

Depending on the size of an oil spill, the various quantities of waste materials generated would range from oil spill clean-up wastes to miscellaneous wastes from ancillary activities. These wastes can vary from oily debris and sorbent materials to domestic wastes, used batteries, and sorbents. All of these wastes need to be classified, segregated, and separately transported from the site, and treated and/or disposed of at (an) approved disposal site(s). The **QI** is responsible for managing waste disposal operations for Level I (small) spills. Disposal operations related to larger spills will be managed by the Waste Management Unit Leader within the Spill Management Team.

B. CHARACTERIZATION OF WASTES

Both liquid and solid or semi-solid wastes will be generated during response operations. These wastes may further be characterized as oily or non-oily wastes. In addition, some hazardous wastes may also be generated. A summary of the types of response operations that are likely to generate these waste streams is provided below.

C. OILY LIQUID WASTES

Oily liquid wastes (i.e., oily water) that would be handled, stored, and disposed of during response operations are very similar to those generated during routine operations at the KWPC facility. The largest volume of oily liquid wastes would be produced by on-water and on-land recovery operations (e.g., through the use of skimmers and/or vacuum devices). In addition, oily water would be generated by vessel and equipment cleaning operations.

D. NON-OILY LIQUID WASTES

Response operations would also produce non-oily liquid wastes such as petroleum contact water. If recovered oil goes through a separation process, the

wastewater produced may be of a quality that meets federal and state standards to be considered a non-oily liquid waste. Water quality testing would be required to make this determination. In addition, water and other non-oily liquid wastes would be generated by the storage area and vessel and equipment cleaning (i.e., water contaminated with cleaning agents).

E. OILY SOLID/SEMI-SOLID WASTES

Oily solid/semi-solid wastes, which would be generated by containment and recovery operations, include damaged or worn-out booms, uncleanable equipment, used sorbent materials, saturated soils, contaminated beach sands, and other debris. In addition, wildlife capture, cleaning, and rehabilitation operations would produce oiled carcasses, and oil-soaked sorbent materials.

F. NON-OILY SOLID/SEMI-SOLID WASTES

Non-oily solid/semi-solid wastes would be generated by office and field operations (i.e., domestic waste refuse). Vessel, vehicle, and aircraft operations would also generate solid wastes. Wildlife capture, cleaning, and rehabilitation operations would produce both medical wastes and food wastes.

G. HAZARDOUS WASTES

Small amounts of hazardous wastes could be generated by various aspects of response operations. For example, vessel, vehicle, and aircraft operations may result in used batteries waste and may require the use of solvents, both of which may be hazardous wastes when disposed. When product and impacted materials and debris are identified as hazardous waste and placed in containers or tanks for storage, the containers may be stored up to 90 days without a permit unless an extension is issued by the FDEP. In addition, recovered product and impacted materials and debris that are identified as hazardous must be stored in containers or tanks that meet the requirements of 40 CFR 265 Subparts I and J, respectively. An empty AST with secondary containment is adequate for storage of recovered liquids such as product, impacted water, and decontamination

water. Drums stored within a secondary containment are adequate for container storage of impacted materials and debris such as contaminated soils or fuel soaked adsorbent pads and booms. All tanks and containers used to store hazardous waste are required to be clearly marked and labeled as "hazardous waste". The label will include the time in which accumulation began. The storage and secondary containment areas are inspected daily and records made of the inspection.

H. SEGREGATION OF WASTES

A system for managing the segregation of wastes generated during response operations will be established in the field. Wastes will be segregated according to type at the time of cleanup to facilitate disposal. Segregation techniques will ensure that:

- Personnel can readily identify waste materials present in their work areas;
- Personnel can readily identify waste materials that they are handling;
- Appropriate wastes are transported in proper containment units;
- Appropriate wastes are shipped to proper temporary storage areas; and
- Appropriate wastes are shipped to proper disposal facilities.

Waste segregation techniques that would be employed include: designating specific containers to handle specific wastes; labeling containers; using color-coded poly bags; and/or designating specific areas for the temporary placement of specific wastes.

I. STORAGE AND DISPOSAL PROCEDURES

During an oil spill incident, the volume of oil that can be recovered and dealt with effectively depends on the storage capacity available. Storage methods that will be employed depend on:

- The type and volume of material to be contained;
- The type of contaminants present, if any;
- The duration of storage;
- The environmental setting;
- Access; and
- The proximity to public areas.

Wastes generated for Level I oil spills will temporarily be stored at the KWPC bulk storage facility. Typical short-term storage options are summarized in Table X-1. The majority of these options can be used either on-land or on-water. Storage containers, such as bags or drums, would be clearly marked, labeled, and/or color-coded to indicate the type of material/waste contained and/or the ultimate disposal option. The following is a brief description of the potential wastes that may be generated and the disposal options available.

Recovered Product

Recovered product or oily-water will initially be stored in the (b) (7)(F) [redacted]. If additional storage is needed, following receipt of permission from KWNAS, the (b) (7)(F) [redacted] JP-5 tank may be used if it is empty or if its product can be pumped into one or both of the two KWPC (b) (7)(F) [redacted] Also, other temporary storage containers such as frac tanks, portable tanks, or barges would be brought on site to properly manage the volume of waste storage capacity needed. These storage units are available within the tier planning times. A list of vendors capable of providing waste storage containers is provided in Table X-2.

Contaminated Soil

Petroleum contaminated soil would be placed in roll-off boxes or in a bermed area underlain by Visquene, a plastic liner if necessary. This bermed area would be constructed onsite and would also be covered with Visquene. Representative

soil samples of the contaminated soil would be collected and submitted to a laboratory for the analyses. Upon receipt of analyses, this soil would be properly disposed of at one of the facilities listed in Table X-4 using one of the waste transporters, identified in Table X-3.

Contaminated Equipment and Materials

Contaminated equipment that may be generated includes drums, tank parts, valves, and shovels. If catastrophic failure of the tanks is involved, and tank parts and valves need to be disposed of, the parts will be steam cleaned and stored onsite on Visquene. The minimal water generated during steam cleaning processes will collected and disposed of off-site. Shovels will be steam cleaned and reused. Drums used to contain contaminated equipment/materials will be disposed of in similar fashion to the most recent contents of the drum (i.e., if the drum last contained waste oil, it will be disposed of as an empty waste-oil drum).

Personnel Protective Equipment

Personnel protective equipment that may be generated during spill containment and cleanup include spent respirator cartridges, Tyvek suits, coveralls, etc. Spent personnel protective equipment will be stored in 55-gallon drums. These drums will be clearly marked, sampled and stored onsite. Upon receipt of the analytical results, these wastes will be sent to one of the destruction facilities or to a licensed landfill identified in Table X-4, if thermal treatment is not an option.

TABLE X-1					
SHORT TERM STORAGE OPTIONS					
CONTAINER	**ONSHORE**	**OFFSHORE**	**SOLIDS**	**LIQUIDS**	**NOTES**
Frac Tanks	•			•	Consider road access.
Drums	•	•	•	•	May require handling devices.
Tank Trucks	•	•		•	Consider road access onshore. Barge mounted offshore.
Roll Off Boxes	•		•		Require impermeable liner and cover. Consider flammability of any vapors.
Barges		•	•	•	Liquids only in tanks. Consider venting of tanks.
Oil Storage Tanks	•	•		•	Consider problems of large volumes of water in oil.
Bladders	•	•		•	May require special hoses or pumps for oil transfer.
Trenches	•	•	•	•	Liner(s) required.

TABLE X-2 Frac Tanks/Roll-off Boxes	
Company	**Services**
Baker Tank (813) 719-8997	Frac Tanks, Roll-off Boxes, Dewatering Boxes, Phase Separators, Pumps, Filtration Systems, Portable Tanks
Waste Management (305) 296-8297	Roll-off Boxes

TABLE X-3					
WASTE TRANSPORTERS					
COMPANY NAME	PHONE NUMBER	METHOD OF TRANSPORT	WASTE TYPE		
			HAZARDOUS		
				OIL/OILY WATER	SOLID WASTE
Atlantic Industrial Services Environmental	(954) 689-3730	Bulk Trailers Vacuum Trucks Dump Trucks		X	X
Clark Environmental	(800) 276-2187	Vacuum Trucks Dump Trailers	X	X	X
Clean Harbors	(863) 533-6111	Vacuum Trucks Tanker Trucks	X	X	X
Diversified Environmental Services	(800) 786-3256	Vacuum Trucks		X	X
JAM Environmental Services	(954) 788-3711	Vacuum Trucks Box Truck		X	
Perma Fix Environmental	(954) 583-3795	Tanker Truck	X	X	
Rinker Materials (Miami)	(800) 226-7647	Dump Truck			X
FCC Environmental	(800) 282-9585	Bulk Trailers Vacuum Trucks Dump Trucks		X	X
SWS	(866) 797-3447	Vacuum Trucks Tanker Trucks Drum Trucks Box Trucks	X	X	X
World Petroleum	(954) 327-0724	Tanker Truck		X	

TABLE X-4					
SOIL TREATMENT (THERMAL DESTRUCTION) AND DISPOSAL FACILITIES					
COMPANY NAME	PHONE NUMBER	WASTE TYPE			
		LANDFILL/ THERMAL DESTRUCTION PETROLEUM CONTAMINATED SOILS	OILY DEBRIS	OILY WATER	SORBENT MATERIAL
Dade County Resource Recovery Facility 8675 N.W. 53rd Street Miami, FL 33166	(305) 593-7107	Thermal Destruction			
C. A. Myers Paving and Construction P.O. Box 55727 Orlando, FL 32855	(407) 877-3609	Thermal Destruction	No	No	No
CEMEX 1200 N.W. 137th Ave. Miami, FL 33182	(800) 226-7647	Thermal Destruction	Yes	Yes	Yes
Clark Environmental Mulberry, FL	(800) 276-2187	Thermal Destruction	Yes	Yes	Yes
South Dade Landfill Metro Dade County Waste Management	(305) 594-1500	Non Haz Landfill	No	No	Yes
Waste Management, Inc. Pompano Beach, FL 33073	(954) 974-7500	Non Haz Landfill	No	No	Yes
Waste Management, Inc. Medley	(305) 883-7670	Non Haz Landfill	No	No	Yes

Decontamination Solutions

Anticipated decontamination solutions include waste generated from steam cleaning operations, isopropyl alcohol, etc. Liquid generated from steam cleaning operations will be routed through the oil water separator. Spent isopropyl alcohol will be collected in plastic containers and labeled. Large quantities of spent isopropyl alcohol will be stored in labeled 55-gallon drums. An analytical sample will be collected and analyzed. Upon receipt of the analytical results, a determination will be made as to whether the waste is hazardous or non-hazardous. For hazardous waste, a manifest for hazardous

waste transportation and disposal will be filled out and signed by the generator and transporter. A copy of this will be sent to FDEP. FDEP will enter the manifest into their system. Non-hazardous waste will be transported and disposed of at a licensed non-hazardous disposal facility.

Adsorbents

Spent adsorbents generated will be placed in 55-gallon drums or roll-off boxes. Representative analytical samples will be collected and analyzed and upon receipt of the analytical results, these adsorbents will be transported to any one of the landfills or thermal destruction facilities identified in Table X-4.

Spent Chemicals

Spent chemicals, cleaning agents for wildlife cleaning and rehabilitation operations, and other related activities will be contained in 55-gallon drums. The types of wastes will be segregated, e.g., wildlife cleaning and rehabilitation wastes in one set of drums, spent motor oils and lubricants in another set of drums, etc. Analytical analyses will be conducted on these separate sets of waste, and based on the analytical results, these wastes will be disposed of accordingly. Based on the analytical results, these wastes will be transported to a licensed disposal facility.

J. TRANSPORTATION PROCEDURES

Before transporting materials identified as hazardous waste, the waste is packaged for transportation in accordance with DOT regulations on packaging (49 CFR 173, 178, and 179). Each package is labeled and marked, and the vehicle is placarded in accordance with DOT regulations (49 CFR 172). The hazardous waste shipment is manifested and enough copies made to supply the generator, each transporter, and the receiving facility. The receiving facility needs a minimum of two copies so one may be returned to the generator following receipt and ultimate disposition of the waste. Manifests are typically provided by the licensed hazardous waste transporter and/or disposal facility.

Hazardous waste will only be shipped by a licensed hazardous waste transporter to a licensed hazardous waste disposal facility. Non-hazardous wastes will be transported by licensed non-hazardous waste transporter and disposed of at a licensed or approved solid waste treatment and/or disposal facility. All residue of recovered product and impacted material or debris identified as hazardous waste is removed from the temporary storage facility within 90 days unless otherwise authorized by FDEP. If the recovered fuel has commercial value (i.e., burned) for energy recovery in boilers and industrial furnaces that are not regulated as hazardous waste incinerators, then the waste fuel is a recyclable material regulated under 40 CFR Part 266 and is not a hazardous waste by the ultimate user

K. DISPOSAL PROCEDURES

The prerequisite to most disposal companies accepting waste (whether thermally treated or land-filled) is analytical analyses, which should be conducted by a NELAP (National Environmental Laboratory Accreditation Program) lab. Table X-5 describes the generic analytical requirements for disposal.

A number of options exist for disposal of wastes resulting from an oil spill. Whether an option is appropriate will be dependent upon the following characteristics of the waste targeted for disposal:

- Solid or liquid.
- Oily or non-oily.
- Hazardous versus non-hazardous. (Note: some waste testing may be required.)

Clean up and disposal of petroleum and petroleum contaminated soils will be conducted in accordance with the requirements in Chapter 62-770, Florida Administrative Code (FAC) or Chapter 62-780, FAC, as appropriate.

TABLE X-5
GENERIC ANALYTICAL REQUIREMENTS FOR DISPOSAL
WASTE OILS-WASTE FUELS
1. EPA Method 601 2. EPA Method 602 3. 8 RCRA Metals Totals (Arsenic, Barium, Cadmium, Chromium, Lead, 4. Mercury, Selenium, Silver). 5. Total Halogens 6. Percent Water (%) 7. Flash Point (^{o}F) 8. Percent Solids (%)
OILY WASTE WATERS
9. EPA Method 601 10. EPA Method 602 11. RCRA Metals (Total) 12. Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Silver, Selenium. 13. Total Chlorides 14. Total Organic Carbon (TOC) 15. Percent Solids (%)
CONTAMINATED SOILS/SLUDGES
16. VOH (Volatile Organic Halocarbons) – EPA Method 8010 17. VOA (Volatile Organic Aromatics) – EPA Method 8020 18. TRPH (Total Recoverable Petroleum Hydrocarbons) – EPA Method 9073 19. Total Metals (Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver) 20. Total Organic Halides - EPA Methods 9056, 9252, 9253 21. Percent Solids (%)

L. RECYCLING

Any fuel, oily-water or petroleum contact water that is collected during the response and recovery operation will be recycled at an approved vendor. The liquid will be transported by a qualified vendor listed in Table VIII-3.

M. TREATMENT

The State of Florida has no permitted land disposal facilities designed to accommodate hazardous wastes or significant petroleum contaminated residues. The State proposes that residue from coastal cleanup be staged in the contaminated area on synthetic, flexible membrane, liner material until (a) disposal option(s) can be agreed upon. The State's guidance is that thermal

destruction of residue, in most cases, is the most cost-effective option. Thermal destruction will be carried out by:

- Municipal solid waste combustors;
- Stationary thermal treatment facilities; and
- Mobile incinerators.

The following factors will determine which facilities or a combination thereof will be utilized:

- Location of spill;
- Product spilled;
- Quantity of oil that comes ashore;
- Type(s) of coastal environment(s) impacted; and
- Type(s) of residue(s) to be disposed of and how contaminated the material is.

The State recommends the following:

- Heavily contaminated residue such as sorbent pads, seaweed, and debris should go to solid waste combustors. With operating temperatures approaching 1800°F, these facilities can blend the residue in with the solid waste and effectively destroy it. As a side benefit, most of these facilities recover energy in the form of steam or electricity so that some resource recovery is accomplished in the process. These facilities cannot, however, handle residue containing a great deal of sand or soil. Fine-grained materials will fall through the grates in the combustor burner and foul machinery at the Terminal.
- Contaminated soils should be disposed of at one of the thermal treatment facilities located in the state. These facilities are either rotary kilns or asphalt dryers and are designed to process fine-grained materials. Depending on their intended primary use, such as cement production, clay processing, or asphalt drying, they operate at varying temperatures and have different throughput capacities. The choice of which to use will depend on location, how contaminated the soils are, and the capacity of the facility. Soils greatly contaminated with heavy petroleum should go to treatment facilities with higher operating temperatures. Once the soil is treated to the standards established by FDEP, it can be sold as clean fill. In the event that the total halogen content is too high and incineration is not an option, contaminated soil will be disposed of at a state-approved landfill.

SECTION XI: DISCHARGE PREVENTION MEASURES

This section addresses the Spill Prevention, Control and Countermeasure (SPCC) plan components for the KWPC bulk storage facility. The KWPC bulk storage facility information presented in this section is summarized below:

- KWPC facility's conformance with the SPCC requirements;
- Bulk storage and non-bulk storage containers;
- Containment and diversionary structures;
- KWPC facility tank truck loading/unloading & facility transfer operations;
- Discharge prevention measures;
- Conformance with applicable requirements & other effective discharge prevention & containment procedures;
- KWPC facility drainage;
- Discharge potential;
- Discharge reports;
- Integrity testing & brittle fracture evaluation;
- Inspections; and
- Site security;

A. FACILITY'S CONFORMANCE WITH SPCC REQUIREMENTS

Federal regulation 40 CFR Part 112 requires facilities that store, transfer, use or consume oil to prepare a SPCC Plan (Plan) if a spill at the facility can impact navigable waters of the United States or adjoining shorelines and if the total aboveground oil storage capacity exceeds 1,320 gallons. Since the KWPC facility meets these criteria, the following Plan has been prepared to conform with the SPCC requirements in 49 CFR 112 and will remain at the KWPC Office for review by the USEPA and KWPC facility employees.

This Plan is designed to reduce the risks associated with the storage and transfer of oil and to reduce the potential impacts from an unplanned sudden or non-sudden release of oil from the KWPC facility. In the event of a discharge of oil in "harmful

quantities" into or upon navigable waters or adjoining shorelines from the KWPC facility, the Combined Plan will immediately be implemented. For purposes of this Plan, oil includes petroleum-based fluids and JP-5 jet fuel. "Harmful quantities" is defined as a discharge of oil that violates applicable water quality standards or that causes a film, sheen or discoloration of the surface of the water. Changes in the operations, processes, or facilities described in the Combined Plan will be noted in the appropriate reference sections of the Combined Plan within six months of the change. If operational or structural changes are made at the KWPC facility that affect the storage or transfer of oil, or if changes are made to the specific spill prevention measures described within this Combined Plan, then a review of these changes will be made and noted in the Combined Plan. A review of this Combined Plan will be completed at least once every five years. Changes to the Combined Plan, other than administrative changes, will be reviewed and certified by a registered professional engineer.

B. BULK STORAGE AND NON-BULK STORAGE CONTAINERS

Bulk Storage Containers

The KWPC facility has three ASTs storing JP-5 Jet Fuel and one AST containing water bottoms. A listing of all storage containers, their contents and capacities are provided in Table XI-1. Figure I-3A shows the location of these ASTs. Based on the shell capacity of the ASTs as provided in Table XI-1, the total oil storage capacity at the[(b) (7)(F)]. However, each AST has a maximum fill level, which is less than the shell capacity of each tank as indicated in Table XI-1 below. All of the ASTs have been provided with overfill protection. The three JP-5 storage tanks are equipped with digital gauges and electronic level indicators while the AST used for the storage of water bottoms has a manual gauge.

Compatibility

The aboveground JP-5 fuel ASTs have floating roofs and are constructed of steel in accordance with the American Petroleum Institute (API) Standard 650 for welded steel tanks for fuel storage. The FSII Tank is a double-walled steel tank compatible with storing the anti-icing liquid. The water bottoms tank is a double walled steel tank compatible with storing water and fuel. The ASTs in use at the KWPC facility are constructed of materials compatible with the substances stored. Tank and piping metal exposed to the elements are protected from corrosion by appropriate paint coatings.

Table XI-1

Bulk Oil Storage Containers at Key West Pipeline Company

Contents	(b) (7)(F)	Tank Type/Date of Installation	Tank Integrity Test Date	Leak Detection System/ Alarm	(b) (7)(F)
JP-5 Fuel		Single-Walled Floating Roof Steel AST/1963	February 2009	Digital Gauges & Electronic Level Indicators	
JP-5 Fuel		Single-Walled Floating Roof Steel AST/1963	January 2007	Digital Gauges & Electronic Level Indicators	
JP-5 Fuel		Single-Walled Floating Roof Steel AST/1963	February 2008	Digital Gauges & Electronic Level Indicators	
Water Bottoms		Double-Walled Fixed Roof Steel AST/1999	July 2006	Monthly Inspection/ Manual Gauge	

Portable Oil Storage Containers

The only portable bulk storage containers located at the KWPC facility are 55-gallon drums containing used oil filters. These containers are stored temporarily

at the facility on pallets with secondary containment sufficient to contain the capacity of the 55-gallon drum.

Heating Coils

There are no heating coils fitting this definition in use at this facility, therefore 40 CFR 112.8(c)(7) is not applicable.

Underground or Partially Buried Storage Tanks

KWPC does not operate any underground storage tanks (USTs) or any partially buried storage tanks at the KWPC facility. One partially buried double-walled slop tank approximately 100-gallons in capacity is periodically used to drain filters and piping manifolds. The slop tank is located within the pump, meter and filter building at the KWPC bulk storage facility. The fuel is immediately transferred from the slop tank to the pipeline following maintenance on the filters. Fuel is not stored in the slop tank.

Buried Piping

The underground portions of the 12-inch pipeline which runs from Pier 2 to the KWPC ASTs and the 4-inch delivery pipeline from the KWPC facility to the KWNAS Boca Chica tank farm have a protective coal tar wrap and are protected with an impressed current cathodic protection system. The Coast Guard regulated pipeline is located mostly aboveground except where it crosses three roadways on the USCG Sector Key West installation, one roadway at the Trumbo Point Tank Farm and goes through three separate secondary containment berms within the KWPC bulk storage facility. Each underground section of pipeline is double-walled with interstitial monitoring ports. The interstitial space is also provided with a nitrogen cap for corrosion protection.

Three rectifiers impart current to the KWPC pipelines and facilities. One rectifier is located at the pump, meter, and manifold building at the KWPC bulk storage facility one rectifier is located along the 4-inch delivery pipeline at the western

boundary of the KWNAS at Boca Chica, and one is located in the KWPC office building. The cathodic protection system is tested once every month. In case of the loss of electric power, a backup cathodic protection mechanism in the form of magnesium rods is provided. All pipelines from the loading dock and within the KWPC bulk storage facility are pressure tested annually. The most recent testing date is stenciled on the pipelines. Results of cathodic protection and pressure testing are kept on file at the KWPC facility.

During standby (no fuel receiving or delivery) all pipelines are kept full. The total volume of fuel contained in the pipelines during standby is as follows:

Table XI-2
Volume of Fuel in Pipeline Segments

Pipeline Section	Volume of Pipeline in Gallons
12-inch aboveground offloading pipeline on Pier D-2	2,500 Gallons
6-inch extension of 12-inch aboveground off-loading pipeline	127 Gallons
2 fuel skids (75 gallons each)	150 Gallons
12-inch aboveground pipeline from Pier D-2 to KWPC bulk storage facility	8,998 Gallons
4-inch delivery pipeline from KWPC bulk storage facility to KWNAS Boca Chica tank farm.	26,613 Gallons

Pipe Supports

Aboveground portions of the pipelines on Pier D-2 are supported with independent steel supports to allow for expansion and contraction. These supports have smooth steel surfaces to prevent abrasion. At each pipeline support, Syntho-Glass® has been added to the pipeline segment to prevent erosion from the contact between pipeline and pipeline support structures. Syntho-Glass ® is a high strength composite material that is wrapped tightly around the pipeline segment and is secured to the pipeline using a fast-curing strong adhesive. From the east end of the dock to the terminus of the 12 inch

line, the supports are independent galvanized pipe stands welded to the pipe, set on concrete piers with slip joints to allow for expansion and contraction.

Non-Bulk Storage Containers

There are no non-bulk storage containers located at the KWPC bulk storage facility.

Throughput Analysis

The expected average daily throughput of the JP-5 Jet Fuel contained onsite is provided below:

PETROLEUM PRODUCT	DAILY THROUGHPUT (GAL)
JP-5 Jet Fuel	100,000 Gallons

C. FACILITY LOADING/UNLOADING & TRANSFER OPERATIONS

Facility Transfer Operations

KWPC receives JP-5 fuel from tankers, which moor and off-load at Pier D-2, located approximately 1,000 feet west of the Trumbo Point tank farm (See Figure I-3B). The JP-5 fuel is off-loaded through an 8-inch flexible hose connected to a 12-inch steel aboveground pipeline, which runs along the north edge of the pier. At the east end of the pier, the 12-inch steel aboveground pipeline continues east. It connects to (b) (7)(F) floating roof storage tank (Tank 1) and to (b) (7)(F) roof storage tanks at the KWPC bulk storage facility.

Upon request by Key West NAS, JP-5 fuel is transferred from the KWPC ASTs to ASTs at the KWNAS tank farm located on Boca Chica Key. The JP-5 fuel is transferred from the ASTs to the manifold building where it is filtered, metered and then pumped to the tank farm on Boca Chica Key via a 4-inch pipeline. The readings on the two meters are automatically compared and if the difference is

greater than 4 gallons, a light and audio alarm are activated at the KWPC Office. If the difference becomes more an 8 gallons, a second light is activated.

The 4-inch fuel delivery pipeline from the Trumbo Point tank farm to the Boca Chica tank farm begins after the pump, meter, and filter manifold building east of the KWPC ASTs. The pipeline runs underground from just outside of this building along Fleming Road, then east along the shoreline just west of the old seaplane ramp (See Figures I-3 D&E for pipeline location). The pipeline then enters the water and runs underwater, paralleling Roosevelt Boulevard, to Stock Island. A small section of the pipeline exists aboveground just landward on Stock Island, in a locked, fenced, steel cage. One in-line gate valve is locked open at this aboveground location. The inline valve permits sections of the 4-inch pipeline to be isolated. Pipeline draw-offs are located on both sides of the in-line valve. The pipeline draw-offs allow a section of the 4-inch pipeline to be emptied, if necessary.

The terminal end of each draw-off has a gate valve locked closed and a blank flange. The pipeline then runs east underground along Junior College Road up to the Overseas Highway (US 1), then along the north side of US 1 until approximately mile marker 4.7. The pipeline then crosses underneath US 1, going south, then continues west along US 1 to Boca Chica Channel. The pipeline crosses Boca Chica Channel under water. Another small section of the pipeline exists aboveground just landward of Boca Chica Key on property owned by KWPC. An in-line ball valve is locked open on the pipeline at this aboveground location. A pipeline draw-off is located adjacent to this in-line valve. This pipeline draw-off allows the section of pipeline between the in-line valve and the KWNAS Boca Chica tank farm to be emptied if necessary. The terminal end of the draw-off has a gate valve locked closed and a blank flange. A check valve is also located within the aboveground segment of the pipeline on Boca Chica. The pipeline then runs underground to the KWNAS Boca Chica tank farm. At the KWNAS Boca Chica tank farm, the pipeline enters a second

meter and filter building operated by KWPC prior to entering the Navy's Boca Chica manifold and ASTs. A release from the delivery pipeline will discharge to the land surface, Fleming Channel, the water surface of Florida Bay, Cow Key Channel, Boca Chica Channel, or underground depending where the pipeline leak or rupture occurred. The maximum transfer rate, and therefore the maximum rate of a potential release from the delivery pipeline, is 375 bbl/hr. A KWPC employee at the KWPC facility is in contact with KWNAS personnel at the Boca Chica tank farm hourly during fuel transfer operations.

The pump, meter, and filter manifold building at the KWPC bulk storage facility is underlain by a covered, epoxy sealed concrete, secondary containment structure. Any water entering the building is removed through a manually operated drain valve after careful inspection for sheens. The meter and filter manifold building at the Boca Chica tank farm has an epoxy sealed concrete bermed area below the pumps, meter, and filter manifolds. This bermed area is primarily for capturing small fuel releases from the equipment during maintenance or repairs. If a release occurred at this location, the concrete berm area could contain approximately 500 gallons of fuel. The maximum transfer rate and therefore the maximum rate of a potential release from the manifold areas is 375 bbl/hr. The Combined Plan will be implemented in the event of a release from this pipeline.

Tank Truck Loading/Unloading Operations

There is one tank truck loading/unloading area at the KWPC bulk storage facility which can be used to unload JP-5 Jet Fuel if necessary. The tank truck loading/unloading area is used very infrequently as transfer operations primarily occur by pipeline. The location of the truck loading/unloading area is presented in Figure I-3A. Tank truck loading/unloading procedures meet the minimum requirements and regulations established by the Department of Transportation (DOT).

The tank truck rack has a concrete pad and berm on which the entire tanker is parked during fuel transfers. The concrete berm is approximately 3 inches high with a capacity of approximately 959 gallons. The berm is drained by a 2-inch line and two valves which are normally kept closed, especially when transferring fuel. Drain valves are opened after rainfall only subsequent to inspection and confirmation that no fuel or sheen is visible.

The tank truck rack is equipped with a grounding wire and clamp to provide a common ground for the tank truck and fueling equipment. The tank truck is parked on the truck rack by the driver who leaves the truck prior to loading/unloading operations. The tank truck loading/unloading operations are conducted by KWPC personnel. Fuel transfer operations occur through aboveground unloading hoses that are designed to minimize abrasion during transfer operations.

To prevent vehicles from departing before disconnection of oil transfer hoses, spill prevention techniques provide for:

- The setting up of barriers or warning signs to prevent a truck from leaving before the completion of unloading.
- Placing wheel chocks on truck tires to prevent vehicle movement during unloading.
- Closely inspecting lowermost drain & all outlets for discharges
- Ensuring truck drains/outlets are tightened, adjusted or replaced as needed

Measures taken to prevent spills prior to, during, and after unloading include:

- Prior to unloading: Oil levels are verified, connections are rechecked, and hoses are examined for integrity. Signs are posted warning all vehicular traffic operating in transfer area to use caution.
- During unloading: Only trained personnel authorized to conduct the transfer are used. The transfer and pumping system is continually monitored for leaks and the oil level in the receiving container is frequently monitored to prevent overfilling.

- After unloading: The transfer hose is properly drained and disconnected and all tank truck drains and connections are checked for proper closure prior to departure.

D. CONTAINMENT AND DIVERSIONARY STRUCTURES

Secondary Containment

To control spills, KWPC employs the following containment and diversionary structures, which are sufficiently impervious to prevent oil spills from reaching navigable waters. These prevention and containment measures are described below.

Each of the three large ASTs (KWPC Tanks 1, 2 and 3) is surrounded by a secondary containment system constructed of earthen berms. Additionally, these tanks have been retrofitted with a steel double bottom to provide secondary containment beneath the tanks. Tank 1 consists of a steel bottom on a concrete ring. The steel bottom is covered with an 80 mil impermeable liner then sand and then another steel bottom over the sand. Tanks 2 and 3 are constructed similarly except concrete, instead of sand, is placed between the upper steel bottom and the 80 mil liner. The interstitial space of sand and concrete can be monitored for leaks. The secondary containment areas around each tank have a capacity to hold 110 percent of the contents of the largest single tank (see Table XI-1 for secondary containment capacities). The FSII Tank is double walled and is located within the secondary containment area around Tank 3. The water bottoms holding tank is double walled and is located within the secondary containment area around Tank 2. This tank has been coated with an epoxy coating on the tank bottom and 18 inches up the sides of the tank. Though the earthen bermed secondary containment areas around each tank prevents a sudden release of fuel to a navigable waterway, the ground surface within the secondary containment areas is native limestone and sand, which is quite permeable. The permeability of the ground surface inside the secondary containment areas is evident by the quick percolation of rainfall such that a storm

water drain is not required to drain secondary containment areas. Fuel recovery measures must be undertaken quickly to limit the amount of fuel, which may seep into the subsurface.

The concrete retaining seawall between Fleming Channel and the KWPC facility has been inspected and repaired to prevent migration of fuel from a sudden release into the waterway. The retaining wall is a monolithic concrete wall running the length of the northern property boundary and Fleming Channel, approximately 825 ft long. The wall is a trapezoid in cross section with the top and base approximately 2 and 10 ft wide, respectively. The wall is set on competent rock and the height ranges from 12 ft on the eastern end to 18 feet on the western end, depending on the depth of the competent rock. The top of the wall is approximately 5.5 ft above MSL. The walls and berms were inspected by a registered engineer and found to form a complete preventative system and are sufficiently impervious to contain oil, meeting the containment requirements of 40 CFR 112.7(c)(1)(i). The retaining wall and earthen berms form a complete preventative system.

The pump, meter, and filter manifold building at the KWPC bulk storage facility is a covered, epoxy sealed concrete, secondary containment structure. Any water entering the building is removed through a manually operated drain valve after careful inspection for sheens. The meter and filter manifold building at the KWNAS Boca Chica tank farm has an epoxy sealed concrete bermed area below the pumps, meter, and filter manifolds. This bermed area is primarily for capturing small fuel releases from the equipment during maintenance or repairs. If a release occurred at this location, the concrete berm area could contain approximately 500 gallons of fuel. The maximum transfer rate and therefore the maximum rate of a potential release from the manifold areas is 375 bbl/hr.

The 8-inch flexible hose at the end of the fuel receiving pipeline used to connect to the tanker for offloading fuel on Pier D-2 has secondary containment. The

flexible hose lies inside a section of 16-inch steel pipe cut in half longitudinally, which drains to a concrete 20-foot by 14-foot rectangular bermed area approximately 8 inches deep. This bermed area is where the 8-inch flexible hose connects to the 12-inch off-loading pipeline and can contain up to 1,400 gallons of fuel. The hose and half section of pipe are covered with a tarp except at the connection to the 12-inch pipeline. The half section of pipe and concrete bermed area has the capacity to contain the entire contents of the flexible off-loading hose. As additional safety measures, valves at the dock are kept locked except during loading operations. KWPC personnel are on the dock supervising off-loading at all times. The flexible hose is emptied when the off-loading is complete.

E. DISCHARGE PREVENTION MEASURES

KWPC employs the following discharge prevention measures to reduce the likelihood of a release from occurring from any of the terminal's fuel unloading, storage or transfer systems.

To prevent tank overfills, the KWPC ASTs are monitored during filling operations by a tank gauger who is equipped with a hand held radio/Nextel phone and in communication with a person at the vessel monitoring transfer operations. The hand held radios/Nextel phones are intrinsically safe and allow the tank gauger to instruct the vessel transfer monitor or operator to shut off the vessel transfer pumps if problems arise. Each of the large KWPC ASTs are equipped with a digital liquid level gauge. Before and after filling the KWPC ASTs, the liquid level gauge reading is verified by actually gauging each KWPC AST through a gauging tube with a measuring tape and plumb bob. During filling operations, the site gauge is verified by visually observing the floating roof level. During FSII Tank filling operations, a KWPC employee is present next to the FSII Tank to ensure there is no overfill. A KWPC employee is also present next to the water bottoms holding tank when the tank is being drained to a tank truck.

In addition to the digital gauges, each large KWPC AST is equipped with electronic level indicators. (b) (7)(F) [redacted]

(b) (7)(F) [redacted]

The portion of the KWPC facility, which does not have secondary containment includes: the 12-inch aboveground pipeline running from Pier D-2 to the KWPC bulk storage facility and the 4-inch underground/underwater delivery pipeline to KWNAS Boca Chica. The likelihood of a large fuel release from the 12-inch aboveground pipeline during off-loading or fueling operations is small since the pipeline is visible to the tanker and off-loading/fueling operators. Tank gauges are read hourly during off-loading operations. If a discrepancy occurs in the tank gauge and off-loading rate, the fuel transfer is curtailed until reasons for the discrepancy have been verified. Meter readings from a meter at the KWPC bulk storage facility and the KWNAS Boca Chica tank farm are automatically compared during fuel transfers to Boca Chica. If a variance of greater than 4 gallons occurs between the two meter readings, a light and an audio alarm are

activated at the KWPC Office and the fuel transfer is curtailed until reasons for the discrepancy have been verified.

A summary of the terminal's prevention measures are as follows:

- Overflow protection is provided by means of High & High-High liquid level alarm systems, which are installed on tanks 1, 2 & 3. Alarms, which will sound in the terminal office to alert operations personnel when the level inside the tank reaches a predetermined level.
- Secondary containment has been constructed around all of the bulk storage tanks at the Terminal.
- Double-bottoms have been installed on KWPC Tanks 1, 2 & 3.
- Storage tank drain valves are locked in the closed position.
- Regular inspection procedures have been instituted to detect problems before they cause an oil spill incident (see Appendix C). Daily and monthly inspections are conduced on all aboveground tanks and pipelines. Internal tank inspections are conducted on KWPC Tanks 1, 2 & 3 in accordance with APIs 653 internal tank inspection standard.
- Transfer lines have been equipped with closure valves, which isolate the pipeline segments.
- Pipeline supports have been designed to minimize abrasion and corrosion.
- All MTR pipelines are pressure tested annually to detect releases and the cathodic protection on all pipelines is tested at least twice every year.
- KWPC personnel have been trained to use standard procedures during off loading/fueling operations.
- Tank trucks are inspected prior to unloading and after receipt.
- Containment is provided for the tank truck unloading area.
- Starter controls on all oil pumps at the KWPC bulk storage facility are located inside the fenced perimeter of the Trumbo Point Tank Farm and are accessible only to authorized personnel.
- A 7 -foot chain link security fence surrounds the entire site to meet safety and security requirements.

- Both the Trumbo Point Annex and the KWNAS Boca Chica are U.S. Government Military Reservations and are regularly patrolled by base security. Entrance gates at the terminal remain closed and locked when unattended.
- Adequate lighting has been installed at the KWPC bulk storage facility to permit surveillance of the facility.
- The KWPC bulk storage facility has an in-house team of oil spill response personnel and specific supplies of oil spill response equipment have been selected, purchased, and stored at the terminal for immediate use.

F. CONFORMANCE WITH APPLICABLE REQUIREMENTS & OTHER EFFECTIVE DISCHARGE PREVENTION & CONTAINMENT PROCEDURES

State of Florida Aboveground Storage Tank Regulation (Ch. 62-762 FAC)

The State of Florida has promulgated a rule governing the construction, operation and maintenance of aboveground storage tank systems. The intent of the rule is to minimize the occurrence and environmental risk of releases from these tank systems by requiring the installation and maintenance of cathodic protection systems for underground piping, overfill prevention, secondary containment, release prevention barriers, and release detection systems as described above. The rule also requires that inspections be performed of storage tank systems including their components. A more detailed discussion on inspections is provided in Section XI.L below.

The three large KWPC ASTs (Tanks 1, 2 and 3) are registered with the FDEP under Monroe County Facility Identification Number 8840883. The FDEP registration certificate was issued on June 26, 1993. Annual registration fees are submitted to the FDEP by July 1 of each year. KWPC has a Marine Terminal Operators Insurance Policy covering facility cleanup and third party liability resulting from a discharge at the KWPC facility. The liability coverage limits of

this policy are $3 million for each occurrence and $6 million aggregate. A copy of the insurance certificate is available at the KWPC Office.

G. FACILITY DRAINAGE

Appropriate secondary containment and/or diversionary structures and/or equipment is used by KWPC to prevent a release of petroleum products from reaching navigable waters of the United States or adjoining shorelines. The KWPC bulk storage facility is equipped with engineering controls to control drainage within the facility. As previously described in described in Section XI.E, each of the three KWPC ASTs is surrounded by a secondary containment system constructed of earthen berms. The secondary containment areas around each tank have a capacity to hold 110 percent of the contents of the largest single tank. The FSII Tank is double walled and is located within the secondary containment area around Tank 3. The water bottom holding tank is also double walled and is located within the secondary containment area around Tank 2. Additionally, a concrete retaining seawall exists between Fleming Channel and the KWPC bulk storage facility to prevent migration of fuel from a sudden release into the waterway. The retaining seawall is sufficiently impervious to contain any spilled fuel from migrating into Gulf of Mexico. The retaining seawall and earthen berms form a complete preventative system.

The KWPC bulk storage facility does not have or need drainage structures, dike drain valves or stormwater treatment systems to drain or treat stormwater from the secondary containment systems around the storage tanks. The native limestone and sand ground is very permeable allowing storm water to percolate immediately following a rainfall event. The only effluent from KWPC bulk storage facility is water-bottoms from the three KWPC ASTs. The water-bottoms are stored in a 20,000-gallon double-walled steel AST. When the level in the tanks reaches a certain level, the water bottoms are transported off-site by a licensed transporter to a licensed treatment and disposal facility. There are several

additional areas in the KWPC bulk storage facility that have secondary containment to control a discharge, they include:

- The truck loading/unloading area concrete berm is drained by a 2-inch line and two valves which are normally kept closed, especially when transferring fuel. Drain valves are opened after rainfall only subsequent to inspection and confirmation that no fuel or sheen is visible.
- The two epoxy sealed concrete bermed pads, one under the pump, filter and metering manifold at the KWPC bulk storage facility and one under the filter and metering manifold at the KWNAS Boca Chica tank farm, are completely covered by buildings. The buildings prevent rainwater from collecting within these concrete bermed pads.
- The off-loading hose secondary containment is inspected and drained of storm water following each rainfall event. The remaining facility drainage is onto the ground and percolates or sheet flows as governed by the soil conditions and topography.

Records of inspections and controlled discharges from any of the areas discussed above are kept on file at the facility.

The risks of a major spill at the KWPC bulk storage facility that reaches surface waters are associated with the potential occurrence of a hurricane related storage tank failure, or a pipeline failure. The occurrence of a Level III incident reaching surface waters, however, is unlikely, because of the secondary containment systems and discharge prevention systems which exist at the KWPC bulk storage facility and because of the policies, practices, and procedures described in Section XI.F of this Combined Plan.

H. DISCHARGE POTENTIAL

Spill Predictions

As described in Section XI.D & E above, the KWPC bulk storage facility consists of three major portions or segments as defined in the oil pollution prevention rules. The 8-inch off-loading hose, the aboveground portion of the receiving and transfer pipeline at Pier D-2, and the 12-inch receiving and transfer pipeline from Pier D-2 to the first valve inside the secondary containment at the KWPC bulk storage facility are considered a marine transportation related (MTR) facility or segment as defined by 33 CFR 154; the bulk storage facility consisting of the KWPC storage tanks (Tanks 1 through 5), truck loading rack, and filter system is considered the non-transportation related facility or segment as defined in 40 CFR 112; and the 4-inch pipeline from the KWPC bulk storage facility to the KWNAS (excluding the manifold and transfer pumps) is considered the on-shore transportation related pipeline facility subject to 49 CFR 194. Potential releases may occur from one of the three segments identified above either during transfer, storage, or delivery operations or weather related disaster. The highest probability of a release is during facility transfer operations. Weather related disasters are considered the next most likely cause of a release, such as hurricanes. During hurricane warnings, facility procedures to minimize release involve: the transfer of fuel between tanks to counteract inward forces on the tank shell during high water, stopping all transfers, and closing all valves.

The following paragraphs discuss the normal operating procedures for predicting where releases may occur. Table XI-4 below provides an abbreviated list of potential type, volume, and rate of significant releases for each segment of the KWPC facility.

Table XI-4

Spill Potential Analysis For Equipment Failure

(b) (7)(F)

SOURCE	TYPE OF FAILURE	SPILL RATE	DIRECTION OF FLOW	CONTAINMENT/ DIVERSIONARY STRUCTURE OR EQUIPMENT
KWPC ASTs	Collapse/ Rupture	25,000 to 55,000 barrels (778,431 to 2,001,132 gallons)	Into Secondary Containment, Land Surface or Below Ground	Secondary Containment
KWPC ASTs	Overfill	7,500 barrels/hour	Into Secondary Containment, Land Surface or Below Ground	Secondary Containment
Receiving Pipeline from Tanker	Line Rupture	7,500 barrels/hour (315,000 gallons/hour)	Water Surface Around Pier, Land Surface or Below Ground (Direction of Flow Depends on Where the Leak or Rupture Occurs)	Combined Plan
Delivery to KWNAS (Boca Chica)	Line Rupture	375 barrels/hour (15,750 gallons/hour)	Florida Bay, Land Surface or Below Ground (Direction of Flow Depends on Where the Leak or Rupture Occurs)	Combined Plan
Pumps, Meter and Filter Manifold Areas	Line Rupture	375 barrels/hour (15,750 gallons/hour)	Land Surface or Below Ground	Combined Plan

MTR Segment

The MTR segment of the KWPC facility involves transferring JP-5 to or from the KWPC ASTs to or from Pier D-2. The KWPC ASTs (Tanks 1 through 3) are filled from a tanker moored at Pier D-2. The normal operating procedures for the MTR segment of the facility include:

- Filling the KWPC ASTs (Tanks 1, 2, and 3) from a tanker on Pier D-2 via the 8-inch hose and 12-inch pipeline at Pier D-2; and,
- Transferring fuel from a KWPC AST (Tanks 1, 2, and 3) to a vessel at Pier D-2 via the same pipeline.

The largest potential release from the MTR segment of the KWPC facility would occur during the filling of the KWPC ASTs from a tanker. Pumps located on the tanker provide the necessary pressure to transfer the JP-5 from the tanker to the KWPC storage tanks at a maximum rate of 315,000 gallons per hour (gph) (7,500 barrels per hour [bph]). Should the USCG request a JP-5 transfer from the KWPC ASTs to vessels at Pier D-2, the 12-inch pipeline, and two 3" fueling hoses will be used. Vessel fueling operations will be aided by one of three fueling pumps to be located on two dedicated fuel skids on Pier D-2.

Non-Transportation Segment

The non-transportation segment of the KWPC facility involves storage of the JP-5 in the KWPC ASTs at the KWPC bulk storage facility. Table XI-1 presents each tank identification, type, capacity, product stored, and date of installation. The normal operating procedures for the non-transportation storage segment of the KWPC facility include:

- Filling the KWPC ASTs (Tanks 1, 2, or 3) from the tanker;
- Transferring fuel from a KWPC AST (Tanks 1, 2, or 3) to KWNAS Boca Chica;
- Transferring fuel from a KWPC AST (Tanks 1, 2, or 3) to a vessel;

- Transferring fuel from one KWPC AST to another to provide capacity for receiving fuel and to conduct tank repairs;
- Transferring fuel from a KWPC AST (Tanks 1, 2, or 3) to a tanker truck;
- Transferring fuel from a tanker truck to a KWPC AST (Tanks 1, 2, or 3);
- Filling the FSII tank (Tank 5) from a tanker truck;
- Draining filters to replace fuel filter cartridges;
- Draining rainwater from the KWPC AST roofs;
- Transfer KWPC AST water bottoms to water bottoms holding tank (Tank 4);
- Gauging KWPC ASTs with steel measuring tape and plumb bob; and
- Transfer KWPC AST water bottoms from water bottoms holding tank to tanker truck.

The greatest potential release would occur from a KWPC AST failure; however, the KWPC ASTs (Tanks 1, 2, and 3) are surrounded by secondary containment systems designed and constructed to contain 110 percent of the maximum capacity of the largest single tank within its boundary. The second greatest release would most likely occur during fuel transfer operations via tank overfilling or pipeline rupture within the secondary containment area. Electronic gauges and overfill alarms on the KWPC ASTs (Tanks 1, 2, and 3) reduce the chance of overfilling the KWPC ASTs.

The next largest potential release volume would likely occur from tank truck transfer operations. The tanker truck unloading/loading rack is used very infrequently by KWPC. The tanker truck rack has a concrete pad and berm that the entire tanker truck is parked in during fuel transfers. The concrete berm is approximately 3 inches high with a capacity of approximately 500 gallons. The concrete berm is drained by two 2-inch lines and valves that are normally kept open except when transferring fuel.

Other potentially less significant discharges may occur during drainage of rainwater from the KWPC AST (Tanks 1, 2, and 3) roofs, transferring water bottoms, and filter changing operations. The KWPC AST roof drains are opened following each rainfall event during which rainwater collects on the roof, otherwise these valves are always kept closed. The KWPC AST roof drain valves are opened and the roofs drain within the secondary containment area around the KWPC ASTs. If a roof drain leak is observed during roof draining operations (as evidence by fuel discharging from the drain) and the roof drain valve malfunctions and cannot be closed, efforts will begin immediately to thread a new nipple and valve or end cap onto the KWPC AST roof drain valve to prevent further discharge of fuel. The fuel is then transferred from one KWPC AST to another until repairs are made. A potential leak under this scenario is a maximum of 2,500 gallons assuming the drain can be capped in 5 minutes. The potential release volume due to water bottoms transfer from the KWPC AST is considered to be very small due to the size and plumbing arrangement of the water bottom drains. These drains are also completely within the secondary containment areas. The potential release volume due to draining filters to the slop tank would also be very small since it should not exceed the volume of any single filter vessel (less than 250 gallons).

On-Shore Transportation Pipeline

The on-shore pipeline segment of the KWPC facility involves transferring JP-5 from the KWPC ASTs (Tanks 1, 2, and 3) to Key West NAS. Pumps located at the KWPC bulk storage facility provide the required pressure to transfer the JP-5 through the approximately 7.1 miles of 4-inch pipeline at a maximum rate of 15,750 gph (375 bph). The largest potential release scenario from this pipeline would be a pipeline rupture and draining of the entire contents of the pipeline.

The 12- inch receiving pipeline runs aboveground on Pier D-2 along the north edge of the pier. At the east end of Pier D-2, the receiving pipeline connects to a 12-inch aboveground pipeline that runs to the KWPC ASTs. A release from the

receiving pipeline would discharge to the land surface on top of the pier and the water surface adjacent to the pier depending where the pipeline leak or rupture occurred. The maximum transfer rate and therefore the maximum rate of a potential release from the receiving pipeline is 7,500 barrels per hour (bbl/hr) (315,000 gallons per hour).

In addition to the above, the portion of the KWPC facility which does not have secondary containment includes: the 12-inch aboveground off-loading pipeline and the 4-inch underground/underwater delivery pipeline to Boca Chica. The likelihood of a large fuel release from the aboveground off-loading pipeline during off-loading operation is small since the pipeline is visible to the tanker and off-loading operators. Tank gauges are read hourly during off-loading operations. If a discrepancy occurs in the tank gauge and off-loading rate, the fuel transfer is curtailed until reasons for the discrepancy have been verified. Meter readings from a meter at the KWPC bulk storage facility and the KWNAS Boca Chica tank farm are automatically compared during fuel transfers to Boca Chica. If a variance of greater than 4 gallons occurs between the two-meter readings, a light and an audio alarm are activated at the KWPC Office and the fuel transfer is curtailed until reasons for the discrepancy have been verified. The maximum potential rate of release from these facilities is presented above in Table XI-4. During standby (no fuel receiving or delivery) all pipelines are kept full. The total volume of fuel contained in the pipelines during standby is presented in Table XI-2.

I. DISCHARGE REPORTS

Should the KWPC facility experience a reportable oil spill (i.e. to “navigable waters”), the incident will be fully described in the Hazard Evaluation Section XII of the Combined Plan. The description of the incident will include date of incident, cause of the spill, corrective actions taken as well as measures necessary to prevent a recurrence as appropriate. Copies of any future incidents will be incorporated into Section XII of this Combined Plan. A report of an incident will

be submitted to the USEPA Region 4 Regional Administrator and the State of Florida Bureau of Emergency Response if any of the following criteria are met:

- Should the facility discharge more than 1,000 U.S. gallons of oil in a single discharge to navigable waters; or
- More than 42 U.S. gallons of oil in each of two discharges to navigable waters occurs within any twelve-month period.

J. INTEGRITY TESTING & BRITTLE FRACTURE EVALUATION

American Petroleum Institute (API) Standard 653, titled "*Tank Inspection, Repair, Alteration and Reconstruction"* is used to conduct internal and external integrity testing and brittle fracture analysis of the KWPC ASTs. Routine visual inspections for leaks, cracking, corrosion, coating failures, foundation condition, etc. are conducted on a monthly basis as described in the Appendix C. Internal and external inspections are performed in accordance with recommendations contained in API-653 utilizing a third party contractor.

Each KWPC field-erected tank also undergoes an external inspection in accordance with API 653 every five years in addition to a monthly visual inspection as described in the next section. Internal inspections are scheduled not to exceed every 10 years. A history of the internal inspections conducted on the KWPC field erected ASTs is provided below along with the next required inspection date for KWPC Terminal:

Table XI-5

STORAGE TANK INTERNAL INSPECTION SCHEDULE		
Tank Number	**Last Inspection**	**Next Inspection**
Tank 1	2009	2019
Tank 2	2007	2017
Tank 3	2008	2018

The KWPC ASTs have been exposed to the maximum fill level and coldest operating temperature, and based on the subtropical climate and operating temperature of the fuels stored it would be unlikely that a tank would see a shell temperature that could cause brittle fracture. Additionally, all of the KWPC ASTs have received their baseline API 653 inspections and are certified to operate for the current product service. There is no change of product service planned for any of the tanks based on the fuel consumption requirements of the facilities they serve. Therefore, based on the API 653 standard and the current service of the KWPC ASTs, the tanks are not likely at risk of brittle fracture.

KWPC typically does not perform field repairs on the aboveground tanks/containers that reduce their integrity. The tanks and containers are structurally sound and generally do not require field repairs. Integrity testing will not be performed on double-wall aboveground shop fabricated tanks, drums, or totes. Drums and totes will have a service life of less than 10 years and therefore will not require integrity testing.

If one of the KWPC large field-constructed ASTs (Tank 1, 2 or 3) undergoes a repair, alteration, reconstruction, or a change in service that might affect the risk of a discharge or failure due to brittle fracture failure or other catastrophe, the affected AST will be evaluated for risk of discharge or failure due to brittle fracture or other catastrophe, and repaired as necessary prior to putting the tank back into service. Such inspections are performed in accordance with API Standard 653.

History of Integrity Testing

On October 1, 1991, the floating roofs on each of the three KWPC ASTs were inspected by a tank consulting engineer licensed to practice in the State of Florida. Based on the inspection findings, recommendations were made to repair a leaking pontoon on KWPC Tank 3 roof and to completely abrasive blast and repaint all three KWPC AST roofs. Results of the tank roof inspection are

maintained on file at the facility. Subsequently, KWPC repaired the leaking pontoon as well as completely abrasive blasted, repaired excessive corrosion with new steel plates and painted the roofs of all three KWPC ASTs.

On January 13, 1993, the KWPC ASTs were inspected, and the shell thickness tested in an area on KWPC Tank 2, where corrosion damage was of concern, by Fluid Specialists, Inc. The minor items noted during that inspection have been addressed (changing 2 fire extinguishers and connecting a ground lug). The shell thickness on KWPC Tank 2 in the area of concern was found to be adequate for storage of JP-5 fuel. The results of the tank inspection and shell thickness testing are maintained on file at the facility.

An API Standard 653 inspection for KWPC Tank 1 was conducted in 1999. As a result of this test, new primary and secondary tank seals were placed in KWPC Tank 1. A second API Standard 653 inspection was conducted on KWPC Tank 1 in February 2009. Several recommendations were provided regarding the condition of the external & internal shell, the external floating roof and the tank bottom. The last API Standard 653 inspections performed on KWPC Tanks 2 and 3 were in March 2007 and March 2008, respectively.

In response to the September 2007 12-inch pipeline failure and release, inspections were performed of two 12-inch pipelines running from the ASTs to Pier D-2 to confirm the integrity of pipeline repairs and to determine the remaining life expectancy of each pipeline. These inspections included an API Standard 570 inspection using ultrasonic guided wave technology and a close interval survey. The results of each inspection confirmed that the pipelines were sound and had a remaining life expectancy greater than 27 years. However, both pipelines were replaced with a single pipeline in July of 2009.

K. INSPECTIONS

KWPC employees perform routine inspections of KWPC storage tank systems, pipelines and transfer equipment as part of the regular facility inspection program. These inspections follow written guidelines and are documented in inspection logs. Copies of these inspection procedures and record forms are presented in Appendix C of this Combined Plan. These inspection records are maintained for a minimum of 5 years and are available from the QI. Equipment inspection, testing, repairs and reconciliations are kept on file for a period not less than 10 years.

The routine inspections consists of daily walk through inspections to checks for leaks, spills, or signs of corrosion and a more in depth monthly visual inspection which examines and documents the condition of the Terminal's storage tank systems, pipelines and transfer areas as described below.

Storage Tank System Inspections

All of the KWPC storage tank systems, pipelines and transfer areas are visually inspected monthly for signs of deterioration and leaks. The tanks are inspected for signs of shell distortions, coating degradation, significant corrosion, cracks, discolorations, drip marks, proper functioning tank alarms and leaks. In addition, the inside of the shells of the KWPC tanks storing JP-5 (Tanks 1, 2, and 3) are visually inspected as permitted by the level of the floating roof. Integrity of the KWPC AST bottoms is also checked monthly by inspecting weep ports of the interstitial space between the double bottoms for the presence of fuel. The tank foundations and surrounding areas are inspected for localized dead vegetation, cracks, discoloration, settling, gaps between the tank and foundation, leaks and damage caused by vegetation roots. The secondary containment areas are also inspected for integrity issues, the presence of vegetation, and after rainfall events for the accumulation of standing water and sheen.

The KWPC ASTs storing JP-5 are emptied and pressure cleaned approximately every 10 years in preparation for a complete API Standard 653 internal tank inspection. All necessary repairs are made to the ASTs before returning the tanks to service.

Piping System & Transfer System Inspections

All the KWPC aboveground pipelines, valves, pumps and appurtenances are painted and are inspected monthly as part of the regular equipment inspection. Piping systems are inspected for coating degradation & significant corrosion, product in the interstice (in the sections of underground double-wall piping), discoloration, bowing between supports, and seepage at valves or seals. Valves are also lubricated monthly and pressure gauges are calibrated annually. The portion of the KWPC 12-inch pipeline from the offloading dock to the KWPC ASTs and the portion of the a4-inch delivery pipeline from the KWPC facility to the KWNAS Boca Chica tank farm which are underground have a protective coal tar wrap and are protected with cathodic protection using impressed current. Two rectifiers impart current to the KWPC pipelines and facilities. One rectifier is located at the pump, meter and manifold building at the KWPC bulk storage facility and one rectifier is located along the 4-inch delivery pipeline at the western boundary of the KWNAS tank farm at Boca Chica. The cathodic protection is checked for proper operation every month and tested at least twice a year. The KWPC bulk product piping from Pier D-2 to the KWPC ASTs is also pressure tested annually. Results of cathodic protection and pressure testing are kept on file at the KWPC Office.

All inspection discrepancies will be reported immediately to the QI. If any discrepancies are found that could result in a discharge, the storage tank, piping or transfer component would be shut down, isolated from the system and drained as necessary until repairs are made. Written records are kept of all equipment inspections and repairs performed on the system.

Facility Response Equipment Inspection & Testing

Response equipment inspections are conducted during monthly preventative maintenance schedules and during equipment deployment drills. All equipment is maintained in good operating condition in accordance with manufacturer's recommendations. The KWPC Terminal Manager is responsible for maintaining and testing all response equipment located at the facility. SWS is responsible for maintaining and testing all response equipment located off-site as well as any equipment mobilized to the site by SWS. Facility response equipment is inspected and tested to ensure that all equipment is; 1) operational, 2) being properly maintained, 3) readily accessible and 4) immediately available in the event it is needed. Also, an inventory of exhaustible response equipment such as sorbent materials and drums will be conducted to maintain an adequate quantity at all times. Storage location and accessibility for each item will be noted in the inspection form as well as the condition, last use date, and replacement date. A copy of the oil spill equipment inspection form is provided in Appendix C. Any discrepancies noted during the inspection are corrected and the equipment is returned to its normal storage location. Records of equipment maintenance activities and equipment deployment drills are maintained by the QI.

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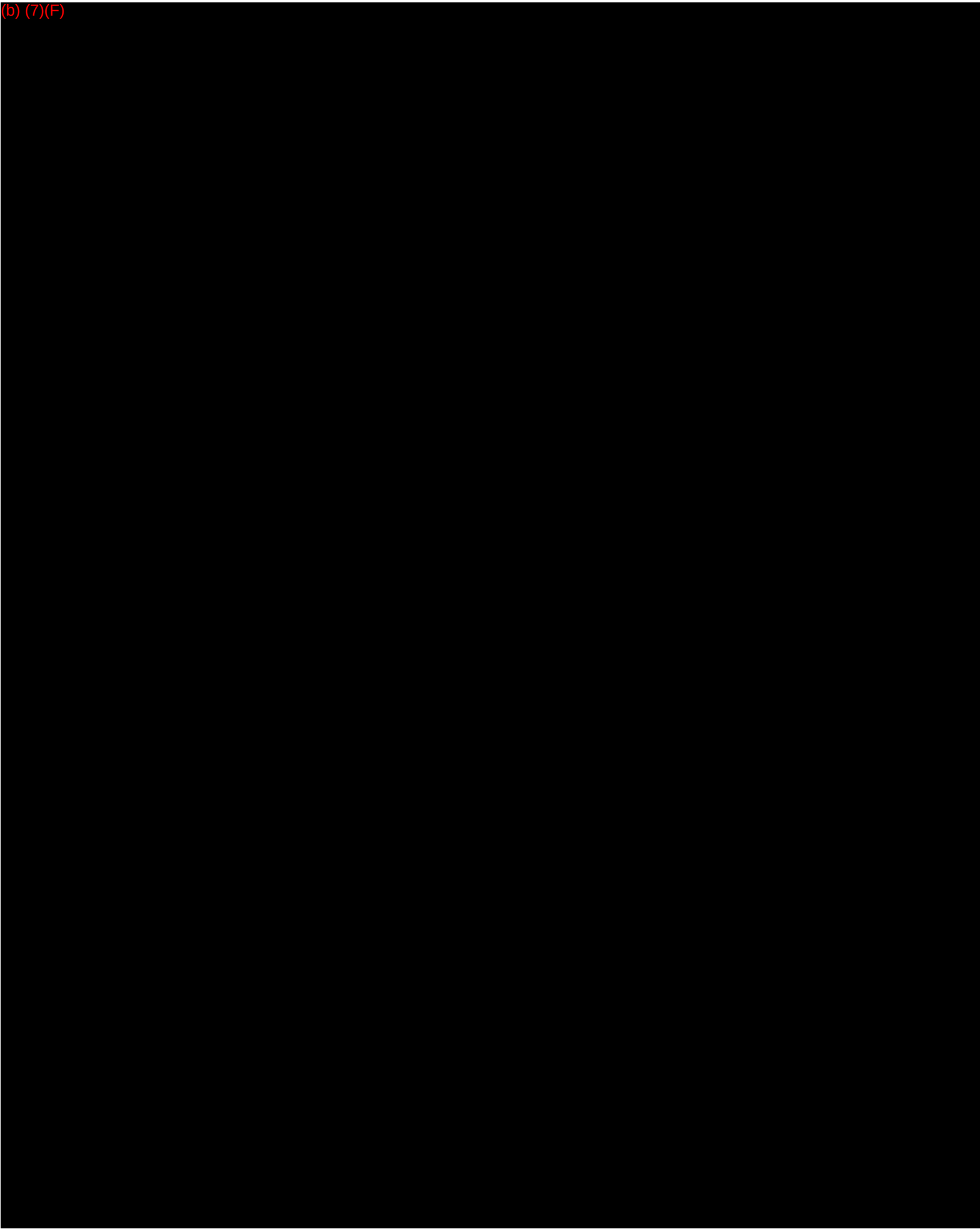

SECTION XII: HAZARD EVALUATION

A. OVERVIEW

A Hazard Evaluation is an analysis of a facility's operation to determine where releases could potentially occur. The information obtained from the analysis can be used to provide a basis to set priorities for contingency planning and the development of specific response actions to potential releases. In addition, the Hazard Evaluation serves to identify areas where improvements may prevent releases from occurring.

The Hazard Evaluation consists of three basic components:

1. Hazard Identification
2. Vulnerability Analysis
3. Risk Analysis

B. HAZARD IDENTIFICATION

The Hazard Identification component examines the facility operations and identifies where releases may occur. This information can be used to develop countermeasures to reduce the likelihood and the severity of a discharge. This section includes information on the facilities receiving pipeline, storage tanks, truck loading/unloading station and transfer pipeline.

As described in Section II, the KWPC facility consists of three major portions or segments as defined in the oil pollution prevention regulations. The 8-inch offloading hose, the aboveground portion of the receiving and transfer pipeline at Pier D-2, and the 12-inch receiving and transfer pipelines from Pier D-2 to the first valve inside the secondary containment is the marine-transportation-related (MTR) facility or segment as defined by 33 CFR 154. The KWPC bulk storage facility consisting of the storage tanks (KWPC Tanks 1 through 5), truck loading

rack, and filter system is considered the non-transportation-related facility or segment as defined in 40 CFR 112. And the 4-inch pipeline from the storage facility to the KWNAS (excluding the manifold and transfer pumps) is considered the on-shore–transportation-related pipeline facility subject to 49 CFR 194.

Facility Operations Which May Result in a Discharge

Operations which may result in a release from the KWPC facility would generally include vessel unloading operations, storage of product, inter-tank transfers, maintenance activities on piping and storage tanks, the transferring of fuel from the storage tanks to KWNAS or vessels at Pier D-2 and tank truck loading/unloading operations. The highest probability of a release occurring is during facility transfer operations. Extreme weather related events such as hurricanes present the next most likely cause of a release. During hurricane warnings, the KWPC facility implements procedures to minimize potential releases by transferring fuel between tanks to counteract inward forces on the tank shell during high water, stopping all transfers, and closing all appropriate pipeline and storage tank valves. Spill prevention policies, practices and procedures are described in Section XI of this Combined Plan.

The following paragraphs discuss the normal operating procedures for predicting where releases may occur. Tables XII-1 provides spill prediction information from each segment of the KWPC facility.

Secondary Containment Volume Analysis

There are five storage tanks owned and operated by KWPC located at the KWPC bulk storage facility. Tanks 1-3 are single walled ASTs and each has its own secondary containment system provided. Tanks 3 and 4 are double-walled and each tank is located within a lager secondary containment system. Table XII-2 provides information on the number and types of storage tanks at the facility

along with secondary containment information. The total facility secondary containment for all tanks is 6,237,000 gallons.

Table XII-1
Potential Spills
Prediction of Volume or Rate and Direction of Flow

Source	Type of Failure	(b) (7)(F)	Direction of Flow	Control Measures
ASTs	Collapse/ Rupture		Into Secondary Containment	Secondary Containment
ASTs	Overfill		Into Secondary Containment	Secondary Containment
Receiving Pipeline from Tanker	Line Rupture		Water Surface Around Pier, Land Surface or Below Ground	Facility Response Plan
Delivery Pipeline to KWNAS (Boca Chica)	Line Rupture		Florida Bay, Land Surface or Below Ground	Facility Response Plan
Pumps, Meter, and Filter Manifold Areas	Line Rupture		Land Surface or Below Ground	Facility Response Plan

Notes:
(b) (7)(F)
KWNAS - Key West Naval Air Station.
⊥ - Direction of flow depends on where the leak or rupture occurs.

Table XII-2
Hazard Identification - Tanks and Secondary Containment

Tank No.	Substance Stored	(b) (7)(F)	Tank Type & Year Constructed	(b) (7)(F)	Failure/ Cause
1	JP-5		Floating Roof 1963		None
2	JP-5		Floating Roof 1963		None
3	JP-5		Floating Roof 1963		None
4	Water Bottoms		Double-Walled Fixed Roof 1999		None
5	FSII		Double-Walled Fixed Roof 1999		None
6	Empty		Fixed Roof 1990		None

Note: FSII = Fuel system icing inhibitor (ethylene glycol monomethyl ether)

Marine-Transportation-Related Segment

The MTR segment of the KWPC facility involves transferring JP-5 to or from the KWPC ASTs to or from Pier D-2. The KWPC ASTs (Tanks 1 through 3) are filled from a tanker moored at Pier D-2. The normal operating procedures for the MTR segment of the facility includes:

- Filling the KWPC ASTs (Tanks 1, 2, and 3) from a tanker on Pier D-2 via the 8-inch hose and 12-inch pipeline at Pier D-2; and,
- Transferring fuel from a KWPC AST (Tanks 1, 2, and 3) to a vessel at Pier D-2 via the same pipelines.

The largest potential release from the MTR segment of the KWPC facility would occur during the filling of the KWPC ASTs from a tanker. Pumps located on the tanker provide the necessary pressure to transfer the JP-5 from the tanker to the storage tanks at a maximum rate of 315,000 gallons per hour (GPH) (7,500 barrels per hour [BPH]). Should the USCG request a JP-5 transfer from the KWPC ASTs to vessels at Pier D-2, the 12-inch pipeline, and two 3" fueling hoses will be used. Vessel fueling operations will be aided by one of three fueling pumps to be located on two dedicated fuel skids on Pier D-2. Operating procedures to detect and prevent release during transfers via the MTR portion of the facility are presented in Section XI of this Plan.

Non-Transportation-Related Segment

The non-transportation segment of the KWPC facility involves storage of the JP-5 in the KWPC ASTs. Table XII-2 presents each tank identification, type, capacity, product stored, and date of installation. The normal operating procedures for the non transportation storage segment of the facility includes:

- Filling the KWPC ASTs (Tanks 1, 2, or 3) from the tanker;
- Transferring fuel from a KWPC AST (Tanks 1, 2, or 3) to KWNAS Boca Chica;
- Transferring fuel from a KWPC AST (Tanks 1, 2, or 3) to a vessel;
- Transferring fuel from one KWPC AST to another to provide capacity for receiving fuel and to conduct tank repairs;
- Transferring fuel from a KWPC AST (Tanks 1, 2, or 3) to a tanker truck;
- Transferring fuel from a tanker truck to a KWPC AST (Tanks 1, 2, or 3);
- Filling the FSII tank (Tank 5) from a tanker truck;
- Draining filters to replace fuel filter cartridges;
- Draining rainwater from the KWPC AST roofs;
- Transfer KWPC AST water bottoms to water bottoms holding tank (Tank 4); and

- Gauging KWPC ASTs with steel measuring tape and plumb bob.

The greatest potential release would occur from a KWPC AST failure; however, the KWPC ASTs (Tanks 1, 2, and 3) are surrounded by secondary containment systems designed and constructed to contain 110 percent of the maximum capacity of the largest single tank within its boundary. Though the earthen bermed secondary containment areas around each tank would prevent a sudden release of fuel to a navigable waterway, the ground surface within the secondary containment areas is native limestone and sand and is quite permeable. The concrete retaining seawall between Fleming Channel and the KWPC ASTs is a monolithic concrete wall running the length of the northern property boundary along Fleming Channel, approximately 825 feet long. The wall is roughly triangular in cross-section, approximately 10 feet wide at the bottom and 2 feet wide at the top. The base of the wall is constructed on competent rock and the top of the wall is 5.5 feet above mean sea level. The wall is sufficiently impervious to prevent the release of fuel to reach Fleming Channel. However, the relative permeability of the ground surface inside the secondary containment area requires that fuel recovery measures be undertaken quickly to limit the amount of fuel, which would seep into the subsurface. The fuel recovery measures are discussed in Section VII. The second greatest release would most likely occur during fuel transfer operations via tank overfilling or pipeline rupture within the secondary containment area. Electronic gauges and overfill alarms on the KWPC ASTs (Tanks 1, 2, and 3) reduce the chance of overfilling the KWPC ASTs. Procedures to prevent tank overfills are described in more detail in Section XI.

The next largest potential release would likely occur from tank truck transfer operations. Until 2010, the tank truck unloading/loading rack was used very infrequently by KWPC. In July 2010, approximately 5 trucks per day were loaded from the tank truck unloading rack for a one-week period when the 4-inch transfer pipeline was out of service. The tank truck rack has a concrete pad and

berm that the entire tanker truck is parked in during fuel transfers. The concrete berm is approximately 3 inches high with a capacity of approximately 959 gallons. The concrete berm is drained by two 2-inch lines and valves that are normally kept open except when transferring fuel.

Other potentially less significant discharges may occur during drainage of rainwater from the KWPC AST (Tanks 1, 2, and 3) roofs, transferring water bottoms, and filter changing operations. The KWPC AST roof drains are opened following each rainfall event during which rainwater collects on the roof, otherwise these valves are always kept close. The KWPC AST roof drain valves are opened and the roofs drain within the secondary containment area around the KWPC ASTs. If a roof drain leak is observed during KWPC AST roof draining operations (as evidence by fuel discharging from the drain) and the roof drain valve malfunctions and cannot be closed, efforts will begin immediately to thread a new nipple and valve or end cap onto the KWPC AST roof drain valve to prevent further discharge of fuel. The fuel is then transferred from one KWPC AST to another until repairs are made. A potential leak under this scenario is a maximum of 2,500 gallons assuming the drain can be capped in 5 minutes. The potential release volume due to water bottoms transfer from the KWPC AST is considered to be very small due to the size and plumbing arrangement of the water bottom drains. These drains are also completely within the secondary containment areas. The potential release volume due to draining filters to the slop tank would also be very small since it should not exceed the volume of any single filter vessel (less than 250 gallons).

On-shore-Transportation-Segment

The on-shore pipeline segment of the facility involves transferring JP-5 from the KWPC ASTs (Tanks 1, 2, and 3) to KWNAS. Pumps located at the storage facility provide the required pressure to transfer the JP-5 through the approximately 7.1 miles of 4-inch pipeline at a maximum rate of 15,750 GPH (375 BPH). The largest

potential release scenario from this pipeline would be a pipeline rupture and draining of the entire contents of the pipeline. Operating procedures to detect and prevent release during transfers are presented in Section XI.

Maintenance Activities

KWPC personnel follow specified procedures when taking oil storage and transfer system equipment out of service for maintenance activities. These procedures are followed to ensure the safe repair of equipment while preventing spills from occurring. During maintenance activities, oil storage components are isolated and or drained as may be necessary before any work is started. In addition, the oil transfer piping and storage tanks are inspected both during transfer operations and during other routine inspections.

Abnormal Operations

In addition to the potential releases identified during normal operations, abnormal operations that occur when operational design limits have been exceeded may result in a threat of a release. For the KWPC facility, examples of abnormal operations include the unintended closure of manual valves, resulting in an increase or decrease of operating pressure in the pipelines; an unexplained increase in pressure beyond pipeline design limits or a loss of pressure; or a disruption of communication during product transfer operations. The initial response to an abnormal operating condition is to safely take corrective action to reduce the threat of a release, and to then correct the abnormal operation. Responses to abnormal operations will, by their nature, depend on the observed problem, which cannot be predicted in advance or planned for in great detail. However, responses to the basic types of abnormal operations that would increase the threat of a release are described below.

An unintended valve closure may occur as a result of human error or miscommunication during a fuel transfer. The most likely result would be a pressure increase in the fuel transfer pipelines. The pipelines normal operating pressure is

425 pounds per square inch (psi). The alarm system automatically shuts down the pumps when the pressure exceeds 430 psi. If pressure during a transfer is observed to be significantly exceeding operating pressure, the operator will close the supply valve and re-direct the fuel such that the pressure in the lines is reduced to within normal operating limits. In the event that the re-direction of product results in a release of fuel, the Combined Plan will be engaged.

Similarly, any unexplained increase or decrease in pipeline pressure would be investigated by checking valves, control systems and the alarm systems. In the case of a pressure increase, valves would be opened to redirect fuel to reduce pressure in the lines. In the case of a pressure decrease, KWPC personnel would inspect the KWPC facility and check inventory calculations to determine whether there was a release of product from damaged system components. In the event that a release of product occurred, the Combined Plan will be engaged.

A loss of communication could occur in the event that the facility's land-line phone is not operating, and the facility's cell phones are not operating at the same time. This would preclude communication with KWNAS at Boca Chica during a delivery. In the event of such a loss of communication, all product transfer would cease until communications could be restored.

Following an abnormal operating incident, a follow-up investigation would be conducted to determine the cause of the abnormal operation and to determine the appropriate corrective action. The investigation will include the items in the "Operational Checklist" available at the site. The type of investigation would depend on the nature of the abnormal operation. The investigation may include determining which valves were closed and opened, whether normal procedures were followed, and inspecting equipment for failure or damage related to the event. Depending on the results of the investigation, additional corrective action may be required, including the repair and replacement of equipment, employee re-training, etc.

Throughput Analysis

The approximate daily throughput of JP-5 at the KWPC facility is 100,000 gallons. A change in daily throughput either positive or negative would not increase the potential for a release of stored product.

C. VULNERABILITY ANALYSIS

This Vulnerability Analysis (VA) addresses the potential effects from an oil release, discussing the risks to human health, property, and the environment. The resources at risk can include drinking water intakes, schools, residential or business areas, endangered flora and fauna, recreational areas, or sensitive environments. Schools, medical facilities, residential areas, businesses, and utilities are not expected to be vulnerable to a discharge since the directions of the potential discharges are not toward such facilities. However, environmentally sensitive areas are vulnerable and as such are discussed in Section VIII.

The VA focuses on two objectives: a) calculating the planning distance after oil is released from the terminal into a body of water and b) identifying the resources at risk located within the planning distance.

Planning Distances

The VA documents the methodology used to calculate the planning distance and discusses potential impacts for resources within that distance for oil spill planning and response.

Methods

The planning distance is the distance that would be traveled by fuel resulting from a spill occurring at the KWPC bulk storage facility or from the pipeline during a specified time interval. The planning distance for non-persistent Group 1 fuel spills (JP-5) occurring at the MTR and NTR portions of the KWPC facility into tidal waters is 5 miles. For the OTR portions of the KWPC facility, the planning distance is four hours or approximately 2.76 miles (using the assumptions below)

for a spill occurring along the length of the pipeline from the KWPC bulk storage facility to KWNAS Boca Chica. Therefore, the total planning distance is calculated to be 5.00 miles plus 1.42 miles (the additional length of the pipeline segment 7.1 miles minus the 5.00 mile planning distance miles = 1.42 miles) plus 2.76 miles (pipeline planning distance) for a total of 9.18 miles.

Planning assumptions:

- The discharge will spread uniformly in all directions forming a semi-circle;
- Wind speeds are 20 knots (23 miles per hour [mph]) under storm conditions; and
- The discharge moves at a rate equal to 3 percent of the wind speed.

It is recognized that the true direction and speed of a discharge is dependent upon tidal currents, wind direction, and velocity. But the above listed assumptions are considered adequate for planning purposes.

Because a spill of from the KWPC facility could impact environmentally sensitive areas, this facility is considered to be a significant and substantial harm facility in accordance with USCG, USEPA and DOT PHMSA as indicated below:

- 33 CFR 154.1015 (b) since the MTR segment of the facility is capable of transferring oil to or from a vessel with a capacity of 250 barrels or more;

- 40 CFR 112.20 (f)(1)(ii) since the non-transportation related segment of the facility has a total oil storage capacity greater than 1 million gallons and the facility is located a distance (as calculated above) such that a discharge could cause harm to environmentally sensitive areas (as identified in Section VIII); and

- 49 CFR 194.101 (b) since the transportation related pipeline segment of the facility is in the proximity of navigable waters and environmentally sensitive areas (as identified in Section VIII). In addition, the entire 7.1-mile pipeline exists within one response zone: Monroe County, Florida.

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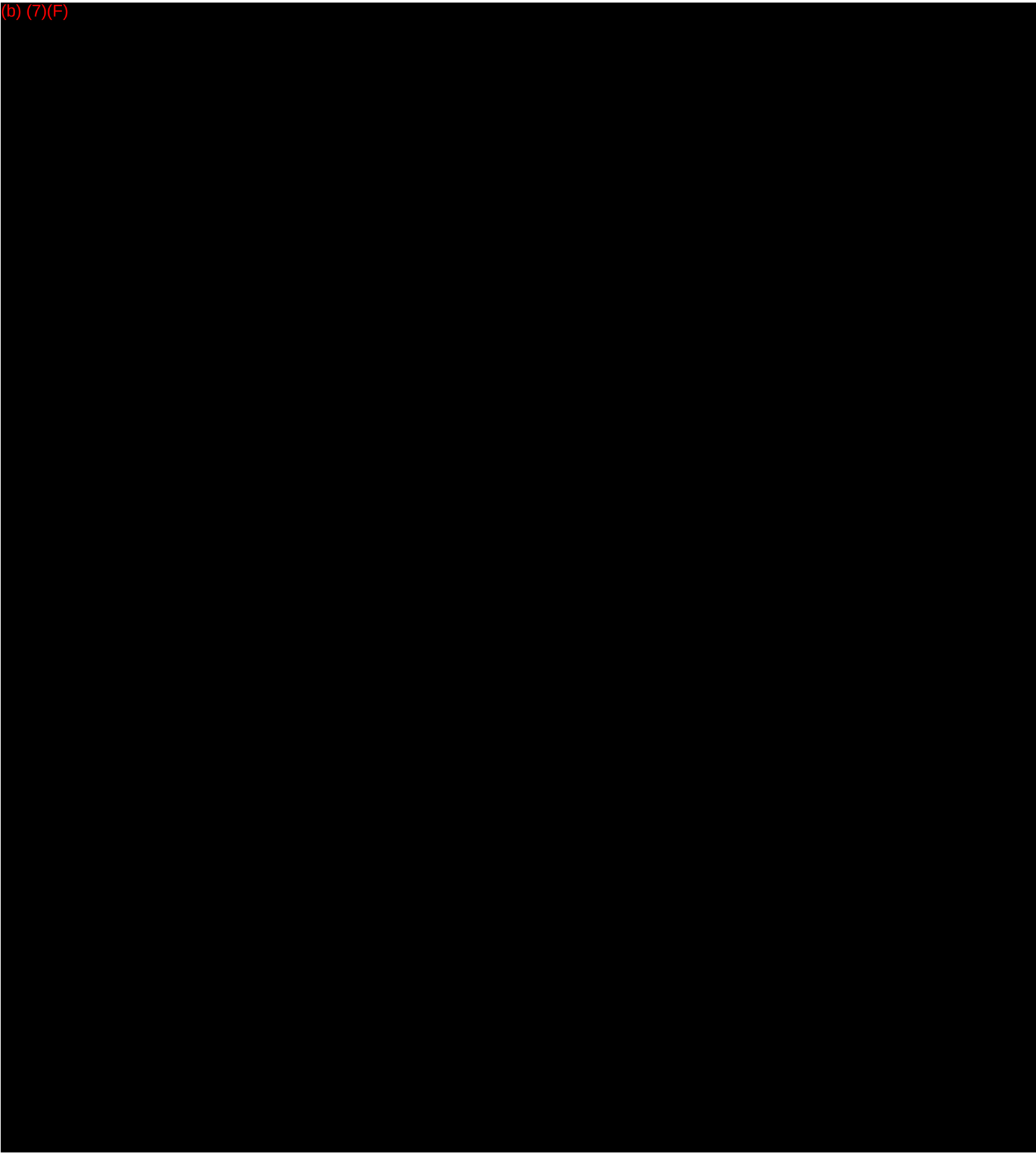

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Residential Areas

There are no civilian residential areas near the KWPC bulk storage facility. However, family housing is also located on KWNAS Trumbo Point Annex, along with the Navy Gateway Inns and Suites.

Businesses

There are no businesses near the KWPC bulk storage facility. The KWPC bulk storage facility is located on the KWNAS Trumbo Point Annex. USCG Sector Key West is located immediately adjacent to and west of the KWPC bulk storage facility and the U.S. Army Special Forces Underwater Operations School is located to the north on Fleming Key.

Transportation Routes (Air, Land, and Water) The primary transportation route that could be impacted from a spill or a fire at the KWPC bulk storage facility would be Trumbo Road, Fleming Key Road and Whitting Avenue. Any evacuation efforts necessary for this area will be coordinated with KWNAS Security & Fire Department and the City of Key West Police Department, as the situation demands. A leak from the underground pipeline segment could potentially impact road traffic on US 1. Any road closures would be coordinated with the Florida Highway Patrol. Key West, Key West Bight and Garrison Bight could be impacted by a release from the underwater pipeline segment. Any port restrictions would be established by the USCG if necessary.

Wetlands and Other Sensitive Areas

Section VIII fully describes the sensitive areas located in the vicinity of the KWPC facility planning area and Environmental Sensitivity Maps are provided in Figures I-3 A-E which depicts the sensitive shoreline habitats and biological resources that may be at risk from a spill. The sensitive shorelines located near the KWPC bulk storage facility include extensive mangrove forests located on the southeast and northwest sides of Fleming Key. Shelter mangroves also exist in the vicinity of the entrance channel to the Garrison Bight, along the north shoreline of the Garrison Bight and east toward Sigsbee Park. Mangroves forests are also found along much of the shorelines around Sigsbee Park. There are numerous other mangrove-lined shorelines along Stock Island and on Boca Chica as well. Several national parks, national wildlife refuges and the nation's second largest national marine sanctuary are found in the Florida Keys (See recreational areas below). The area includes the most extensive coral reef ecosystem, and the largest acreages of mangroves and seagrass in the United States. There are numerous inlets, passes, tidal creeks and extensive areas of shallow (<3 feet) water.

Lakes and Streams

There are no lakes or streams near the KWPC bulk storage facility.

Threatened and Endangered Species and Other Wildlife

Table XII-5 lists the species on the Federally threatened or endangered species list that may be found in the vicinity of the KWPC facility. A discussion on certain threatened and endangered species is provided in Section VIII.

TABLE XII-5	
THREATENED AND ENDANGERED SPECIES - KEY WEST	
STATUS	**ANIMALS**
E	Whale, right
E	Whale, finback
E	Sea turtle, green
E	Sea turtle, leatherback
E	Sea turtle, hawksbill
E	Sea turtle, Kemp's ridley
E	Whale, humpback
E	Stork, wood
E	Woodrat, Key Largo
E	Deer, key
E	Rice rat
E	Mouse, Key Largo cotton
E	Rabbit, Lower Keys marsh
E	Manatee, West Indian
T	Sea turtle, loggerhead
T	Plover, piping
T	Sea turtle, green
T	Snake, eastern indigo
T	Eagle, bald
T	Snake, Atlantic salt marsh
T	Snail, Stock Island tree
T	Tern, Least
T	Tern, roseate
Notes: T indicates federally threatened species. E indicates federally endangered species. Species were listed on Federally threatened and endangered species list for the state of Florida as of May 28, 2004.	

Local Wildlife

The entire area is home to shellfish such as lobsters, shrimp, conch and crabs. Sea-grass beds are also prevalent in the surrounding waters and many species of corals are also located on the offshore reefs.

Several recreational and commercial fish and fisheries are dependent on the habitats around Key West. These include the stone crab, blue crab, pink shrimp

sailfish, blackfin tuna, wahoo, blue marlin, yellowfin tuna, various species of snapper and grouper, African pompano, barracuda, cobia, amberjack, kingfish, mackerel, tarpon, shark, permit, dolphin and lobster.

The estuarine and coastal habitats around the fuel terminal provide nesting and foraging habitat for shorebirds, wading birds, and raptors. Larger organisms using the offshore and nearshore waters within Key West include the manatees, whales sea turtles and the bottlenose dolphin.

Recreational Areas

The Key West economy is largely based on tourism and marine recreational activities such as boating, site seeing, fishing, and diving. The Key West area includes two wildlife refuges: Great White Heron National Wildlife Refuge and Key West National wildlife Refuge; and one marine sanctuary: Florida Keys National Marine Sanctuary. Fort Zachary Taylor State Historic Site is also located in Key West.

(b) (7)(F)

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D. RISK ANALYSIS

The risks of a major spill at the KWPC facility that would reach surface waters are associated with the potential occurrence of a hurricane related storage tank failure, a pipeline failure, or the collision of a vessel with the dock. The consequences of an accident involving the vessel are the responsibility of the vessel personnel however, KWPC personnel would assist as appropriate. The risk of a release occurring from the facility have been significantly reduced due to the prevention systems installed and the inspection practices established for the storage tank and piping systems. As mentioned in Section XI, all KWPC field-erected tanks have

been upgraded with steel double bottoms to prevent a release from the bottom of these tanks. The interstitial space is monitored to detect product and the tanks have a high and a high-high level alarm system to alert operators to the tank level during filling operations. Each tank is also inspected in accordance with the API 653 standard. Any discrepancies found during the inspections are corrected to reduce the likely of a release occurring from these storage tanks.

The underground portions of the delivery pipeline from the KWPC bulk storage facility to the KWNAS Boca Chica tank farm have a protective coal tar wrap and are protected with an impressed current cathodic protection system. The 12-inch MTR pipeline is located mostly aboveground except where it crosses three roadways on the USCG Sector Key West installation, one roadway on the Trumbo Point Tank Farm grounds and goes through three separate secondary containment berms within the KWPC bulk storage facility. Each underground section of the MTR pipeline is double-walled with interstitial monitoring ports. The interstitial space is also provided with a nitrogen cap for corrosion protection. The OTR pipeline from the KWPC ASTs to the ASTs at the KWNAS Tank farm located on Boca Chica Key are continually monitored during product transfers. The readings on the two meters are automatically compared and if the difference is greater than 4 gallons, a light and audio alarm are activated at the KWPC Office. If the difference becomes more an 8 gallons, a second light is activated. Therefore, the occurrence of a Level III incident reaching surface waters from the KWPC facility during unloading, transfer or storage of product is low because of the secondary containment systems which exists at the facility and because of the policies, practices, and inspection procedures described in Section XI of the Plan.

E. CONTAINMENT AND DRAINAGE PLANNING

The purpose of this containment and drainage plan is to describe how to contain and control a spill within the KWPC bulk storage facility. This would primarily occur by capturing a spill within the secondary containment systems provided for

each of the KWPC storage tanks. A description of the secondary containment structures is provided in Table XII-1 and in Section XI of the Combined Plan.

The KWPC bulk storage facility does not have a stormwater collection system as stormwater does not collect within the facility due to the high porosity of the existing soils, which are composed of limestone and sand. The KWPC bulk storage facility and surrounding area is relatively flat and no ditches or drainage structures are present. Since the surrounding land surface is relatively flat, and the spill pathway may be in any direction depending on the type and sequence of failures, the primary containment efforts are to minimize the spread of a discharge. Typically, these efforts would include placing absorbent booms, pads, other containment material, and/or constructing trenches or earthen berms to limit the spread of the discharge. Spill response equipment listed in Appendix A is immediately available to limit the spread of the discharge. The containment strategy is to contain the spill on land as much as possible. While this general strategy is considered preferable, the strategy may be altered during a response if the alternate strategy or actions are considered to be more protective of human health. Containing the spill on land would cause more of the oil to seep into the ground. While recovery of oil from the subsurface is difficult, it is considered preferable to contain the spill on land, where containment and recovery efforts are generally more feasible, than on water.

Sump Pump Capacities

There are no sump pumps located at the KWPC bulk storage facility.

Spill History

KWPC constructed the facility in 1963 and began operating in January 1964. KWPC has been the only owner and operator of this facility since its construction. No spill events are reported to have occurred at this facility prior to effective date (December 11, 1973) of the oil pollution prevention regulation. Since that time, several fuel releases have occurred. Tightness tests on the 12-inch

underground-receiving pipeline indicated a lack of pipeline integrity. Excavations of the pipelines next to Tanks 2 and 3 revealed a small pinhole in the pipelines at both locations, which was believed to have been caused by the pressure tests. Both sections of the pipeline were replaced and retested tight. A small amount of fuel (less than 25 gallons) was released in each event. In 1991, a tightness test was conducted on the 6-inch underground fuel delivery pipeline from the KWPC ASTs. The test revealed a small pinhole in the 6-inch pipeline. The pipeline was cleaned and capped. A new 6-inch aboveground delivery pipeline was installed. Less than 25 gallons of fuel was released.

During a January 5, 1993 site inspection, free phase petroleum product (unrelated to KWPC's operations) was observed in a fire well at the KWNAS Trumbo Point tank farm. Previous subsurface investigations (unrelated to KWPC's operations) performed at the tank farm confirm the presence of free phase petroleum product in the soils and on the groundwater. KWNAS is conducting contamination assessments to delineate extent of these impacts.

On January 9, 1997, a small leak was discovered at the corner valve of the 12-inch loading/offloading pipeline at the northeastern corner of Pier D-2. The leak occurred as a result of a small area of corrosion under the pipeline wrap. Approximately 2 gallons of JP-5 fuel dripped onto and was contained within the concrete secondary containment underneath the 12-inch pipeline and valve. Absorbent pads were used to soak up the fuel and were properly disposed. The pipeline was repaired and returned to service, following pressure testing.

In late September 2007, the 12-inch underground pipeline running from KWPC Tanks 2 and 3 to Pier D-2 developed a small hole on the underbelly of the pipeline. During receipt of JP-5 jet fuel from a tanker on September 25-26, 2007, approximately 3,000 gallons of jet fuel product was released to the soils underlying the pipeline. Emergency response activities performed in response to the pipeline failure included the following: notification to National Response

Center and the Florida State Warning Point; filing of an Incident Notification Form, Discharge Report Form and Free Product Removal Notification Form with the Florida Department of Environmental Protection (FDEP); mobilization of emergency response contractors in accordance with KWPC's FRP; recovery of approximately 2,800 gallons of jet fuel; repair and replacement of the damaged section of pipeline in accordance with API 570; pressure testing of the pipeline following replacement of the damaged section; performance of a close interval survey of the entire 12-inch pipelines; delineation of soil impacts and proper disposal of impacted soils; construction of product recovery trenches, later converted to a multiple French drain-type product recovery system; and coordination of product recovery efforts and site assessment tasks with the Navy's ongoing site assessment and remedial action activities in connection with pre-existing petroleum impacts within the immediate vicinity of the September 2007 pipeline failure. By letter dated August 4, 2009, FDEP determined that no further action was required in response to the 2007 pipeline failure.

Due to the presence of free phase petroleum product on the groundwater beneath the Trumbo Point tank farm, **no fire wells will be used to fight a fire**. Water may be pumped from a surface water source such as Fleming Channel to the north of the tank farm or around the Navy pier to fight fires in the area of the KWPC bulk storage facility.

Vulnerability of Facility from a Nature Disaster

The KWPC bulk storage facility is subject to a number of severe weather conditions, including flooding, tornadoes, winds, heavy rains, and hurricanes. These natural phenomena present the potential for extensive damage in and around the KWPC bulk storage facility. However, the KWPC bulk storage facility is designed to minimize impacts from such events and the facility has emergency procedures in place.

Tank Ages

The risk of tank rupture from the KWPC storage tanks is low since the tanks are inspected regularly in accordance with the API 653 standard. Inspection dates are in Section X.K. and the age of each tank is listed in Table XII-2.

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SECTION XIII: TRAINING AND EXERCISES

A. DESCRIPTION OF FACILITY TRAINING PROGRAM

The training of personnel in the prevention of oil spills and the prompt and effective response to an oil spill incident are important aspect of the overall oil spill prevention and response training program at the KWPC facility. KWPC employees undergo a number of training programs related to oil spill prevention & response preparedness and the safe operations of the terminal and pipeline system. The training is intended to assure that all oil-handling employees clearly understand the importance of oil spill prevention and the contents of this Combined Plan and their respective roles and responsibilities within the scope of the Combined Plan. The training is also designed to prepare Response Team members in carrying out their job responsibilities in a prompt and efficient fashion should an incident occur. Specific training includes:

- All employees at the KWPC facility receive 8 hours of facility specific training and new employees receive this training within one week of beginning work.
- Each employee also receives 40-hours of OSHA hazardous waste operations and emergency response training in accordance with 29 CFR 1910.120 for On-Scene Commanders.
- Additionally, employees are required to undergo 8 hours of refresher training each year after initial training.
- All employees undergo operator qualification training for the transmission pipeline operations, in accordance with 49 CFR Part 195.

Quarterly briefings are also held between the QI and other facility personnel to review and discuss spill prevention & response measures contained in the Combined Plan to improve awareness in these areas. Specific topics included in the training program are described below.

Discharge prevention training topics include:

- Operating & maintenance of all equipment to prevent oil discharges.
- Overview of applicable state and federal laws, rules, and regulations.
- General facility operations.
- Contents of the Combined Plan.

Discharge response training topics include:

- Incident Command System (ICS)
- Spill reporting procedures
- Spill containment procedures
- Spill recovery procedures
- Roles and responsibilities of the ORT & SMT
- Storage of waste materials
- OSHA HAZWOPER training including characteristics of JP-5
- Minimizing fire/explosion hazards
- Fire fighting procedures & use of equipment

Discharge prevention briefings are also held annually to ensure adequate understanding of the SPCC Plan component of the Combined Plan; to provide a description of any known discharges, failures, any malfunctioning components; and to ensure that any recently developed precautionary measures and appropriate personnel are properly instructed in the operation and maintenance of all equipment to prevent oil discharges.

All personnel, including volunteers and casual laborers, who respond to an oil spill in any capacity would receive training in compliance with 29 CFR 1910, Subpart L and 29 CFR 1910.12(q). Volunteers, participating in mitigating the effects of an oil spill, may be used as deemed appropriate by the Federal On-Scene Coordinator (FOSC). Typically, volunteers would be assigned to tasks that have minimal safety risks, such as beach surveillance, logistic support, or wildlife rehabilitation. In addition, responders would be informed of the physical

and health hazards of the substances they handle, the measures to protect themselves from these hazards, and the use and location of Material Safety Data Sheets (29 CFR 1910.1200).

B. DRILL PROCEDURES

KWPC has elected to implement the National Preparedness for Response Exercise Program (PREP) to satisfy exercise requirements under the Oil Pollution Act of 1990 (OPA-90). The PREP is a unified, federal effort, which incorporates the exercise requirements of the U.S. Coast Guard (USCG), the U.S. Environmental Protection Agency (USEPA) and the Department of Transportation (DOT) Pipeline and Hazardous Material Safety Administration. As part of the PREP program, both announced and unannounced drills are conducted to ensure the response plan will function in an emergency. Drills are tailored to either components of the Combined Plan or the entire Combined Plan. The drills can include the following procedures: (1) identifying and classifying immediate response events; (2) response to different emergencies (fire, explosion, hazardous liquid releases, etc.); (3) personnel equipment and material availability; (4) shutdown procedures; (5) evacuation procedures; (6) notification of agencies; and (7) assessment of emergencies. A drill covering the entire plan is conducted a minimum of once every three years or the 15 plan components are each exercised over the three-year triennial period. Table XIII-1 contains a list of the required exercises to be conducted under the PREP for the KWPC facility.

PREP Implementation

The drill year will commence on January 1 and conclude on December 31 of each year. The QI is responsible for conducting and scheduling drills for the ORT/SMT in accordance with the Prep schedule in Table XIII-1.

Internal and External Exercises

The PREP Guidelines consist of both internal and external exercises. Internal exercises are those conducted wholly within the KWPC. The internal exercises

test the various components of each facility's response plan to ensure that all plans are adequate to meet spill response needs within the KWPC. The internal exercises include:

- QI Drills;
- Spill Management Team Tabletop Exercises;
- Equipment Deployment Exercises; and
- Emergency Procedures Exercises (optional).

All internal exercises will be self-evaluated and self-certified. Under the PREP guidelines KWPC is responsible for addressing any issues that arise from evaluation of the exercises and for making changes to the response plan necessary to ensure the highest level of preparedness.

The external exercises go outside of KWPC's organization to test the interaction of KWPC's entire response plan with the response community (Government Agencies, Contractors, etc.). External exercises will consists of Area Exercises, which are intended to exercise area contingency plans prepared under OPA-90 by the USCG (for coastal areas) and USEPA (for inland areas), and Government-Initiated Unannounced Exercises. The goal of PREP is to conduct 20 Area Exercises per year nationwide, 60 within a triennial cycle. Six of the 20 annual exercises will be led by the government, and 14 will be industry-led. Government-led exercises commenced in 1994 and industry-led exercises commenced in 1995. All Area Exercises will be developed and monitored by an "exercise design team" comprising representatives from federal, state and local government, and industry.

In meeting the equipment deployment requirement, it is not necessary that every piece of equipment identified in the plan be deployed and operated. Only a representative sample of each type of equipment need be deployed and operated, but that must include a minimum of 1,000 feet of each type of boom in inventory and one of each type of skimming system (equipment necessary to respond to the average most probable discharge).

Triennial Drills (every three years) must include the following exercises:

TABLE XIII-1
Drill Schedule

DRILLS CONDUCTED BY FACILITY ONSITE RESPONSE TEAM (ORT) and/or CONTRACTED OIL SPILL REMOVAL ORGANIZATION (OSRO)				
DRILL TYPE	**FREQUENCY**	**DRILLS/ 3 YR. PERIOD**	**AGENCY**	**INITIATING AUTHORITY**
QI Notification	Quarterly	12	USEPA, USCG, PHMSA	ORT
Unannounced Exercises	Annual	3(1)	USEPA, USCG	ORT
Equipment Deployment	Annual	3	USEPA, USCG PHMSA	ORT
Tabletop Exercise	Annual	3(3)	USEPA, USCG	ORT/SMT
Exercise Entire Response Plan	All Components Every 3 YRS	1(5)	USEPA, USCG, PHMSA	ORT
AGENCY INITIATED DRILLS				
DRILL TYPE	**FREQUENCY**	**ADVANCED NOTICE**	**INITIATING AUTHORITY**	**RESPONSE TEAM AFFECTED**
Unannounced Tabletop Exercise	Annually, If Selected	10 (2,4) Days Prior	PHMSA	ORT/SMT
Unannounced Equipment Deployment	Annually, If Selected	None(4)	USEPA, USCG	ORT/OSRO
Area Exercise	Triennially, If Selected	Advanced Notice (2) Provided	USEPA, USCG, KWPC	ORT/OSRO and/or SMT

Notes:
(1) Unannounced drills can include any of the following:
- Emergency Procedures Exercise
- Spill Management Team Tabletop Exercise
- Equipment Deployment Exercise
- Actual Spill Event

(2) 20 Exercises total nationwide per year (6 Government led and 14 Industry led)
(3) One drill must include a worst case discharge scenario
(4) Not required to participate in another federal government initialed drill until 36 months have passed

In addition to the above drill requirements, the ORT will be required to exercise all components of their entire response plan every three years. These plan components do not have to be exercised all at once, but can be exercised in segments over the three-year triennial period.

The following Plan Components must be exercised at least once every three years.

Organizational Design

1) Notifications
2) Staff/Response Team Mobilization
3) Ability to operate within the response management system described in the plan

Operational Response

4) Discharge Control
5) Assessment of Discharge
6) Containment of Discharge
7) Recovery of Spilled Material
8) Protection of Sensitive Areas
9) Disposal of Recovered Materials and Contaminated Debris

Response Support

10) Communications
11) Transportation
12) Personnel Support
13) Equipment Maintenance and Support
14) Procurement
15) Documentation

Drill Credit

Credit can be taken for responses to real spill events and participation in area exercises as long as all objectives of the drill are met and properly documented.

Drill Documentation

Drill Documentation Forms (located at the end of this section) have been prepared for each exercise required under the PREP. The forms must be completed and signed by the QI to verify that the objectives of the exercise have been met, that the drill has been completed, and that the effectiveness of the plan has been evaluated based on exercise performance. Completion of the

forms constitutes self-evaluation and self-certification as required under the PREP Guidelines.

It will be the responsibility of the QI to evaluate any "Lessons Learned" during the exercises, to implement those lessons and revise the Facility Response Plan as deemed appropriate in a timely manner.

C. RECORDKEEPING

Training Records

The QI will maintain records sufficient to document training of its response team personnel and maintain them at the KWPC Office for as long as the member remains a part of the facility response team. These records are available for agency inspection upon request. Discharge Prevention meetings will be conducted on a regular basis and records are maintained at the KWPC Office for a period of five years.

Drill Records

The QI will ensure that records sufficient to document drills for KWPC personnel are maintained for five years following completion of drills. Drill records are made available for inspection upon request by agency personnel.

D. DRILL DOCUMENTATION & TRAINING FORMS

Drill documentation and training forms are provided in Appendix F to assist the QI in documenting that KWPC employees have conducted all required exercises under the PREP and that each employee has received oil spill prevention & response training.

SECTION XIV: PLAN REVIEW AND UPDATE PROCEDURES

A. REVIEW AND UPDATE PROCEDURES

The KWPC Combined Plan will be reviewed and updated annually or sooner if necessary. The Combined Plan will also be reviewed/evaluated every five years and modified as appropriate. In addition, if new or different operating conditions occur or if information is discovered which may substantially affect the implementation of the Combined Plan or materially affect the response to a worst-case discharge, the Combined Plan will be revised within 30 days. Examples of such changes in operating conditions include:

- Applicable regulations are revised;
- Combined Plan fails in an emergency;
- Change I Qualified Individual(s);
- Change in the NCP or ACP that has significant impact on the appropriateness of response equipment or strategies;
- A change in the KWPC facility's configuration that materially alters the information included in the Combined Plan occurs [i.e., extension/replacement of existing pipeline, construction of new storage tank(s) or pipeline(s)];
- The type of oil (oil group) handled, stored, or transferred that materially alters the required response resources changes;
- A change in the name(s) and/or capabilities of the oil spill removal organization occurs;
- A material change in the capabilities of the oil spill removal organization(s) that provide equipment and personnel to respond to discharges of oil;
- A material change in the KWPC facility's spill prevention and response equipment or emergency response procedures;
- Any other changes that materially affect the implementation of the Combined Plan; and
- When required by the USEPA Regional Administrator.

The Combined Plan will also be evaluated after each drill or incident to examine the:

- Combined Plan's effectiveness;
- Actions of response team & contractors; and
- Performance of the response equipment

If any deficiencies are identified, they will be corrected and the Combined Plan will be revised with 30 days, if necessary. Amendments to facility personnel and phone numbers shall be treated as minor revisions and forwarded to all involved agencies.

Reviews, updates, and maintenance of the Combined Plan will be the responsibility of the QI. All Combined Plan holders will be encouraged to submit suggestions for corrections to and/or modifications of this Combined Plan directly to the QI for plan corrections and distribution. The Combined Plan (or a letter indicating there are no significant changes in the Combined Plan) is required to be submitted to PHMSA, USCG and USEPA for review and approval every five years.

All revisions to this Combined Plan will be distributed to plan holders by cover letter. The letter and the Combined Plan update page will instruct the recipient as to which pages to replace (i.e., the old page should be removed and replaced with the revised page). Each holder of this Combined Plan will be instructed to incorporate the changed pages and to review them to ensure that he/she maintains an up-to-date and accurate understanding of the provisions of this Combined Plan. Revisions and updates should be recorded by the Combined Plan holder on the Record of Revisions page located at the front of the Combined Plan.

APPENDIX A

OIL SPILL EMERGENCY RESPONSE EQUIPMENT

A.1 Facility Response Equipment and Location

The Key West Naval Air Station Oil Spill Response team is the first responder to an oil spill incident, which could occur from the KWPC Terminal or pipeline transfer system. Eagle/SWS is the secondary responder and is the KWPC's designated Oil Spill Removal Organization. Eagle/SWS can arrive at the facility within 4 hours of notification. A listing of response equipment immediately available to the KWPC is listed below.

Oil Spill Response Equipment

Table A-1 Key West Pipeline Company Response Equipment		
Equipment Type	**Quantity**	**Location**
Sorbent Materials		
Absorbent pads	Three bundles	Pump house
Absorbent boom	Thirty feet (ft)	KWPC office building
Speedy Dry	Sixty pounds	KWPC office building
Recovery Equipment		
Shovel	Two	KWPC office building
Rake	One	KWPC office building
Hoe	One	KWPC office building
Axe	One	KWPC office building
Pick	One	KWPC office building
Wheelbarrow	One	KWPC office building
Miscellaneous Equipment		
Hand tools	One set	KWPC office building

Spill Kits		
Equipment Type	**Quantity**	**Location**
Sorbent pads	2 bags 17in x19in 100 pads	Spill kits are located at the following locations: 1. KWPC pump room 2. Stock Island block valve 3. Boca Chica block valve 4. Boca Chica filter station
Sorbent socks	12 – 3in X 4ft	
Sorbent pillows	6 18in x18in	
Disposable bags	6	
Light sticks	4-6inch	
Emergency response guide book	1	
Tyvek coverall	6 (XXXL & XL)	
Nitrile gloves	6 pair	

Body guard gloves	6 pair	
Heavy rubber gloves	6 pair	
Dust masks	9	
Goggles	4 pair	
Hand cleaner	1 bottle	
Drum	1	

KWNAS Oil Spill Response Team maintains a large stockpile of oil spill response equipment, which is available to respond to the KWPC facility if needed. The KWNAS maintains approximately 13,150 ft of boom, seven response and boom deployment vessels, three miscellaneous vessels, two 4,000-gallon vacuum trucks, miscellaneous adsorbent materials, and access to heavy equipment. A complete list of materials and equipment available to the Oil Spill Response Team is provided in KWNAS Facility Response Plan, which may be requested through the KWNAS Public Works Engineering Environmental Branch. A partial listing of their response equipment is provided below.

Table A-2

Key West Naval Air Station Partial Response Equipment List

Equipment Type	Quantity	Location
Containment Boom		
Harbor Boom	1,000 Ft	Boca Chica
Harbor Boom	12,150 FT	Truman Annex building 284
Response Boats		
30 -19FT	Seven	Outer mole pier
Miscellaneous boats	Three	Outer mole pier
Recovery Equipment		
Vacuum trucks 4,000 gal capacity with weir skimmers	Two Vac trucks with a total of 10,080 gallons/day (de-rated) effective daily recovery rate	Outer mole pier
Absorbent materials	Miscellaneous	Outer mole pier
Front End Loaders, Graders, Dump Trucks	Miscellaneous	Boca Chica

The following additional response equipment is available in a trailer and cargo container, maintained by SWS and located on the Trumbo Point tank farm just west of KWPC Tank 1. A list of additional equipment to be provided by SWS is included in the emergency response contract, which is included in A.3 of this appendix.

Table A-3
Eagle/SWS Emergency Response Trailer

Equipment Type	Description	Quantity
Boom		
Containment Boom	18 Inch	1,000 FT
Response Boat		
Jon boat	16 Foot	1
Outboard boat motor	Yamaha	1
Bow hook	Each	1
Fire extinguisher	Each	1
Sorbent Materials		
Soft boom	Bails	10
Sorbent pads	Bundles	7
Chemical absorbent pads	Bundles	2
Gray absorbent chemical carpet	Roll	1
Lay absorbent	Bags	10
Personal Protective Equipment		
Hard hats	Each	2
Tyvek suits (XXL)	Box	1
Chicken boots	Pairs	6
Work gloves	Pairs	12
Nitrile gloves	Pairs	12
Vinyl gloves	Box	1
Petroleum gloves	Pairs	12
Safety goggles	Box	1
Duct tape	Rolls	2
First aid kit	Each	1
Recovery Equipment		
Hand pump	Each	1
Drums	55-gallons	10
Plastic buckets with covers	Five gallons	2
Flat shovels	Each	3
Plastic bags	Rolls	2

Visquene	Rolls	2
Miscellaneous Equipment		
Push brooms	Each	3
Degreaser	Gallons	5
Portland cement	Pounds	80
Pump spray bottle	Each	1
Shop rags	Bag	1
Metal folding chairs	Each	2
Potable water	Cases	2

A.2 Fire Fighting Equipment

The KWPC maintains twelve 30-lb dry chemical fire extinguishers, which are located throughout the facility as provided. The location of each fie extinguisher is provided in he table below.

Table A-4

Key West Pipeline Company Fire Extinguishers

Location	Type
Truck loading/unloading rack	Dry Chemical - 30 Lbs
Manifold building at Trumbo Point tank farm	Dry Chemical - 30 Lbs
Manifold building at Boca Chica tank farm	Dry Chemical - 30 Lbs
Base of stairs on Tank 1	Dry Chemical - 30 Lbs
Base of stairs on Tank 3	Dry Chemical - 30 Lbs
KWPC office (four extinguishers)	Dry Chemical - 30 Lbs
Skid Mounted Fueling Station No. 1 (Pier D-2)	Dry Chemical - 30 Lbs
Skid Mounted Fueling Station No. 2 (Pier D-2)	Dry Chemical - 30 Lbs

The KWNAS Fire Department also has two fire trucks with pumpers at Trumbo Point Annex and additional fire fighting vehicles at Boca Chica available for emergency response at the KWPC facility. All trucks are equipped with aqueous film-forming foam units (AFFF).

EMERGENCY RESPONSE SERVICE AGREEMENT

THIS AGREEMENT, made and entered into this 27th day of March, 2008, by and between KEY WEST PIPELINE COMPANY, P. O. Box 270415, Houston, Texas 77027-4875, (hereinafter referred to as "CLIENT") and SOUTHERN WASTE SERVICES, INC., 2211 St. Andrews Boulevard, Panama City Beach, Florida 32405 (hereinafter referred to as "CONTRACTOR").

ARTICLE I. DEFINITIONS

1.1 CONTRACTOR. "CONTRACTOR" means CONTRACTOR and its officers, directors, employees, agents, subcontractors and its affiliates, divisions and subsidiaries.

1.2 CLIENT. "CLIENT" means Key West Pipeline Company ("Key West"), its affiliates, divisions and subsidiaries, if any, and its officers, directors, partners, employees, agents and subcontractors.

1.3 Project Site. "Project Site" means CLIENT's bulk product storage facility with two 55,000 barrel and one 25,000 barrel aboveground storage tanks, located at Trumbo Point Naval Annex; CLIENT's terminal facility located at Pier D-2 on the United States Coast Guard Base, Key West, Florida; (CLIENT receives fuel by tanker at Pier D-2 and the fuel is transported via underground pipeline to the bulk product storage facility; CLIENT also fuels vessels by transferring fuel via the underground pipeline from the bulk product storage facility to the terminal facility on Pier D-2); CLIENT's underground receiving pipeline, from the terminal facility to the bulk product storage facility; CLIENT's integral piping at the bulk product storage facility; CLIENT's aboveground FSII (ethylene glycol) storage tank; and CLIENT's underground shipping pipeline of approximately seven miles, which runs from the bulk product storage

facility to the United States Navy's bulk product storage facility at the Naval Air Station, Boca Chica, Florida.

1.4 CLIENT's On-Scene Representative. "CLIENT's On-Scene Representative" means _____, Key West Pipeline Company, P. O. Box 2276, Key West, Florida 33040, telephone number (305) 294-4812 or Mr. Mark Rauch, Key West Pipeline Company, 4635 SW Freeway, Suite 910, Houston, TX 77027, telephone number (713) 627-1700.

1.5 Hazardous Substances. "Hazardous Substances" shall include any and all substances defined or identified as hazardous substances under the Resource, Conservation and Recovery Act, the Comprehensive Environmental Response, Compensation and Liability Act, and other applicable federal and state laws and regulations as of the date of this Agreement, and petroleum (including crude oil and any of its fractions), but shall not include high level radioactive materials as defined by the Atomic Energy Act or materials or substances designed or produced for use as explosives.

1.6 Facility Response Plan. "Facility Response Plan" means the Facility Response Plan, Key West Pipeline Company, dated July 11, 2003, as it may be amended from time to time.

ARTICLE II. SERVICES

2.1 EMERGENCY SPILL CONTROL RESPONSE SERVICES

2.1.1 Program. CONTRACTOR will provide CLIENT with a program to respond to spills of Hazardous Substances on an emergency basis, at the Project Site, in the manner and to the extent specified in Section 2.1.5 ("Work").

2.1.2 Personnel. In order to provide CLIENT with emergency spill response capability, CONTRACTOR will:

(a) maintain Expert Teams stationed on a 24-hour on-call basis. A list of emergency response equipment available to the Expert Teams in the CONTRACTOR'S office is set forth in Exhibit A. Each Expert Team will consist of individuals trained in current spill control and clean up technology, trained in accordance with Occupational Safety and Health Administration ("OSHA"), United States Coast Guard and United States Environmental Protection Agency Regulations, and capable of administering emergency response to spills of Hazardous Substances as required by this Agreement;

(b) upon receipt of an initiation of spill response ("Initiation") as provided in Section 2.1.4, promptly dispatch an Expert Team and response equipment to the scene of the spill.

2.1.3 Coordination. CONTRACTOR will act to coordinate the spill response activities of CONTRACTOR's personnel and such subcontractors as CONTRACTOR in its opinion deems necessary or desirable and as approved by CLIENT's On-Scene Representative to achieve the spill response required by this Agreement, and will maintain a spill response coordinator in the vicinity of the spill area, reasonably available to CLIENT at all times until the emergency spill response has been concluded.

2.1.4 INITIATION OF SPILL RESPONSE

2.1.4.1 Initiation. CLIENT may initiate a response to any spill of a Hazardous Substance by a direct telephone call to CONTRACTOR at 1-800-852-8878, or the local telephone number for any Expert Team or Emergency Unit described in Section 2.1.2. The person initiating the response shall provide CONTRACTOR with:

(a) His or her name and title;

(b) CLIENT's name, address, telephone number;

(c) The location of the spill;

(d) The nature of the Hazardous Substances involved in the spill;

(e) The approximate time of the spill; and

(f) Any other pertinent information relating to the spill.

2.1.4.2 Mobilization. Upon receipt of such instruction, CONTRACTOR will respond to the spill in the manner provided in Section 2.1.2(b) and under conditions contained in Sections 2.1.4 through 2.1.5. Upon CONTRACTOR's arrival at the spill scene, CLIENT's On-Scene Representative will give CONTRACTOR final authorization to proceed with the spill response.

2.1.5 Scope of Spill Response. The spill response services to be provided by CONTRACTOR under this Agreement may include, but not be limited to the following: (i) containment, recovery, repackaging and removal of Hazardous Substances; (ii) site evaluation, decontamination and restoration; (iii) transportation, storage, treatment or disposal of wastes; (iv) technical services, including sampling, laboratory analysis, and other related services; (v) standby of personnel and equipment in anticipation of imminent activation; and (vi) training and mock spill drill deployments. CLIENT acknowledges that spill response activities provided by CONTRACTOR under this Agreement are provided on an emergency basis; that the purpose of each spill response is to minimize to the extent practicable the environmental damage and health and safety risks resulting from a spill of Hazardous Substances; and that the Hazardous Substance involved in the spill may not be eliminated from the scene of the spill or other affected area by the spill response. CONTRACTOR does not warrant, by the terms of this Agreement or by undertaking a spill response pursuant to this Agreement, that such response will render the

scene of the spills, or areas affected by the spill safe for any form or human activity, or in compliance with any state, local or federal law. CONTRACTOR does warrant that all Work conducted by CONTRACTOR will be in accordance with all applicable federal, state and local laws, rules and regulations.

2.2 ADDITIONAL ENVIRONMENTAL SERVICES

2.2.1 CONTRACTOR may provide CLIENT with additional environmental services, including but not limited to remedial investigations, feasibility studies, groundwater services and remedial actions pursuant to supplemental agreements signed by authorized representatives of CLIENT and CONTRACTOR. Each supplemental agreement will contain, among other provisions, a description of the services to be performed, a performance schedule and a cost estimate. All supplemental agreements shall be subject to the terms and conditions set forth in this Agreement. In the event any provision contained in a supplemental agreement conflicts with any term or condition of this Agreement, the provisions of this Agreement shall govern unless the supplemental agreement specifically states that it is intended to amend this Agreement.

2.2.2 CONTRACTOR will provide an eight (8) hour OSHA Approved Emergency Response Refresher Training to three employees of CLIENT annually during the term of this Agreement.

2.2.3 CONTRACTOR will participate in a support role with CLIENT in a spill response drill at the Project Site annually, which shall include CONTRACTOR, CLIENT and the activation of CLIENT's Facility Response Plan ("Spill Response Drill"). CLIENT shall give CONTRACTOR thirty (30) days advance notice, in writing, of a scheduled Spill Response Drill. A Spill Response Drill shall include CONTRACTOR's support role in the deployment of a

representative sample of response equipment. Such equipment shall be operated in its intended operating environment as identified in the Facility Response Plan. CONTRACTOR shall document their portion of participation in the Spill Response Drill by completing an equipment deployment report, similar to the form provided in Exhibit B ("Equipment Deployment Report"). The Equipment Deployment Report must include a list of the exercises conducted, the objectives met, and the results of the Spill Response Drill as it pertains to CONTRACTOR's participation. The Equipment Deployment Report must be in writing and signed by a responsible individual with CONTRACTOR and include the date and time of each exercise included within the Spill Response Drill. CONTRACTOR shall subcontract with The Meredith Management Group, Inc. ("SUBCONTRACTOR") to perform the annual Table Top Exercises, which shall be performed in accordance with the current National Preparedness for Response Program Guidelines and take place in conjunction with the Spill Response Drill.

ARTICLE III. CONTRACTOR'S RESPONSIBILITIES

3.1 CONTRACTOR will provide all supervision, labor, materials, tools, equipment and subcontracted items necessary for the performance and completion of the Work and hereby represents that the workers provided will be qualified to perform the Work in a professional manner.

3.2 CONTRACTOR shall be responsible for the payment of all taxes covering the services to be performed, including the payment of all applicable taxes covering its employees. Should any taxes enacted following execution of this Agreement increase CONTRACTOR's charges and expenses, CONTRACTOR's compensation hereunder shall be adjusted to reflect the increase.

3.3 CONTRACTOR shall take necessary precautions for the safety of its employees, and shall comply with all applicable provisions of Federal, State and Local safety laws. CONTRACTOR shall erect and properly maintain, at all times, as required by the conditions and progress of the Work, necessary safeguards for the protection of its employees. It is understood and agreed, however, that CONTRACTOR shall have no responsibility for the elimination or abatement of safety hazards created or otherwise resulting from Work at the premises carried on by other persons or firms directly employed by CLIENT as separate contractors or by CLIENT's employees and agents. CLIENT agrees to cause any such separate contractors, employees and/or agents to abide by and fully adhere to all applicable provisions of federal, state and local safety laws and regulations and to comply with all reasonable requests and directions of CONTRACTOR for the elimination or abatement of any such safety hazard at the premises.

3.4 CONTRACTOR shall keep such full and detailed records as may be necessary to reflect (1) proper financial management under this Agreement; (2) Work performed at the Project Site; (3) all testing, sampling and investigatory work performed by CONTRACTOR; and (4) all training and certification of CONTRACTOR'S employees as required by federal, state and local rules and regulations including but not limited to drug testing requirements under 49 Code of Federal Regulations Part 199. All such records will be subject to review by CLIENT during normal business hours and for a period of two (2) years after the Work his been completed or longer where required by law.

3.5 CONTRACTOR shall provide appropriate insurance for the Work as provided in paragraph 7.1.

3.6 CONTRACTOR shall comply with all applicable laws of federal, state and local Governments in the performance of the Work.

ARTICLE IV. CONTRACTOR'S REPRESENTATIONS.

4.1 CONTRACTOR represents and warrants that it holds the permits and licenses required for the performance of the Work.

4.2 CONTRACTOR represents and warrants that its services under this Agreement shall be performed in a thorough, efficient and workmanlike manner, promptly and with due diligence and care and in accordance with that standard of care and skill ordinarily exercised by members of the profession doing similar work.

4.3 CONTRACTOR represents and warrants that it has the ability to provide emergency response services, discharge containment and cleanup services pursuant to the Oil Pollution Act of 1990 and the Clean Water Act and Chapters 62N-16 and 62-762, Florida Administrative Code ("F.A.C."), as they may be amended from time to time.

4.4 CONTRACTOR represents and warrants that it is currently a qualified responder for all classifications (Maximum Most Probable Discharge and Worst Case Discharge Tiers 1, 2, and 3) within the River/Canal and Inland categories of the Key West Captain of the Port Zone, pursuant to the Guidelines for the U.S. Coast Guard Oil Spill Removal Organization Classification Program, dated April 27, 2001, as they may be amended from time to time, and will maintain the aforementioned status throughout the duration of the Agreement.

4.5 CONTRACTOR represents that it maintains resources that make it potentially capable of responding to a spill at the Project Site, within four (4) hours of notification, to provide the services describe in Article 2.1.5.

4.6 CONTRACTOR represents and warrants that it has read and is familiar with spill response provisions of the Oil Pollution Act of 1990 and the implementing regulations by the United States Coast Guard, United States Environmental Protection Agency and the Department of Transportation, Pipeline and Hazardous Materials Safety Administration, as they may be amended from time to time.

4.7 CONTRACTOR represents and warrants that it has reviewed and is familiar with CLIENT's Facility Response Plan, as provided by CLIENT.

4.8 CONTRACTOR represents and warrants that any laboratories it subcontracts with to perform services related to this Agreement shall be appropriately certified pursuant to applicable federal, state and local laws, rules and regulations.

4.9 CONTRACTOR represents and warrants that all services performed under this Agreement shall be in full compliance with all applicable federal, state and local laws, rules and regulations including but not limited to, Chapter 376, Florida Statutes, and Chapters 62N-16 and 62-762, F.A.C., as they may be amended from time to time.

4.10 CONTRACTOR represents and warrants that it has the ability to provide emergency response services, discharge containment and cleanup services pursuant to Chapter 62N-16, F.A.C., as requested by CLIENT for discharges of JP-5 fuel stored at CLIENT's facility.

4.11 CONTRACTOR represents and warrants that it possesses a Florida Department of Environmental Protection certification as a Category One and Category Two organization.

4.12 CONTRACTOR represents and warrants that it has read and is familiar with the pollutant discharge provisions of Chapter 62N-16, F.A.C., as they may be amended from time to time.

4.13 CONTRACTOR represents and warrants that it will make available emergency response equipment as required by rule 62N-16.034, F.A.C. and as set forth in Exhibit C.

4.14 CONTRACTOR shall maintain a trailer equipped with 800 feet of 18" oil boom and up to 200 feet of absorbent boom which shall be located at Project Site.

ARTICLE V. CLIENT'S RESPONSIBILITIES

5.1 CLIENT shall be responsible for securing all necessary approvals, judicial and/or administrative orders necessary to ensure CONTRACTOR's legal access to the Project Site.

5.1.1 In the event the Work requires immediate response by CONTRACTOR prior to CLIENT securing such approvals as set forth in 5.1, and if CONTRACTOR is nonetheless directed by CLIENT to proceed with such response, CONTRACTOR shall proceed with such response Work. By proceeding with such Work, CONTRACTOR shall not be deemed negligent with respect to the failure to require CLIENT to secure such approvals as set forth in 5.1 and CLIENT shall indemnify CONTRACTOR with respect to any claims arising out of such failure to secure approvals for site access prior to Initiation of such Work as set forth in Article VIII.

5.2 CLIENT shall be responsible for repairs to all roadways and rights-of-way arising out of the normal wear and tear resulting from CONTRACTOR's use thereof by its equipment during the performance of the Work unless otherwise agreed to.

5.3 CLIENT holds custody to all Hazardous Substances to be treated, stored, controlled and/or disposed and shall be under no legal restraint or order which would prohibit the treatment, storage and/or disposal of such Hazardous Substances by any transporter or disposal facility.

5.4 CLIENT shall communicate to CONTRACTOR those special hazard risks involved in the excavation and/or removal of the hazardous substances of which it is or becomes aware and provide material safety data to CONTRACTOR.

ARTICLE VI. COMPENSATION

6.1 CLIENT shall pay to CONTRACTOR a yearly fee of five thousand dollars ($5,000.00) ("Spill Response Drill Fee") for participation by the CONTRACTOR in the annual spill response drill training required by this Agreement and payment of SUBCONTRACTOR's costs and fees for performing the Table Top Exercises. CONTRACTOR shall invoice CLIENT within thirty (30) days from the completion of the spill response drill training and CLIENT shall pay the Spill Response Drill Fee within thirty (30) days of receipt of the invoice. The Spill Response Drill Fee shall include CONTRACTOR's costs for providing eight (8) hour OSHA Approved Emergency Response Refresher Training for three (3) employees of CLIENT as set forth in Section 2.2.2.

6.2 For spill response services provided to CLIENT as requested, CONTRACTOR shall bill CLIENT monthly for hours worked, equipment used, and material expended in accordance with the terms and rates set forth in CONTRACTOR's Catalog Price List attached hereto and incorporated herein. The rates are set forth in Exhibit D.

6.2.1 CLIENT shall pay CONTRACTOR for the services herein above described at rates specified. Terms of payment shall be as follows:

(a) Daily reports detailing the personnel, equipment, supplies and materials used by the CONTRACTOR on a daily basis will be submitted by CONTRACTOR for signature and approval by CLIENT or his authorized agent. If such daily reports are not signed, or objections made, within twelve

(12) hours of receipt from the CONTRACTOR, the CLIENT shall be deemed to have accepted the daily reports as presented.

(b) Unless otherwise specified in Exhibit D, CLIENT agrees to pay CONTRACTOR eighty percent (80%) of the full invoiced amount within twenty-one (21) calendar days of receipt of any invoice. CLIENT agrees to pay the twenty percent (20%) remaining balance of such daily invoices within forty-five (45) calendar days of receipt. All sums outstanding will be subject to interest at one and one half percent (1.5%) per month.

ARTICLE VII. INSURANCE

7.1 CONTRACTOR shall procure and maintain, at its expense, during the term of this Agreement the following insurance:

COVERAGE	LIMITS
(a) Worker's Compensation	Statutory
(b) Employer's Liability	$200,000 Each Occurrence
(c) General Liability	$1,000,000 Each Occurrence
	$2,000,000 Aggregate
(Bodily Injury/Property Damage)	Single Limit
(d) Automobile Liability	$2,000,000 Combined Single
Owned, non-owned and hired	Limit
(Bodily Injury/Property Damage)	
(e) Consultant's Environmental	
Liability	$2,000,000 Each Occurrence
	$2,000,000 Total

7.2 Prior to the use of any subcontractor in the performance of the Work under this Agreement, CONTRACTOR shall provide CLIENT with a Certificate of Insurance evidencing that all employees utilized by said subcontractor are covered by such insurance as will protect subcontractor and CLIENT from claims under workers' compensation laws, disability benefit laws or similar employee benefit laws.

7.3 General Liability Insurance shall include coverage for completed operations, contractual liability, and independent contractor coverage under this Agreement. CONTRACTOR agrees to furnish to CLIENT insurance certificate(s) reflecting CONTRACTOR's compliance with the requirements of this Section prior to initiation of Work. The policy under Paragraph 7.1(a) above shall include a waiver of subrogation in favor of CLIENT, and CLIENT shall be named as additional insured under the policies referenced in Paragraph 7.1(c) and (d) above.

ARTICLE VIII. INDEMNIFICATION

8.1 CONTRACTOR agrees to indemnify, defend and hold harmless CLIENT, its directors, officers, shareholders, partners, employees and agents from and against any and all liabilities, claims, demands, costs or expenses, including reasonable attorneys' fees, and causes of action for bodily injury to or death of any person or destruction of or damage to any property that occurred as a result of the negligence or intentional acts of CONTRACTOR, its agents, employees or subcontractors in the performance of the Work under this Agreement, or, the failure of CONTRACTOR, or any of its employees or agents to observe or comply with any of CONTRACTOR's duties and obligations under this Agreement, or, the failure of CONTRACTOR or any of its employees or agents to comply with any federal, state or local laws, rules and regulations, except to the extent such liabilities, claims, demands and causes of

action occurred solely as a result of: (i) CLIENT's failure to comply with and fulfill its obligations under this Agreement, or, (ii) the negligence or intentional acts of CLIENT.

8.1.1 Upon submission of the final statement or invoice for the services performed, CONTRACTOR shall warrant that there are not amounts owed by it or by any of its tier subcontractors which could become the basis for a lien against CLIENT's property. Further, in consideration of the final payment due CONTRACTOR under this Agreement, CONTRACTOR hereby agrees to indemnify and hold CLIENT harmless against any lien arising out of or resulting in any way from CONTRACTOR's or its subcontractor's performance of this Agreement.

8.2 Where both CONTRACTOR'S and CLIENT's negligence contributed to the liability producing situation, each party shall be responsible for any resultant damages in proportion to its relative degree of fault.

8.3 Neither party shall be liable to the other for any indirect, special, or consequential damages, including but not limited to loss of profit or products whether such liability is based, or claimed to be based, upon any negligent act or omission of a party or its personnel, or whether such liability is based, or claimed to be based, upon any breach of a party's obligations under this Agreement.

8.4 The provisions of this Article shall survive the termination or expiration of this Agreement.

ARTICLE IX. CONFIDENTIALITY

9.1 CONTRACTOR and CLIENT shall treat as confidential and proprietary and not disclose to others during or subsequent to the term of this Agreement, except as is necessary to perform this Agreement, (and then only on a confidential basis satisfactory to both parties),

any information whether verbal or written, or any description whatsoever, (including any technical information, experience or data) regarding either party's plans, programs, plants, processes, products, cost, equipment, operations or customers which may come within the knowledge of the parties, their officers or their employees in the performance of this Agreement, without, in each instance, securing the prior written consent of the other party.

9.2 CONTRACTOR shall also treat as confidential and shall not disclose to others, except as required by law, information relating to the chemical composition and quantity of the Hazardous Substances or the quantity of Hazardous Substances delivered to it by CLIENT.

9.3 Nothing contained within this Article shall prevent either CONTRACTOR or CLIENT from disclosing to others or using in any manner information which either party can show:

(a) has been published and has become part of the public domain other than by acts, omissions, or fault of CONTRACTOR or CLIENT;

(b) has been furnished or made known to CONTRACTOR or CLIENT by third parties (other than those acting directly or indirectly for or on behalf of CONTRACTOR or the CLIENT) as a matter of legal right without restrictions on its disclosure; or

(c) was in either party's possession prior to the disclosure thereof by CLIENT or CONTRACTOR to each other. Provided, however, neither party shall release, or cause or allow the release of, information to the communications media, except as required by law, concerning the identification of CLIENT's Hazardous Substances; or general description, characteristics or constituents of the Hazardous Substances, or identification of the disposal facility receiving

the Hazardous Substances, without in each instance securing the prior written consent of the other party.

9.4 In the event that either party shall be required by subpoena, court, or administrative order (hereinafter "The Order") to disclose any of the information deemed by this Agreement to be confidential and/or proprietary, that party shall give immediate written notice to the other party. Upon receipt of same, the party whose information may be the subject of The Order expressly reserves the right to interpose all objections it may have to the disclosure of its information. The foregoing shall survive the termination or expiration of this Agreement and shall continue until a specific written release is given by either party.

9.5 For purpose of this Article, information means any handwritten, typewritten, printed recorded or graphic matter including computer-generated mediums, however produced or reproduced and regardless of whether created by CONTRACTOR, CLIENT or some other entity.

ARTICLE X. WORK ON CLIENT'S PREMISES

10.1 The performance of the Work as requested by CLIENT is, by its nature, inherently dangerous; accordingly, while CONTRACTOR's employees or subcontractors are on CLIENT's premises, CONTRACTOR will maintain strict work discipline and effect its Work in compliance with governmental laws or regulations pertaining to occupational safety and health. CONTRACTOR, its employees or subcontractors while working on CLIENT's site, shall comply with CLIENT's written safety procedures which shall be provided to CONTRACTOR prior to commencement of the Work.

ARTICLE XI. INSPECTIONS

11.1 CLIENT shall have the right to inspect and obtain copies of all applicable written licenses, permits or approvals issued by any governmental entity or agency to CONTRACTOR for its performance of Work under this Agreement.

ARTICLE XII. EXCUSE OF PERFORMANCE

12.1 The performance of this Agreement, except for the payment of money for services already rendered, may be suspended by either party in the event that the performance of this Agreement is prevented by a cause or causes beyond the reasonable control of either party, including acts of God, acts of war, riot, fire, explosion, accident, flood, or sabotage, lack of adequate fuel power, raw materials, labor or transportation facilities, governmental laws, regulations, requirements, orders or actions, national defense requirements, injunctions or restraining orders, labor trouble, strike, lockout or injunction, affecting CONTRACTOR's ability to respond to the Project Site.

12.2 The party asserting a right to suspend performance under this Agreement must, within a reasonable time after it has knowledge of the effective cause, notify the other party orally and within five (5) days of oral notification provide written notification of the cause for suspension, the performance suspended, and the anticipated duration of suspension. Upon receipt of such notice advising of a material or indefinite suspension of performance, and if such suspension substantially impairs the value of this Agreement to either party, said party may terminate this Agreement as provided in Article XIII. A party asserting a right to suspend performance who fails to provide notice of the cause of suspension shall waive its rights to rely upon cause as an excuse for non-performance or suspension.

12.3 The party asserting a right to suspend performance hereunder shall advise the other party when the suspending event has ended, and when performance will be resumed.

ARTICLE XIII. TERMINATION

13.1 Terminations, as provided herein, or as allowed by Article XII (Excuse of Performance) shall be by notice in conformance with Article XVIII (Additional General Provisions) from the terminating party to the other party, specifying the reason(s) therefore and the effective date thereof.

13.2 This Agreement may be terminated with or without cause by either party upon thirty (30) days written notice to the other party.

13.3 This Agreement may be terminated by either party upon forty-eight (48) hours written notice should the other party fail substantially to perform in accordance with its terms through no fault of the party initiating the termination, provided the party initiating the termination notice has given the other party written notice of the deficiency and allowed that party a reasonable period of time to cure same before notice of termination is issued.

13.4 In the event of termination not the fault of CONTRACTOR, CLIENT shall compensate CONTRACTOR for all Work performed prior to termination as well as its reasonable charges for demobilization.

ARTICLE IX. DELEGATION AND ASSIGNMENT

14.1 CONTRACTOR may not assign this Agreement without CLIENT's prior written consent. CONTRACTOR may not, without the prior written consent of CLIENT, delegate the performance of the Work or any portion thereof, which is by this Agreement undertaken by CONTRACTOR. Any such authorized delegation shall not operate to relieve CONTRACTOR of its responsibilities hereunder; and, notwithstanding any such delegation, CONTRACTOR shall remain obligated to CLIENT in these undertakings.

ARTICLE XV. INDEPENDENT CONTRACTOR

15.1 The provisions of this Agreement shall not be construed as authorizing or reserving to CLIENT, unless agreed to in writing by CONTRACTOR, any right to exercise any control or direction over the employees or agents of CONTRACTOR in connection with this Agreement. Neither party to this Agreement shall have any authority to employ any person as agent or employee for or on behalf of the other party to this Agreement for any purpose. Neither party to this Agreement shall have any right or authority to make any representations, or to assume or create any obligation, express or implied, on behalf of the other party to this Agreement.

15.2 CONTRACTOR is and shall perform this Agreement as an independent contractor, and as such, shall have and maintain complete control over all of its employees, agents, and cperations. Neither CONTRACTOR nor any anyone employed by it shall be, represent, act, purport to act, or be deemed to be the agent, representative, employee, or servant of the CLIENT.

ARTICLE XVI. RCRA COMPLIANCE

16.1 Nothing contained within this Agreement shall be construed or interpreted as requiring CONTRACTOR to assume the status of a generator, storer, treater or disposal facility as those terms appear within the current Resource, Conservation and Recovery Act, 42 USCA, Section 6901. et seq. (hereinafter "RCRA") or within any state statute governing the treatment, storage and disposal of waste; or to take title to any Hazardous Substances.

16.2 CLIENT shall assume the responsibility for compliance with the provisions of RCRA and any state statute governing the treatment, storage and disposal of hazardous waste.

16.3 In the event CLIENT requests CONTRACTOR's assistance in meeting its obligations, as set forth within this Article, then, CONTRACTOR, as requested and directed by CLIENT, will provide the following:

(a) perform analytical testing to assist CLIENT in the proper characterization of the waste for manifest preparation;

(b) identify potential transporters and disposal facilities which may be used in the transportation and disposal of wastes collected;

(c) enter into subcontract or purchase order arrangements with transporter and/or disposal facilities selected by CLIENT; and,

(d) prepare manifests for CLIENT's approval and execution.

ARTICLE XVII. REMEDIES

17.1 In addition to any remedies the parties may have at law, equity, or otherwise, the parties may, by mutual agreement, choose to resolve any dispute arising under this Agreement through alternative dispute resolution procedures, or, through arbitration conducted in accordance with Construction Industry Arbitration Rules of the American Arbitration Association.

ARTICLE XVIII. ADDITIONAL GENERAL PROVISIONS

18.1 Waiver - Any waiver by either party of any provision or condition of this Agreement shall not be construed or deemed to be a waiver of any other provision or condition of this Agreement, nor a waiver of a subsequent breach of the same provision or condition, unless such waiver be so expressed in writing and signed by the party to be bound.

18.2 Construction and Governing Law - The validity, interpretation and performance of this Agreement shall be governed and construed in accordance with the laws of

the State of Florida. All paragraph headings herein are for convenience only and are in no way to be construed as part of this Agreement or as a limitation of the scope of the particular section, subsection sentence or clause of this Agreement.

18.3 Severability - If any section, subsection, sentence or clause of this Agreement shall be adjudged illegal, invalid or unenforceable, such illegality, invalidity or unenforceability shall not affect the legality, validity or enforceability of this Agreement as a whole or of any section, subsection, sentence or clause hereof not so adjudged.

18.4 Successors and Assigns - The covenants and agreements contained in this Agreement shall apply to, inure to the benefit of and be binding upon the parties hereto and upon their respective successors and assigns.

18.5 Notice - Any notice, communication or statement required or permitted to be given hereunder shall be in writing and deemed to have been sufficiently given when delivered in person or by registered or certified mail, postage prepaid, return receipt requested, to the address of the respective party below:

CLIENT:
KEY WEST PIPELINE COMPANY
P. O. Box 270415
Houston, TX 77027-4875
ATTN: MR. MARK RAUCH

w/ copies to:
KEY WEST PIPELINE COMPANY
P. O. Box 2276
Key West, FL 33040
ATTN: _____

and
WILLIAM L. PENCE, ESQ.
AKERMAN SENTERFITT
P. O. Box 231
Orlando, FL 32802

CONTRACTOR:

SOUTHERN WASTE SERVICES, INC.
ATTN: Eric R. Brown
2211 St. Andrews Boulevard
Panama City Beach, FL 32405

Either party may, by notice to the other, change the address and names given above.

18.6 Non-Exclusivity - CLIENT will use CONTRACTOR's services as CLIENT elects and nothing in this Agreement should be construed as a commitment by CLIENT to purchase CONTRACTOR'S services exclusively. However, should CLIENT request by telephone or in writing CONTRACTOR's services, and acting on this request CONTRACTOR mobilizes its equipment and personnel, and CLIENT subsequently terminates this request before services are performed, then CLIENT is obligated to pay those equipment and personnel fees, on a portal-to-portal basis, in accordance with CONTRACTOR's Catalog Price List set forth in Exhibit D.

18.7 Disputes. In connection with any proceeding brought to enforce the terms and conditions of this Agreement, the prevailing party shall be entitled to recover from the non-prevailing party all costs, expenses and reasonable attorneys' and paralegals' fees incurred by said prevailing party in such proceedings, including all costs, expenses and reasonable attorneys' and paralegals' fees incurred on appeal, in administrative proceedings, or in any arbitration.

18.8 Entire Agreement - This Agreement and its attachments represents the entire understanding and Agreement between the parties hereto and supersedes any and all prior Agreements, whether written or oral, that may exist between the parties regarding same. No terms, conditions, prior course of dealings, course of performance, usage or trade, understandings, purchase orders, or Agreement purporting to modify, vary, supplement or

explain any provision of this Agreement shall be effective unless in writing, signed by representatives of both parties authorized to amend this Agreement.

18.9 Amendments - This Agreement may be amended or modified only by a separate written amendment to the Agreement signed by both parties. Additional or different terms or any attempt by CLIENT or CONTRACTOR, through a Purchase Order, or other document, to vary in any degree any of the terms of this Agreement shall be deemed immaterial and shall be rejected, unless this provision is expressly waived in writing on a separate document by CLIENT or CONTRACTOR.

18.10 Terms of Agreement - This Agreement, effective as of the date of execution, is for a three (3) year term.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their duly authorized representatives as of the day and year first above written.

KEY WEST PIPELINE COMPANY

Signature Mk Rauch

Name Mark Rauch

Title Pres Pipeline + Terminal Management

SOUTHERN WASTE SERVICES, INC.

Signature

Name Eric R Brown

Title National Acct. Manager

Exhibit A

Emergency Response Equipment

Ft. Lauderdale Service Center								
Vacuum Equipment	**QTY**	**CFM**	**GPM**	**Vehicle ID**	**Vehicle ID**	**Vehicle ID**	**Vehicle ID**	**Misc.**
3,300 gal. Liquid Truck	1	547		5023	5022			Cusco
3,300 gal. High Dump Industrial Loader								
Industrial Loader	1	4500		5002				VacCon
Liquid Ring Vacuum Truck								
4,000 gal. Liquid Truck								
2,300 gal. Combination Machine								
2,000 gal. Quickload Vacuum Truck								
2,500 gal. Liquid Vacuum Truck								
6,000 gal. Liquid Vacuum Tanker								
High Pressure Water Equipment	**QTY**							
3000 psi pressure washer	2							
4,000 psi line jetter								**Misc.**
3,000 psi high volume line jetter								(1) Mounted on 5023/ (1) portable
20,000 psi hydroblaster								
Response Vehicles	**QTY**							
20 ft. First Responder Van (Haz)								
1 Ton Response Van								**Misc.**
24 ft. Emergency Response Truck (ERT)								
Haz Response Unit (ambulance type)	1			4018				
Emergency Response trailer	1			1102				
F-150	2			3140	3073			
F-250	3			3042	3131			
F-350								
F-450 (Stake Bed)	1			4507		3083		
Roll Off Equipment	**QTY**							
70,000 lb. Roll-of truck	1			6016				
PUP roll-off trailer								**Misc.**
Double bottom roll-off trailer								Mack
20 yd. Debris boxes	4			7	8			
20 yd. Soil boxes								
20 yd. Gasket boxes						9091	9074	
20 yd. Vacuum boxes								
Skid mounted frac tanks (11,000)								
Skid mounted flatbeds								
Skid mounted 4,000 gal tanks								

Containment Boom	Feet	Manufacturer	Flotation Skirt Length					
10"								
18"								Misc.
24"	2300	American	18"					
26"								
42"								
Skimming Equipment	**QTY**	**Manufacturer**	**GPM**					
ACME Weir Skimmer								
TDS 118 Drum Skimmer								Misc.
TDS 136 Drum Skimmer								
GT 185 Drum Skimmer								
Action 36" Drum Skimmer								
Barrell Mounted Mop Wringer								
Horizontal Mip Wringer								
Vertical Mop Wringer								
Weir Skim Pack	1	Weir	?					
Crucial 36" Drum Skimmer	1	Crucial	50					
Pumping Equipment	**QTY**	**Manufacturer**						
2" Peristalic - Petroleum								
2" Peristalic - Chemical								Misc.
3" Peristalic -								
2", 3" & 4" Double Diaphragm	2	Wilden						
3" & 4" Diaphragm								
3" Submersable - Pneumatic	1	Sludge Master						(1) 2" chem/(1) 3" petro
6" Bypass & Transfer Pumps								
Marine Response Boats / Vessels	**QTY**	**Manufacturer**	**Motor Size**	**Length (FT)**	**Personnel Capacity**			
16' to 25'	2	Sea Ark/Alweld90/25		18/16	6.....3....			
25' to 42'								Misc.
Johnboat	1	Landau	4	12	2			
Service Center Personnel	**Techs**	**Supervisors**	**Managers**	**Admin**	**Part-Timers**			
Personnel	4	1	2	2	1			
								Total
								13

Exhibit B

EQUIPMENT DEPLOYMENT REPORT

Documentation of SWS equipment used during spill response, drills or training

RESPONSIBLE PARTY: SHELL PIPELINE — RP CONTACT: GRAY GURRERO

RP PHONE #: 270-444-9779 — RP FAX #: 270-444-9779

SWS SUPERVISOR: RICHARD KELL — SWS JOB #: PAD0706197

START DATE OF PROJECT JUNE 20TH 2007 — SWS SERVICE CENTER: PADUCAH

SWS PHONE #: 800-852-8878 — MSO / COTP SECTOR: PADUCAH

ENVIRONMENT (CHECK ONE)

PROTECTED SHELTERED **UNSHELTERED**

GEOGRAPHICAL DESCRIPTION (Facility, Body of Water, Miles of Shore)
OHIO RIVER

EQUIPMENT DEPLOYED Boom (minimum 1,000 ft of hard boom), skimmers, vacuum trucks, boats, temporary storage devices, Command/Communications Center.

1,000' (FEET) OF HARD BOOM DEPLOYED, 2 RESPONSE BOATS

SWS PERSONNEL: List by category (supervisor, foreman, equipment operator, technician, etc.)
SUPERVISOR: RICHARD KELL, BOAT OPERATORS: DARREL KELL & DOUG FREDRICK

TECHS: BRAD WATSON, BEN CHILDS, JON LONG, RAYMOND GARDNER

ADDITIONAL REMARKS.
THIS DEPLOYMENT WAS DONE IN COORDINATION WITH THE SONS DRILL <CITY OF PADUCAH, KY>

SWS CERTIFIES THAT: 1) The equipment is in good working order and was properly operated in the environment indicated; 2) Involved personnel demonstrated competency in deployment and operation of the equipment.

JUNE 20TH 2007	RICHARD KELL	SIGNATURE ON FILE
DATE	SWS SUPERVISOR	SUPERVISOR SIGNATURE

This report is used for crediting SWS's client response plan holders for OSRO equipment deployment under the Preparedness Response Exercise Program (PREP), all deployments, whether during actual spill response, training or exercise / drills must be properly documented.

Corporate Headquarters
2211 St. Andrews Blvd. Panama City, FL 32405

Exhibit C

Emergency response equipment as required by Rule 62N-16.034, F.A.C.

(a) Five thousand feet of permanent boom with twelve inch skirt or longer including adequate anchors and lighted buoys.

(b) Twenty-five hundred feet of sorbent boom.

(c) Two each 2000 gallon per hour mechanical removal or skimming devices and two each 2000 gallon capacity holding or storage devices and a minimum of 200 feet of suction hose.

(d) A sufficient quantity of sorbents based on their rated sorption capacity for 1000 gallons of pollutants.

(e) One thousand each heavy duty 30 gallon or larger garbage bags or the equivalent, for containment of soiled sorbents.

(f) Three boats (16 feet or larger), each with a minimum of a 25 horsepower engine suitable for deploying and retrieving boom and transporting discharge clean up equipment.

(g) Hand tools — 10 each yard rakes, 10 each square point shovels, 10 each round pointed shovels and 3 each wheelbarrows.

(h) Two each portable gasoline powered blowers (yard type).

(i) Two each portable trash pumps with at least 100 feet of discharge hose and 50 feet of suction hose with a nozzle. Pumps shall have a lift capacity of 25 feet and discharge capacity of 50 psi.

(j) Ten each portable two-way communication radios or cellular telephones.

(k) One thousand feet of 1/2" line or rope.

(l) Nautical charts of the terminal facility site,

(m) Fifty sets of protective clothing.

(n) Twenty-five pairs of protective footwear.

Exhibit D

Catalog Price List

PERSONNEL	STRAIGHT	O.T.
PR NCIPAL	$1125.00/DAY	$1125.00/DAY
INC DENT COMMANDER	$1125.00/DAY	$135.00/HR.
INDUSTRIAL HYGIEN ST	$1080.00/DAY	$135.00/HR.
PROJECT MANAGER	$1080.00/DAY	$108.00/HR.
ENG NEER	$1080.00/DAY	$108.00/HR.
ZONE MANAGER	$900.00/DAY	$90.00/HR.
HEALTH AND SAFETY OFFICER	$855.00/DAY	$90.00/HR.
CHEM ST	$855.00/DAY	$90.00/HR.
CONTRACT OFFICER	$675.00/DAY	$67.50/HR.
LEGAL SPECIALIST	$270.00/HR.	$270.00/HR.
SUPERVISOR	$75.60/HR.	$113.40/HR.
MARINE OPERATOR (LICENSED CAPTAIN)	$72.00/HR.	$108.00/HR.
TRA NED DIVER	$72.00/HR.	$108.00/HR.
LOGISTICS COORDINATOR	$67.50/HR.	$90.00/HR.
D SPOSAL COORD NATOR	$67.50/HR.	$90.00/HR.
FOREMAN	$54.00/HR.	$81.00/HR.
TRAFFIC CONTROL SUPERVISOR	$54.00/HR.	$81.00/HR.
EQU PMENT OPERATOR	$48.60/HR.	$72.90/HR.
MARINE OPERATOR (<26')	$43.20/HR.	$64.80/HR.
QUAL TY ASSURANCE OFFICER	$45.00/HR.	$67.50/HR
WELDER (40 HR TRAINED)	$45.00/HR.	$67.50/HR.
MECHANIC (40 HR TRA NED)	$43.20/HR.	$64.80/HR
TECHNICIAN II (40 HR TRAINED)	$43.20/HR.	$64.80/HR.
SAMPLING TECHN CIAN	$40.50/HR.	$60.75/HR.
BIOHAZARDOUS TECHNICIAN	$36.00/HR.	$54.00/HR.
ADMINISTRATIVE TECH (40 HR TRAINED)	$43.20/HR.	$64.80/HR.
F ELD CLERK	$37.80/HR.	$56.70/HR.
OFFICE STAFF	$36.00/HR.	$54.00/HR.

EQUIPMENT / VEHICLES	HOUR	DAY
SUPERVISOR – RESPONSE VEHICLE	$30.60	$324.00
RESPONSE VEHICLES	$19.80	$247.50
FOUR WHEEL DRIVE RESPONSE VEHICLE	$25.20	$270.00
TRACTOR TANKER	$108.00	$1,944.00
TRACTOR WITH DUMP TRAILER	$108.00	$1,944.00
TRACTOR WITH FLATBED/LOWBOY	$108.00	$1,944.00
TRACTOR WITH BOX TRAILER	$108.00	$1,944.00
TRACTOR WITH ROLL-OFF TRAILER (2 BOX)	$135.00	$2,430.00
ROLL OFF TRUCKS		
ROLL OFF TRUCK	$67.50	$1,080.00
ROLL OFF TANK (4000 GALLON)	N/A	$67.50
ROLL OFF BOX (30 CUBIC YARD)	N/A	$31.50
ROLL OFF FLATBED (25 FT.)	N/A	$22.50
ROLL OFF CLOSED TOP	N/A	$40.50
VACUUM BOX	N/A	$108.00
*VACUUM TRUCKS**		
3500 GAL LIQUID RING TRUCK	$112.50	$2,025.00
2500 GAL INDUSTRIAL VACUUM TRUCK	$90.00	$1,620.00
2500 - 4000 GALLON LIQUID TRUCK	$90.00	$1,620.00
2500 GALLON COMBINATION	$90.00	$1,620.00
VACCON COMBINATION	$135.00	$2,430.00
INDUSTRIAL LOADER	$162.00	$2,916.00
GUZZLER (PREDATOR)	$162.00	$2,916.00
HIGH RAIL VACUUM TRUCK	$225.00	$4,050.00
*All vacuum trucks will be charged a minimum of four (4) hours and will also require a truck decon charge under most circumstances.		
SPECIALTY VEHICLES		
HIGH PRESSURE WATER JET	$112.50	$2,025.00
DUMP TRUCK	$67.50	$1,125.00
A.T.V. 4-WHEELERS	N/A	$270.00
ERT/ORT / HAZ-MAT RESPONSE	$67.50	$1,125.00
PORTABLE COMMAND CENTER	N/A	$270.00
MECHANIC/WELDING TRUCK	$67.50	$1,215.00
BOOM TRUCK/LIFT GATE	$45.00	$810.00
STAKE BODY TRUCK	$36.00	$648.00
BOOM TRUCK 4X4	$36.00	$648.00
*MILEAGE**	*PER/MILE*	
PICKUP TRUCK/PERSONNEL VEHICLE	$0.45	
VACUUM TRUCK/RESPONSE VAN	$0.81	
TRACTOR	$1.58	
*Mileage is calculated from equipment location (at time of call) to job site. Applicable to projects >50 miles from responding service center.		
PROFESSIONAL DOCUMENTATION		
FLA STATE REPORT	$450.00	
CAD DRAWINGS	$67.50/HR	
ALL OTHER REPORTS*	HOURLY RATE	
*Time required for additional review or re-generation of reports charged at applicable personnel hourly rates (Project Mgr./Office Staff).		

ANCILLARY EQUIPMENT	DAY	WEEK
FRAC TANKER	$90.00	$540.00
MINI FRAC TANKER	$45.00	$270.00
POLY-TANK (500 GAL)	$27.00	$108.00
POLY-TANK (1,000 GAL)	$36.00	$144.00
POLY-TANK (3,000 GAL)	$67.50	$270.00
FAST TANK (2,300 GAL)	$90.00	$360.00
ROLL-OFF TRAILER	$135.00	$540.00
EQUIPMENT TRAILERS	$22.50	$90.00
DRUM TRAILER	$67.50	$270.00
CONTAINMENT BOOM TRAILER (BOX)	$31.50	$126.00
PRESSURE WASHERS	$180.00	$720.00
STEAM/PRESSURE CLEANERS	$405.00	$1,440.00
WELDER/GENERATOR COMBO	$180.00	$720.00
LIGHT TOWER/GENERATOR	$180.00	$720.00
LIGHT STAND (>1000W)	$90.00	$360.00
AIR HANDLERS (PORTABLE)	$22.50	$90.00
MERCURY VACUUM	$450.00	N/A
SAMPLING AUGER	$22.50	$112.50
CHAIN SAW	$45.00	$225.00
SOD CUTTER	$135.00	N/A
GAS BLOWERS	$18.00	$90.00
DECONTAMINATION STATION	$315.00	N/A
DECONTAMINATION POOL	$225.00	N/A
LARGE CYLINDER RECOVERY CASKET	$720.00	$5,040.00
FAT BOY COFFIN	$495.00	$3,465.00
CHLORINE COFFIN	$540.00	$3,780.00
	HOUR	DAY
GENERATOR (MOBILE, TRAILER MOUNTED)	N/A	$567.00
GENERATOR (PORTABLE)	N/A	$243.00
AIR COMPRESSOR (MOBILE, TRAILER MOUNTED)	N/A	$243.00
AIR COMPRESSOR (PORTABLE)	N/A	$162.00
	PER USE	
HOT/COLD TAP BORING TOOL *	$135.00	N/A
MIDLAND RAIL KIT	$225.00	N/A
* PLUS JOB FITTINGS		
	HOUR	DAY
TERMINATOR, Fire Fighting Equipment	N/A	$900.00
FLARE STACK	N/A	$225.00
GROUNDING & BONDING EQUIPMENT	N/A	$315.00
NON-SPARKING TOOLS	N/A	$135.00
NITROGEN PURGE SYSTEM	N/A	$270.00
2 STAGE CORKEN COMPRESSOR	N/A	$1,350.00
TRAFFIC CONE	N/A	$1.80

HEAVY EQUIPMENT	DAY	WEEK
BACKHOE - RUBBER TIRE	$450.00	$2,160.00
BACKHOE W/EXTENDED HOE	$450.00	$2,160.00
BOBCAT	$270.00	$1,386.00
BULLDOZER (D-6 OR EQUIVALENT)	$607.50	$3,037.50
FORKLIFT, 4WD ALL TERRAIN	$382.50	$1,782.00
FORKLIFT, TELESCOPIC-PETT BONE	$432.00	$2,178.00
FRONT END LOADER (544 OR EQUIVALENT)	$585.00	$2,925.00
FRONT END LOADER (624 OR EQUIVALENT)	$675.00	$3,465.00
TRACKHOE (120 OR EQUIVALENT)	$630.00	$3,150.00
TRACKHOE (690 OR EQUIVALENT)	$720.00	$3,600.00
TRACKHOE (790 OR EQUIVALENT)	$1,125.00	$5,175.00
COMPACTOR	$450.00	$2,160.00
MINI EXCAVATOR	$382.50	$1,782.00
GRADALL	$1,800.00	$9,900.00
SPECIALTY EQUIPMENT AVAILABLE AT COST PLUS 20%.		
MOBILIZATION AND DE-MOBILIZATION WILL BE BILLED AT THE APPLICABLE HOURLY RATES.		

PERSONNEL PROTECTION		
LEVEL OF PROTECTION	EACH	
EPA LEVEL "D" (ALL PERSONNEL IN LEVEL D)*	$45.00	
EPA LEVEL "C" (ALL PERSONNEL IN LEVEL C)*	$76.50	
EPA LEVEL "B" (ALL PERSONNEL IN LEVEL B)*	$135.00	
EPA LEVEL "A" (ALL PERSONNEL IN LEVEL A)*	$180.00	
NFPA FIRE BUNKER GEAR*	$135.00	
NFPA FIRE BUNKER GEAR (DECONTAMINATION)	$135.00	
*CHARGES APPLY PER MAN, PER DAY PLUS COST OF EQUIPMENT AND EXPENDABLES.		
ALL ADDITIONAL PPE NEEDED FOR A SAFE RESPONSE WILL BE BILLED AT COST PLUS 20%.		
PPE REQUIRED FOR INITIAL DRESS OUT/ NOT INCLUSIVE OF LEVEL A SUIT		

PERSONNEL EQUIPMENT	DAY	WEEK
CASCADE SYSTEM (TWO WAY)	$180.00	$1,125.00
AIR PACKS - SCBA/SKA PACKS	$36.00	$252.00
CONFINED SPACE ENTRY SAFETY PACKAGE	$315.00	$1,800.00
NIGHT VISION BINOCULARS	$45.00	$225.00
SCUBA EQUIPMENT	$76.50	$472.50

EXPENDABLES	COST	UNIT
LEVEL "A" - LIMITED USE ENCAPSULATED SUIT	$630.00	EACH
RESPIRATOR CARTRIDGES (Mercury)	$36.00	PAIR
RESPIRATOR CARTRIDGES (OVAG)	$23.40	PAIR
RESPIRATOR CARTRIDGES (HEPA)	$6.30	PAIR
RESPIRATOR CARTRIDGES (Not otherwise specified)	COST + 20%	
CASCADE SYSTEM RE-FILLS	$27.00	BOTTLE
AIR PACK RE-FILLS	$6.75	EACH
DUCT TAPE (NON PPE USE)	$4.50	ROLL
HAZARD TAPE (AREA SECURITY)	$25.20	ROLL
TYVEK® SUITS	$5.40	EACH
TYVEK® SUITS WITH HOOD	$7.20	EACH
POLY-COATED COVERALLS	$9.00	EACH
SARANEX SUITS (Tyvem® SL)	$30.60	EACH
LEVEL B SUIT	$88.20	EACH
RAIN GEAR (OTHER THAN PPE)	$31.50	EACH
CHEST WADERS	$85.50	EACH
HIP WADERS	$50.40	EACH
SPLASH SUIT	$137.70	EACH
PVC-NITRILE GLOVES	$3.15	PAIR
DISPOSABLE GLOVES (INNER)	$32.40	BOX
WORK GLOVES	$4.50	PAIR
SILVER SHIELD-GLOVES	$9.00	PAIR
BUTYL GLOVES	$27.00	EACH
LATEX BOOTIES	$4.05	PAIR
BIO-HAZARDOUS BOX	$36.00	EACH
BIO-HAZARDOUS BAG	$0.90	EACH
SHARPS CONTAINER (SMALL)	$10.80	EACH
SHARPS CONTAINER (LARGE)	$27.00	EACH
BIO SOLUTION	$22.50	BOTTLE
LIQUID SPILL CONTROL (REMEDIAL SOLUTION)	$31.50	GALLON
SODIUM HYPOCHLORITE SOLUTION, 5%	$2.70	GALLON
DEGREASER (SIMPLE GREEN)	$24.30	GALLON
CITRUSOL CLEANER	$50.40	GALLON
SHRINK WRAP	$16.65	ROLL
PLUG-N-DIKE	$25.20	APPLICATION
WOODEN STAKES	$14.40	BUNDLE
SIPHON PUMP	$20.70	EACH
STRESS MANAGEMENT (LIQUIDS)	$9.00	PER MAN/PER DAY

SAMPLING/TESTING/EQUIPMENT	COST	UNIT
OVA METER	$180.00	DAY
FOUR GAS METER	$90.00	DAY
SOIL SAMPLER (5 GRAM, EPA METHOD 8260)	$40.50	EACH
MERCURY VAPOR ANALYZER	$315.00	DAY
MULTI-RAE PID	$315.00	DAY
PH METER	$22.50	DAY
PH PAPER	$7.56	ROLL
HAZ-MAT TEST INDICATORS	$45.00	TEST
OIL CLASSIFICATION KITS	$27.00	EACH
AIR SAMPLING PUMPS	$31.50	DAY
AIR SAMPLING TUBES	$13.50	EACH
HAZARD CLASSIFICATIONS (FIELD TESTS)	$18.00	TEST
HAZARDOUS CATEGORY TESTS	$27.00	TEST
GEIGER COUNTER	$31.50	DAY
MERCURY SPILL KIT	$198.00	EACH
DEXSIL CLOR-D-TECT 1000 HALOGEN KIT	$18.00	EACH
DEXSIL CLOR-D-TECT Q4000 HALOGEN KIT	$21.60	EACH
HYDROCLOR Q4000 HALOGEN KIT	$21.60	EACH
TH EF 25 MIL	$2.48	EACH
TH EF 75 MIL	$3.60	EACH
DISPOSABLE BAILERS	$18.90	EACH
COLIWASA	$26.10	EACH
ONE GALLON SAMPLE CAN	$7.20	EACH
FIVE GALLON SAMPLE CAN	$15.98	EACH
SAMPLE JARS (1LTR) EPA 2000 SERIES	$5.63	EACH
SAMPLE JARS (1 QT) CASE 12 NON EPA	$14.40	CASE
SAMPLE JARS (1 PINT) CASE 12 NON EPA	$10.80	CASE
SAMPLE COOLER (SHIPPING CHARGE EXTRA)	$29.16	EACH
DEIONIZED WATER (5 GALLONS)	$13.50	EACH
MANIFESTS	$0.90	EACH
LABELS	$0.90	EACH
BOOM/SORBENTS/LINERS	**COST**	**UNIT**
CONTAINMENT BOOM (18")	$1.58	PER FT/DAY
CONTAINMENT BOOM (27" -- 29")	$1.80	PER FT/DAY
CONTAINMENT BOOM (36")	$4.05	PER FT/DAY
5" ABSORBENT BOOM	$94.50	PACKAGE
8" ABSORBENT BOOM	$162.00	PACKAGE
SORBENT PADS 100CT	$81.00	PACKAGE
SORBENT, INDUSTRIAL ROLL	$202.50	ROLL
SORBENT, ROLLS	$112.50	ROLL
SORBENT, ROLLS (CHEMICAL)	$130.50	ROLL
SORBENT, PADS (CHEMICAL; 100CT	$85.05	PACKAGE
ABSORBENT, CLAY	$13.50	BAG
ABSORBENT, ENCAPSULATING (CHEMICAL)	$27.00	BAG
PORTLAND CEMENT	$16.20	BAG
VERMICULITE	$13.50	BAG
SHREDDED SORBENT (ACID/BASE)	$158.40	PACKAGE
SNARE (ON ROPE)	$58.50	PACKAGE
SNARE (BAG)	$40.50	PACKAGE
SWEEP (OIL) 50'	$64.80	PACKAGE
VISQUENE (ROLL)	$86.40	ROLL
POLY BAGS	$56.70	ROLL
LINER, DRUM (CORRUGATED)	$14.40	EACH
LINER, DRUM (POLY)	$5.31	EACH
LINER, DRUM (CHEMICAL RESISTANT)	$18.00	EACH
LINER, DUMPSTER (ROLL-OFF)	$47.70	EACH
LINER, DUMPTRUCK	$68.85	EACH
LINER, FAST TANK	$144.00	EACH
CAUSTIC NEUTRALIZER	$135.00	BAG
ACID NEUTRALIZER	$36.00	BAG
MERCURY ABSORBENT POWDER	$84.60	BAG
MERCURY VAPOR ABSORBENT	$22.50	BAG
SODA ASH	$27.00	BAG

CONTAINERS	COST	UNIT
55 GAL DRUM, STEEL (17C) NEW	$67.50	EACH
55 GAL DRUM, STEEL (17E) NEW	$58.50	EACH
55 GAL DRUM, STEEL (17H) NEW	$81.00	EACH
55 GAL DRUM, STEEL (17E) RECON*	$40.50	EACH
55 GAL DRUM, STEEL (17H) RECON*	$45.00	EACH
OPEN-TOP DRUM, POLY (20 GAL) NEW	$95.40	EACH
OPEN-TOP DRUM, POLY (30 GAL) NEW	$108.00	EACH
OPEN-TOP DRUM, POLY (55 GAL) NEW	$149.40	EACH
SALVAGE DRUM, STEEL (5 GAL) NEW	$58.50	EACH
SALVAGE DRUM, STEEL (15 GAL) NEW	$81.00	EACH
SALVAGE DRUM, STEEL (30 GAL) NEW	$99.00	EACH
SALVAGE DRUM, STEEL (55 GAL) NEW	$121.50	EACH
SALVAGE DRUM, STEEL (85 GAL) NEW	$220.50	EACH
SALVAGE DRUM, STEEL (55 GAL) RECON*	$157.50	EACH
SALVAGE DRUM, POLY (20 GAL) NEW	$63.00	EACH
SALVAGE DRUM, POLY (30 GAL) NEW	$65.70	EACH
SALVAGE DRUM, POLY (65 GAL) NEW	$162.90	EACH
SALVAGE DRUM, POLY (85 GAL) NEW	$171.00	EACH
SALVAGE DRUM, POLY (95 GAL) NEW	$211.50	EACH
SALVAGE DRUM, POLY (85 GAL) RECON*	$153.00	EACH
SALVAGE DRUM, POLY (95 GAL) RECON*	$166.50	EACH
5 GALLON BUCKET	$18.90	EACH
1-CUBIC YD NON-HAZ BOX W/LINER & COVER	$48.60	EACH
1-CUBIC YD HAZ BOX W/LINER & COVER	$83.70	EACH
* WHEN AVAILABLE		
PUMPS/SKIMMERS	**HOUR**	**DAY**
6" HYDRAULIC/CENTRIFUGAL	N/A	$540.00
1" DOUBLE DIAPHRAM*	N/A	$40.50
4" SINGLE/DOUBLE DIAPHRAGM	$22.50	$450.00
3" SINGLE DIAPHRAM PUMPS	$9.00	$162.00
2"-6" TRANSFER PUMPS*	$13.50	$270.00
3" ALUMINUM DOUBLE DIAPHRAM	N/A	$225.00
3" STAINLESS STEEL DOUBLE DIAPHRAGM*	N/A	$450.00
2" TEFLON/POLY DOUBLE DIAPHRAGM*	N/A	$270.00
4" PORPIT PUMP ("Sludgemaster")	N/A	$1,080.00
1" MASCERATOR PUMP	$49.50	$891.00
HIGH VOLUME TRANSFER PUMP (PETRO)*	N/A	$2,925.00
HIGH VOLUME TRANSFER PUMP (CHEMICAL)*	N/A	$3,150.00
DIESEL PERISTALTIC PUMPS*	$45.00	$540.00
DRUM VAC HEAD	N/A	$112.50
*ALL TRANSFER PUMPS WILL BE REBUILT (RECOMMENDED RE-BUILD KIT) AFTER EACH USE. MANUFACTURER'S GUIDELINES WILL BE FOLLOWED. REBUILD KIT; COST + 20%		
DRUM SKIMMER (36")**	N/A	$405.00
DRUM SKIMMER (72")**	N/A	$675.00
GT 185 SKIMMER	N/A	$1,800.00
FOILEX SKIMMER	N/A	$1,350.00
**PLUS COMPRESSOR (SEE ANCILLARY EQUIPMENT)		
DIESEL HYDRAULIC UNIT	$45.00	$810.00
PRESSURIZED LIQUID TRANSFER PUMP	N/A	$900.00

HOSES	COST	UNIT
PETROLEUM (2" AND 3"), LOW PRESSURE	$0.45	FT
CHEMICAL (2" AND 3"), LOW PRESSURE	$0.90	FT
CHEMICAL TRANSFER	$31.50	FT
FLEX HOSE – 6"	$1.35	FT
COMMUNICATIONS	**COST**	**UNIT**
CELLULAR PHONES (EACH)*	$45.00	DAY
MARINE RADIOS (EACH)	$27.00	DAY
TWO-WAY RADIOS (NEXTEL)	$22.50	DAY
BASE STATION W/REPEATER	$90.00	DAY
REMOTE HARDWIRE LINES	COST + 20%	
LAPTOP COMPUTER	$112.50	DAY
FACSIMILE MACHINE	$13.50	DAY
DESKTOP COMPUTER (W/PRINTER & MODEM)	$112.50	DAY
GPS	$22.50	DAY
PHOTOGRAPHS WITH PROCESSING	$45.00	EACH
*AIRTIME WILL BE BILLED AT COST PLUS 20%		
BOATS*	**HOUR**	**DAY**
COMMAND VESSEL	$85.50	$2,052.00
LARGE WORK BOAT W/ MOTOR & TRAILER (24'-28')	$67.50	$1,215.00
MEDIUM WORK BOAT W/ MOTOR & TRAILER (21'-23')	$49.50	$765.00
SMALL WORK BOAT W/ MOTOR & TRAILER (16'-20')	N/A	$202.50
JOHN BOAT (15 FEET AND UNDER)	N/A	$157.50
PONTOON BOAT W/MOTOR (22'-26')	N/A	$324.00
WAVE RUNNER (INVESTIGATION)	N/A	$162.00
VESSELS OF OPPORTUNITY	COST + 20%	
*ALL VESSELS DO NOT INCLUDE FUEL OR OPERATOR		
OPEN OCEAN EQUIPMENT	PRICES AVAILABLE UPON REQUEST	
HIGH SEAS BOOM (20,000')		
WEIR DISC SKIMMERS		
WEIR DISC HYDRAULIC POWER PACKS 10GPM		
MOBILE COMMAND CENTER (TRAILER)		
PORTABLE BARGES		
ROPE MOPS 4BD		
VACUUM TRANSFER PUMPS		
BELT SKIMMERS		
FASFLO SKIMMERS		
HEAVY EQUIPMENT BARGES (OPEN OCEAN)		
EQUIPMENT CARRIERS		
H.O.S.E. (HAZ. OFFLOADING SYSTEM, EMERGENCY)		
YOKOHAMA FENDER SYSTEMS		
LIGHTERING PUMPS		

NOTES TO THE PRICE LIST:

1. All daily rates are based on an eight (8) hour day, after which the applicable overtime rate will apply. Daily rates for equipment are based on calendar days.

2. There will be a per diem charge of $125.00/man for work requiring an overnight stay for any employee.

3. All equipment and personnel are billed from portal to portal.

4. A minimum charge of four hours will be assessed for all manpower and equipment billed at an hourly rate. For manpower and equipment billed at daily rates, a charge will be assessed equal to one day.

5. The following time schedule shall be used for billing purposes for personnel billed on an hourly basis:

Straight time: 8:00 a.m. - 4:00 p.m., Monday through Friday.

Over time: all hours before 8:00 a.m. and after 4:00 p.m., and all day Saturday.

6. All work performed on federal holidays and Sundays will be billed at double time rates.

7. SWS reserves the right to charge a $6.00 per hour, per person surcharge for all hours work performed under level "A" or level "B" protection.

8. All sub contractors used by SWS during the operation will be billed at cost plus twenty (20%) percent.

9. All equipment not listed on the current pricing schedule will be billed at cost plus twenty (20%) percent.

10. All expendables not listed on the current price schedule will be billed at cost plus twenty (20%) percent.

11. All rates are in U.S. dollars.

12. Telephone "air time" charges will be billed at cost plus twenty (20%) percent. This is for cellular and landline phones. Cellular phones and computers will be billed a maximum of ten days/month.

13. All follow-up work: permitting, meetings, consent orders, insurance meetings or any other commitment of time requested by employer or required by government, courts or other involved parties will be billed at the applicable daily rate (not less than $500.00/day) plus transportation and per diem.

14. All additional medical monitoring required to satisfy federal, state and local regulations will be charged to the customer at cost plus 20%.

15. All equipment prices as quoted do not include operators.

16. SWS will at no time allow post emergency response negotiated rates to become retroactive.

17. All rental items, not otherwise listed (n.o.l.) will be billed at cost plus 20%.

18. SWS reserves the right to bill the client for all items and adjustments made by third party negotiators (qualified individuals, adjusters, etc.).

19. SWS reserves the right to bill for adjustments made necessary due to internal audits and quality assurance checks.

20. All projects will have a minimum of (2) hours inspection and review by a Quality Assurance Officer as requested by the Project Manager.

21. All non-domestic (outside the 48 contiguous states) work will be invoiced at 1.5 times the published service agreement rate.

22. All equipment requiring fuel will automatically carry a 7% fuel surcharge based on usage billed.

APPENDIX B
AMENDMENTS

INSERT AMENDMENTS

APPENDIX C
SPCC & FACILITY RESPONSE PLAN
INSPECTION FORMS

[Intentionally Blank]

KEY WEST PIPELINE COMPANY
STORAGE TANK AND PIPING INSPECTION PROCEDURE

All storage tanks, piping, joints, valve glands and bodies, pipeline supports, metal surfaces, and other aboveground equipment and facilities for transporting or holding oil will be visually checked by each employee as he pursues his daily work. Any and all discrepancies will be reported immediately to the appropriate supervisor.

A detailed and specific visual check of each storage tank system (as indicated above) will be made monthly and records of these inspections will be maintained at the facility. An example storage tank and piping inspection record is attached.

KEY WEST PIPELINE COMPANY
MONTHLY STORAGE TANK & PIPING SYSTEM
INSPECTION FORM

INSPECTION DATE: _____

TERMINAL RESPONSIBLE PERSON:

_____

INSPECTED BY:

_____

This Report is intended to comply with the SPCC Inspection Requirements and applies only to equipment in service. If the inspection performed is not applicable to your installation, mark N/A for the entry.

Loading/Unloading Area:	Satisfactory	Needs Attention	Date Corrected	Comments
1. Make sure instructions reminding tank truck and vessel delivery personnel to disconnect hoses before leaving the Loading/unloading area are posted and visible.				
2. Product loading/unloading connections and hoses are in good operating condition and free of significant leakage.				
3. Truck metering and tank overfill prevention equipment at the facility is operational.				
4. The drive slabs at the Loading/unloading areas are in good condition.				

KEY WEST PIPELINE COMPANY
MONTHLY STORAGE TANK & PIPING SYSTEM
INSPECTION FORM

Loading/Unloading Areas: (Continued)	Satisfactory	Needs Attention	Date Corrected	Comments
5. The secondary containment system for the loading/unloading area are in good operating condition and are able to provide containment as noted in the Plan.				
Tank Storage Areas:				
6. Each aboveground storage tank has been visually inspected for: ▪ Corrosion ▪ Leakage ▪ Drip marks ▪ Discoloration ▪ Damage ▪ Puddles of material ▪ Free product in interstitial space				
7. Manual tank valves are: ▪ In good condition ▪ Free from leakage ▪ Secured “closed” except when in use				
8. Storage tank overfill protection systems are in good working order and are calibrated to tank levels.				

KEY WEST PIPELINE COMPANY
MONTHLY STORAGE TANK & PIPING SYSTEM
INSPECTION FORM

Tank Storage Areas: (Continued)	Satisfactory	Needs Attention	Date Corrected	Comments
9. Security fencing around the facility property is in good condition.				
10. The containment dike areas are: ▪ In good condition ▪ Free of burrowing animals ▪ Free of excessive vegetation ▪ Free of standing water ▪ Able to provide containment as described in the Plan.				
11. Tanks have been monitored over a 12 hour period and have been found to remain stable and constant.				
12. Check tank foundation for: ▪ Cracks ▪ Discoloration ▪ Puddles of material ▪ Gaps between tank and foundation ▪ Localized dead vegetation ▪ Damage caused by vegetation				

KEY WEST PIPELINE COMPANY
MONTHLY STORAGE TANK & PIPING SYSTEM
INSPECTION FORM

Tank Storage Areas: (Continued)	Satisfactory	Needs Attention	Date Corrected	Comments
13. Check aboveground				
piping for:				
▪ Corrosion				
▪ Leakage				
▪ Drip marks				
▪ Discoloration				
▪ Puddles of material				
▪ Bowing of pipe between supports				
▪ Localized dead vegetation				
14. Aboveground product				
piping is:				
▪ In good condition				
▪ Free from leakage				
▪ Free from damage				
▪ Properly supported				
15. Underground product				
Piping:				
▪ No free product in interstitial space				
▪ Nitrogen levels are adequate				

This form will be kept with this SPCC Plan for five (5) years after the date of inspection.

KEY WEST PIPEINE COMPANY

DIKE DRAINAGE

INSPECTION PROCEDURE

All storage tank and transfer equipment areas will be inspected weekly for water collection and after each rainfall event. Collection of water at the drainpipe inlet or diked area low point of a depth greater than 1 foot will necessitate drainage. Prior to drainage, the water will be carefully inspected for an oil sheen, which is defined as an iridescent appearance on the surface. If a sheen is observed, it will be reported to the terminal manager for appropriate action prior to drainage. Action taken by the coordinator will be noted in the record. If there is not a sheen, the valve will be fully opened or the pump started. The dike field area will be checked periodically during the time it takes to drain the area. When empty, the valve will be immediately closed or the pump stopped. Appropriate record entries will be completed as shown on the example form on the next page.

KEY WEST PIPEINE COMPANY

SECONDARY CONTAINMENT DRAINAGE DISCHARGE

Date of Inspection	Presence of Oil		Oil Removal Measures[1]	Terminal Manager's Signature
	Yes	No		

Note:
[1]Additional documentation of corrective actions can be attached (sign and date all attached documentation).

KEY WEST PIPELINE COMPANY
API STANDARD 653 STORAGE TANK INSPECTION PROCEDURE

All field-erected aboveground storage tanks are inspected in accordance with API Standard 653. This standard covers carbon and low alloy steel tanks built to API Standard 650 and its predecessor 12C. This standard provides recommended practices for the maintenance inspection, repair, alteration, relocation, and reconstruction of such tanks.

As part of the API 653 evaluation, a detailed report documenting the condition of each tank is provided and an appropriate re-inspection interval is established based on the API 653 Standard. Any necessary repairs are made prior to the tank being returned to service.

KEY WEST PIPELINE COMPANY
OIL SPILL EQUIPMENT LIST

Last Inspection or Equipment Test Date: _____

1. Skimmers/Pumps - Operational Status: N/A
   Type: _____ Model: _____ Year: _____
   Number: _____ Capacity: _____ gal/min
   Daily Effective Recovery Rate: _____
   Storage Location: _____
   Date Fuel Last Changed: _____

2. Booms, Operational Status: _____
   Type: _____ Model: _____ Year: _____
   Number: _____ Size: _____
   Containment Area (square feet): _____
   Storage Location: Facility

3. Sorbents - Operational Status: _____
   Type and Year Purchased: _____
   Amount: _____
   Absorption Capacity: _____ gal.
   Storage Location: Facility

4. Hand Tools - Operational Status: _____
   Type and Year: _____
   Quantity: _____
   _____
   Storage Location: Facility

5. Communication Equipment (include operating frequency and channel and/or cellular phone number) -
   Operational Status: _____
   Type and Year: _____
   _____
   Quantity: _____
   _____
   Storage Location: _____

6. Fire Fighting and Personnel Protective Equipment - Operational Status: _____
   Type and Year: _____
   _____
   Quantity: _____
   _____
   Storage Location: _____

7. Other (e.g., Heavy Equipment, Boats, and Motors) - Operational Status: _____
   Type and Year: _____
   Quantity: _____
   _____
   Storage Location: _____

8. Spill Kits

Kit Contents:	INT: _____
• 2 - bag-17"x19" Pad (100 pads)	_____
• 12 -3"x4' Socks (or 6 - 10')	_____
• 6 -18"x18" Pillows	_____
• 6 - Disposal Bag & Ties	_____
• 4 – pkg 6" Light Stick	_____
• 1 - CORE Emergency Response GuideBook	_____
• 6 - Tyvek® coverall (XXXL & XL)	_____
• 6- pair Nitrile Gloves	_____
• 6- pair BodyGuard Gloves	_____
• 6- pair heavy Rubber Gloves	_____
• 9- Dust Masks	_____
• 4- pair Goggles.	_____
• 1 Btl Hand cleaner	_____

APPENDIX D
INCIDENT COMMAND SYSTEM FORMS

KEY WEST PIPELINE COMPANY
KEY WEST, FLORIDA FACILITY
RESPONSE NOTIFICATION FORM

( ) **Initial Notification** ( ) **Follow-up Notification**

Reporter's Name: _____

Position: _____ **Company:** Key West Pipeline Company

Address: Building D-19 Trumbo Point Naval Annex
Key West, Monroe County, FL 33040 (b) (7)(F) [redacted]

Phone Number: (305)294-4812

Were Materials Released? Y/N

Meeting Federal Obligations to Report? Y/N

Calling for Responsible Party? Y/N
Date Called: _____
Time Called: _____

Incident Description

Source and/or Cause of Incident: _____
_____
_____

Date: _____ **Time of Incident:** _____AM/PM

Incident Address/Location: _____
_____

Nearest City: Key West **State:** FL **County:** Monroe **Zip:** 33045
Distance from City: 1.2 miles

Container Type: _____

Tank Capacity: (unit of measure) _____

Material:

Chemical Hazard Response Information System (CHRIS) Code: _____
_____

Released Quantity: _____
_____

KEY WEST PIPELINE COMPANY
KEY WEST, FLORIDA FACILITY
RESPONSE NOTIFICATION FORM
(Continued, Page 2 of 2)

Material Released in Water: Y/N

Quantity: (units of measure) _____

Response Action:

Actions Taken to Correct, Control, or Mitigate Incident: _____
_____

Impact:

Number of Injuries: _____ **Number of Deaths:** _____

Were there Evacuations? Y/N
Number Evacuated: _____

Was there any Damage: Y/N
Damage in Dollars (approximate): _____
Medium Affected: _____

Description: _____

Additional Information:

Weather Conditions: _____

Any information about the incident not recorded elsewhere in report? _____
_____
_____

Caller Notifications:

EPA? Y/N **USCG?** Y/N **State?** Y/N
Other? Y/N **Describe:** _____

NATIONAL INCIDENT MANAGEMENT SYSTEM
INCIDENT COMMAND SYSTEM

ICS FORMS BOOKLET
FEMA 502-2

September 2010

INTRODUCTION TO ICS FORMS

The National Incident Management System (NIMS) Incident Command System (ICS) Forms Booklet, FEMA 502-2, is designed to assist emergency response personnel in the use of ICS and corresponding documentation during incident operations. This booklet is a companion document to the NIMS ICS Field Operations Guide (FOG), FEMA 502-1, which provides general guidance to emergency responders on implementing ICS. This booklet is meant to complement existing incident management programs and does not replace relevant emergency operations plans, laws, and ordinances. These forms are designed for use within the Incident Command System, and are not targeted for use in Area Command or in multiagency coordination systems.

These forms are intended for use as tools for the creation of Incident Action Plans (IAPs), for other incident management activities, and for support and documentation of ICS activities. Personnel using the forms should have a basic understanding of NIMS, including ICS, through training and/or experience to ensure they can effectively use and understand these forms. These ICS Forms represent an all-hazards approach and update to previously used ICS Forms. While the layout and specific blocks may have been updated, the functionality of the forms remains the same. It is recommended that all users familiarize themselves with the updated forms and instructions.

A general description of each ICS Form's purpose, suggested preparation, and distribution are included immediately after the form, including block-by-block completion instructions to ensure maximum clarity on specifics, or for those personnel who may be unfamiliar with the forms.

The ICS organizational charts contained in these forms are examples of how an ICS organization is typically developed for incident response. However, the flexibility and scalability of ICS allow modifications, as needed, based on experience and particular incident requirements.

These forms are designed to include the essential data elements for the ICS process they address. The use of these standardized ICS Forms is encouraged to promote consistency in the management and documentation of incidents in the spirit of NIMS, and to facilitate effective use of mutual aid. In many cases, additional pages can be added to the existing ICS Forms when needed, and several forms are set up with this specific provision. The section after the ICS Forms List provides details on adding appendixes or fields to the forms for jurisdiction- or discipline-specific needs.

It may be appropriate to compile and maintain other NIMS-related forms with these ICS Forms, such as resource management and/or ordering forms that are used to support incidents. Examples of these include the following Emergency Management Assistance Compact (EMAC) forms: REQ-A (Interstate Mutual Aid Request), Reimbursement Form R-1 (Interstate Reimbursement Form), and Reimbursement Form R-2 (Intrastate Reimbursement Form).

ICS FORMS LIST

This table lists all of the ICS Forms included in this publication.

Notes:

- In the following table, the ICS Forms identified with an asterisk (*) are typically included in an IAP.
- Forms identified with two asterisks (**) are additional forms that could be used in the IAP.
- The other ICS Forms are used in the ICS process for incident management activities, but are not typically included in the IAP.
- The date and time entered in the form blocks should be determined by the Incident Command or Unified Command. Local time is typically used.

ICS Form #:	Form Title:	Typically Prepared by:
ICS 201	**Incident Briefing**	Initial Incident Commander
***ICS 202**	**Incident Objectives**	Planning Section Chief
***ICS 203**	**Organization Assignment List**	Resources Unit Leader
***ICS 204**	**Assignment List**	Resources Unit Leader and Operations Section Chief
***ICS 205**	**Incident Radio Communications Plan**	Communications Unit Leader
****ICS 205A**	**Communications List**	Communications Unit Leader
***ICS 206**	**Medical Plan**	Medical Unit Leader (reviewed by Safety Officer)
ICS 207	**Incident Organization Chart** *(wall-mount size, optional 8½" x 14")*	Resources Unit Leader
****ICS 208**	**Safety Message/Plan**	Safety Officer
ICS 209	**Incident Status Summary**	Situation Unit Leader
ICS 210	**Resource Status Change**	Communications Unit Leader
ICS 211	**Incident Check-In List** *(optional 8½" x 14" and 11" x 17")*	Resources Unit/Check-In Recorder
ICS 213	**General Message** *(3-part form)*	Any Message Originator
ICS 214	**Activity Log** *(optional 2-sided form)*	All Sections and Units
ICS 215	**Operational Planning Worksheet** *(optional 8½" x 14" and 11" x 17")*	Operations Section Chief
ICS 215A	**Incident Action Plan Safety Analysis**	Safety Officer
ICS 218	**Support Vehicle/Equipment Inventory** *(optional 8½" x 14" and 11" x 17")*	Ground Support Unit
ICS 219-1 to ICS 219-8, ICS 219-10 *(Cards)*	**Resource Status Card (T-Card)** *(may be printed on cardstock)*	Resources Unit
ICS 220	**Air Operations Summary Worksheet**	Operations Section Chief or Air Branch Director
ICS 221	**Demobilization Check-Out**	Demobilization Unit Leader
ICS 225	**Incident Personnel Performance Rating**	Supervisor at the incident

ICS FORM ADAPTION, EXTENSION, AND APPENDIXES

The ICS Forms in this booklet are designed to serve all-hazards, cross-discipline needs for incident management across the Nation. These forms include the essential data elements for the ICS process they address, and create a foundation within ICS for complex incident management activities. However, the flexibility and scalability of NIMS should allow for needs outside this foundation, so the following are possible mechanisms to add to, extend, or adapt ICS Forms when needed.

Because the goal of NIMS is to have a consistent nationwide approach to incident management, jurisdictions and disciplines are encouraged to use the ICS Forms as they are presented here – unless these forms do not meet an organization's particular incident management needs for some unique reason. If changes are needed, the focus on essential information elements should remain, and as such the spirit and intent of particular fields or "information elements" on the ICS Forms should remain intact to maintain consistency if the forms are altered. Modifications should be clearly indicated as deviations from or additions to the ICS Forms. The following approaches may be used to meet any unique needs.

ICS Form Adaptation

When agencies and organizations require specialized forms or information for particular kinds of incidents, events, or disciplines, it may be beneficial to utilize the essential data elements from a particular ICS Form to create a more localized or field-specific form. When this occurs, organizations are encouraged to use the relevant essential data elements and ICS Form number, but to clarify that the altered form is a specific organizational adaptation of the form. For example, an altered form should clearly indicate in the title that it has been changed to meet a specific need, such as "ICS 215A, Hazard Risk Analysis Worksheet, Adapted for Story County Hazmat Program."

Extending ICS Form Fields

Particular fields on an ICS Form may need to include further breakouts or additional related elements. If such additions are needed, the form itself should be clearly labeled as an adapted form (see above), and the additional sub-field numbers should be clearly labeled as unique to the adapted form. Letters or other indicators may be used to label the new sub-fields (if the block does not already include sub-fields).

Examples of possible field additions are shown below for the ICS 209:

- Block 2: Incident Number.
  - Block 2A (adapted): Full agency accounting cost charge number for primary authority having jurisdiction.
- Block 29: Primary Materials or Hazards Involved (hazardous chemicals, fuel types, infectious agents, radiation, etc.).
  - Block 29A (adapted): Indicate specific wildland fire fuel model number.

Creating ICS Form Appendixes

Certain ICS Forms may require appendixes to include additional information elements needed by a particular jurisdiction or discipline. When an appendix is needed for a given form, it is expected that the jurisdiction or discipline will determine standardized fields for such an appendix and make the form available as needed.

Any ICS Form appendixes should be clearly labeled with the form name and an indicator that it is a discipline- or jurisdiction-specific appendix. Appendix field numbering should begin following the last identified block in the corresponding ICS Form.

INCIDENT BRIEFING (ICS 201)

1. Incident Name:	2. Incident Number:	3. Date/Time Initiated: Date: Time:

4. Map/Sketch (include sketch, showing the total area of operations, the incident site/area, impacted and threatened areas, overflight results, trajectories, impacted shorelines, or other graphics depicting situational status and resource assignment):

5. Situation Summary and Health and Safety Briefing (for briefings or transfer of command): Recognize potential incident Health and Safety Hazards and develop necessary measures (remove hazard, provide personal protective equipment, warn people of the hazard) to protect responders from those hazards.

6. Prepared by: Name: _____ Position/Title: _____ Signature: _____

 Date/Time: _____

INCIDENT BRIEFING (ICS 201)

1. Incident Name:	2. Incident Number:	3. Date/Time Initiated: Date: Time:

7. Current and Planned Objectives:

8. Current and Planned Actions, Strategies, and Tactics:

Time:	Actions:

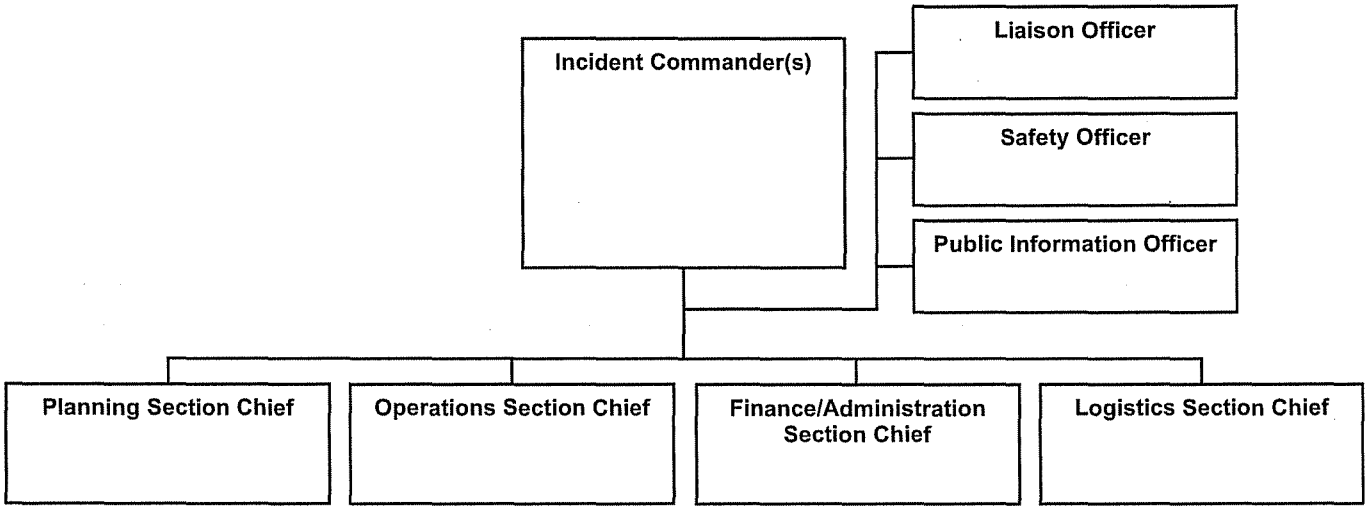
6. Prepared by: Name: _____ Position/Title: _____ Signature: _____

 Date/Time: _____

INCIDENT BRIEFING (ICS 201)

1. Incident Name:	2. Incident Number:	3. Date/Time Initiated: Date: Time:

9. Current Organization (fill in additional organization as appropriate):



6. Prepared by: Name: _____ Position/Title: _____ Signature: _____

ICS 201, Page 3 Date/Time: _____

INCIDENT BRIEFING (ICS 201)

1. Incident Name:	2. Incident Number:	3. Date/Time Initiated: Date: Time:

10. Resource Summary:

Resource	Resource Identifier	Date/Time Ordered	ETA	Arrived	Notes (location/assignment/status)
				☐	
				☐	
				☐	
				☐	
				☐	
				☐	
				☐	
				☐	
				☐	
				☐	
				☐	
				☐	
				☐	
				☐	
				☐	
				☐	
				☐	
				☐	

6. Prepared by: Name: _____ Position/Title: _____ Signature: _____

 Date/Time: _____

ICS 201
Incident Briefing

Purpose. The Incident Briefing (ICS 201) provides the Incident Commander (and the Command and General Staffs) with basic information regarding the incident situation and the resources allocated to the incident. In addition to a briefing document, the ICS 201 also serves as an initial action worksheet. It serves as a permanent record of the initial response to the incident.

Preparation. The briefing form is prepared by the Incident Commander for presentation to the incoming Incident Commander along with a more detailed oral briefing.

Distribution. Ideally, the ICS 201 is duplicated and distributed before the initial briefing of the Command and General Staffs or other responders as appropriate. The "Map/Sketch" and "Current and Planned Actions, Strategies, and Tactics" sections (pages 1–2) of the briefing form are given to the Situation Unit, while the "Current Organization" and "Resource Summary" sections (pages 3–4) are given to the Resources Unit.

Notes:

- The ICS 201 can serve as part of the initial Incident Action Plan (IAP).
- If additional pages are needed for any form page, use a blank ICS 201 and repaginate as needed.

Block Number	Block Title	Instructions
1	**Incident Name**	Enter the name assigned to the incident.
2	**Incident Number**	Enter the number assigned to the incident.
3	**Date/Time Initiated** • Date, Time	Enter date initiated (month/day/year) and time initiated (using the 24-hour clock).
4	**Map/Sketch** (include sketch, showing the total area of operations, the incident site/area, impacted and threatened areas, overflight results, trajectories, impacted shorelines, or other graphics depicting situational status and resource assignment)	Show perimeter and other graphics depicting situational status, resource assignments, incident facilities, and other special information on a map/sketch or with attached maps. Utilize commonly accepted ICS map symbology. If specific geospatial reference points are needed about the incident's location or area outside the ICS organization at the incident, that information should be submitted on the Incident Status Summary (ICS 209). North should be at the top of page unless noted otherwise.
5	**Situation Summary and Health and Safety Briefing** (for briefings or transfer of command): Recognize potential incident Health and Safety Hazards and develop necessary measures (remove hazard, provide personal protective equipment, warn people of the hazard) to protect responders from those hazards.	Self-explanatory.
6	**Prepared by** • Name • Position/Title • Signature • Date/Time	Enter the name, ICS position/title, and signature of the person preparing the form. Enter date (month/day/year) and time prepared (24-hour clock).
7	**Current and Planned Objectives**	Enter the objectives used on the incident and note any specific problem areas.

Block Number	Block Title	Instructions
8	**Current and Planned Actions, Strategies, and Tactics** • Time • Actions	Enter the current and planned actions, strategies, and tactics and time they may or did occur to attain the objectives. If additional pages are needed, use a blank sheet or another ICS 201 (Page 2), and adjust page numbers accordingly.
9	**Current Organization** (fill in additional organization as appropriate) • Incident Commander(s) • Liaison Officer • Safety Officer • Public Information Officer • Planning Section Chief • Operations Section Chief • Finance/Administration Section Chief • Logistics Section Chief	• Enter on the organization chart the names of the individuals assigned to each position. • Modify the chart as necessary, and add any lines/spaces needed for Command Staff Assistants, Agency Representatives, and the organization of each of the General Staff Sections. • If Unified Command is being used, split the Incident Commander box. • Indicate agency for each of the Incident Commanders listed if Unified Command is being used.
10	**Resource Summary**	Enter the following information about the resources allocated to the incident. If additional pages are needed, use a blank sheet or another ICS 201 (Page 4), and adjust page numbers accordingly.
	• Resource	Enter the number and appropriate category, kind, or type of resource ordered.
	• Resource Identifier	Enter the relevant agency designator and/or resource designator (if any).
	• Date/Time Ordered	Enter the date (month/day/year) and time (24-hour clock) the resource was ordered.
	• ETA	Enter the estimated time of arrival (ETA) to the incident (use 24-hour clock).
	• Arrived	Enter an "X" or a checkmark upon arrival to the incident.
	• Notes (location/ assignment/status)	Enter notes such as the assigned location of the resource and/or the actual assignment and status.

INCIDENT OBJECTIVES (ICS 202)

1. Incident Name:	2. Operational Period: Date From: Date To: Time From: Time To:

3. Objective(s):

4. Operational Period Command Emphasis:

General Situational Awareness

5. Site Safety Plan Required? Yes ☐ No ☐

Approved Site Safety Plan(s) Located at:

6. Incident Action Plan (the items checked below are included in this Incident Action Plan):

☐ ICS 202	☐ ICS 206	Other Attachments:
☐ ICS 203	☐ ICS 207	☐ _____
☐ ICS 204	☐ ICS 208	☐ _____
☐ ICS 205	☐ Map/Chart	☐ _____
☐ ICS 205A	☐ Weather Forecast/Tides/Currents	☐ _____

7. Prepared by: Name: _____ Position/Title: _____ Signature: _____

8. Approved by Incident Commander: Name: _____ Signature: _____

ICS 202	IAP Page _____	Date/Time: _____

ICS 202
Incident Objectives

Purpose. The Incident Objectives (ICS 202) describes the basic incident strategy, incident objectives, command emphasis/priorities, and safety considerations for use during the next operational period.

Preparation. The ICS 202 is completed by the Planning Section following each Command and General Staff meeting conducted to prepare the Incident Action Plan (IAP). In case of a Unified Command, one Incident Commander (IC) may approve the ICS 202. If additional IC signatures are used, attach a blank page.

Distribution. The ICS 202 may be reproduced with the IAP and may be part of the IAP and given to all supervisory personnel at the Section, Branch, Division/Group, and Unit levels. All completed original forms must be given to the Documentation Unit.

Notes:

- The ICS 202 is part of the IAP and can be used as the opening or cover page.
- If additional pages are needed, use a blank ICS 202 and repaginate as needed.

Block Number	Block Title	Instructions
1	**Incident Name**	Enter the name assigned to the incident. If needed, an incident number can be added.
2	**Operational Period** • Date and Time From • Date and Time To	Enter the start date (month/day/year) and time (using the 24-hour clock) and end date and time for the operational period to which the form applies.
3	**Objective(s)**	Enter clear, concise statements of the objectives for managing the response. Ideally, these objectives will be listed in priority order. These objectives are for the incident response for this operational period as well as for the duration of the incident. Include alternative and/or specific tactical objectives as applicable. Objectives should follow the SMART model or a similar approach: **S**pecific – Is the wording precise and unambiguous? **M**easurable – How will achievements be measured? **A**ction-oriented – Is an action verb used to describe expected accomplishments? **R**ealistic – Is the outcome achievable with given available resources? **T**ime-sensitive – What is the timeframe?
4	**Operational Period Command Emphasis**	Enter command emphasis for the operational period, which may include tactical priorities or a general weather forecast for the operational period. It may be a sequence of events or order of events to address. This is not a narrative on the objectives, but a discussion about where to place emphasis if there are needs to prioritize based on the Incident Commander's or Unified Command's direction. Examples: Be aware of falling debris, secondary explosions, etc.
	General Situational Awareness	General situational awareness may include a weather forecast, incident conditions, and/or a general safety message. If a safety message is included here, it should be reviewed by the Safety Officer to ensure it is in alignment with the Safety Message/Plan (ICS 208).
5	**Site Safety Plan Required?** Yes ☐ No ☐	Safety Officer should check whether or not a site safety plan is required for this incident.
	Approved Site Safety Plan(s) Located At	Enter the location of the approved Site Safety Plan(s).

Block Number	Block Title	Instructions
6	**Incident Action Plan** (the items checked below are included in this Incident Action Plan): ☐ ICS 202 ☐ ICS 203 ☐ ICS 204 ☐ ICS 205 ☐ ICS 205A ☐ ICS 206 ☐ ICS 207 ☐ ICS 208 ☐ Map/Chart ☐ Weather Forecast/ Tides/Currents Other Attachments:	Check appropriate forms and list other relevant documents that are included in the IAP. ☐ ICS 202 – Incident Objectives ☐ ICS 203 – Organization Assignment List ☐ ICS 204 – Assignment List ☐ ICS 205 – Incident Radio Communications Plan ☐ ICS 205A – Communications List ☐ ICS 206 – Medical Plan ☐ ICS 207 – Incident Organization Chart ☐ ICS 208 – Safety Message/Plan
7	**Prepared by** • Name • Position/Title • Signature	Enter the name, ICS position, and signature of the person preparing the form. Enter date (month/day/year) and time prepared (24-hour clock).
8	**Approved by Incident Commander** • Name • Signature • Date/Time	In the case of a Unified Command, one IC may approve the ICS 202. If additional IC signatures are used, attach a blank page.

ORGANIZATION ASSIGNMENT LIST (ICS 203)

1. Incident Name:	2. Operational Period: Date From: Time From:	Date To: Time To:

3. Incident Commander(s) and Command Staff:	
IC/UCs	
Deputy	
Safety Officer	
Public Info. Officer	
Liaison Officer	

4. Agency/Organization Representatives:	
Agency/Organization	Name

5. Planning Section:	
Chief	
Deputy	
Resources Unit	
Situation Unit	
Documentation Unit	
Demobilization Unit	
Technical Specialists	

6. Logistics Section:	
Chief	
Deputy	
Support Branch	
Director	
Supply Unit	
Facilities Unit	
Ground Support Unit	
Service Branch	
Director	
Communications Unit	
Medical Unit	
Food Unit	

7. Operations Section:		
Chief		
Deputy		
Staging Area		
Branch		
Branch Director		
Deputy		
Division/Group		
Division/Group		
Division/Group		
Division/Group		
Branch		
Branch Director		
Deputy		
Division/Group		
Division/Group		
Division/Group		
Division/Group		
Division/Group		
Branch		
Branch Director		
Deputy		
Division/Group		
Division/Group		
Division/Group		
Division/Group		
Division/Group		
Division/Group		
Air Operations Branch		
Air Ops Branch Dir.		

8. Finance/Administration Section:	
Chief	
Deputy	
Time Unit	
Procurement Unit	
Comp/Claims Unit	
Cost Unit	

9. Prepared by: Name: _____ Position/Title: _____ Signature: _____

ICS 203 | **IAP Page** _____ | Date/Time: _____

ICS 203
Organization Assignment List

Purpose. The Organization Assignment List (ICS 203) provides ICS personnel with information on the units that are currently activated and the names of personnel staffing each position/unit. It is used to complete the Incident Organization Chart (ICS 207) which is posted on the Incident Command Post display. An actual organization will be incident or event-specific. **Not all positions need to be filled.** Some blocks may contain more than one name. The size of the organization is dependent on the magnitude of the incident, and can be expanded or contracted as necessary.

Preparation. The Resources Unit prepares and maintains this list under the direction of the Planning Section Chief. Complete only the blocks for the positions that are being used for the incident. If a trainee is assigned to a position, indicate this with a "T" in parentheses behind the name (e.g., "A. Smith (T)").

Distribution. The ICS 203 is duplicated and attached to the Incident Objectives (ICS 202) and given to all recipients as part of the Incident Action Plan (IAP). All completed original forms must be given to the Documentation Unit.

Notes:

- The ICS 203 serves as part of the IAP.
- If needed, more than one name can be put in each block by inserting a slash.
- If additional pages are needed, use a blank ICS 203 and repaginate as needed.
- ICS allows for organizational flexibility, so the Intelligence/Investigations Function can be embedded in several different places within the organizational structure.

Block Number	Block Title	Instructions
1	**Incident Name**	Enter the name assigned to the incident.
2	**Operational Period** • Date and Time From • Date and Time To	Enter the start date (month/day/year) and time (using the 24-hour clock) and end date and time for the operational period to which the form applies.
3	**Incident Commander(s) and Command Staff** • IC/UCs • Deputy • Safety Officer • Public Information Officer • Liaison Officer	Enter the names of the Incident Commander(s) and Command Staff. Label Assistants to Command Staff as such (for example, "Assistant Safety Officer"). For all individuals, use at least the first initial and last name. For Unified Command, also include agency names.
4	**Agency/Organization Representatives** • Agency/Organization • Name	Enter the agency/organization names and the names of their representatives. For all individuals, use at least the first initial and last name.
5	**Planning Section** • Chief • Deputy • Resources Unit • Situation Unit • Documentation Unit • Demobilization Unit • Technical Specialists	Enter the name of the Planning Section Chief, Deputy, and Unit Leaders after each position title. List Technical Specialists with an indication of specialty. If there is a shift change during the specified operational period, list both names, separated by a slash. For all individuals, use at least the first initial and last name.

Block Number	Block Title	Instructions
6	**Logistics Section** • Chief • Deputy **Support Branch** • Director • Supply Unit • Facilities Unit • Ground Support Unit **Service Branch** • Director • Communications Unit • Medical Unit • Food Unit	Enter the name of the Logistics Section Chief, Deputy, Branch Directors, and Unit Leaders after each position title. If there is a shift change during the specified operational period, list both names, separated by a slash. For all individuals, use at least the first initial and last name.
7	**Operations Section** • Chief • Deputy • Staging Area **Branch** • Branch Director • Deputy • Division/Group **Air Operations Branch** • Air Operations Branch Director	Enter the name of the Operations Section Chief, Deputy, Branch Director(s), Deputies, and personnel staffing each of the listed positions. For Divisions/Groups, enter the Division/Group identifier in the left column and the individual's name in the right column. Branches and Divisions/Groups may be named for functionality or by geography. For Divisions/Groups, indicate Division/Group Supervisor. Use an additional page if more than three Branches are activated. If there is a shift change during the specified operational period, list both names, separated by a slash. For all individuals, use at least the first initial and last name.
8	**Finance/Administration Section** • Chief • Deputy • Time Unit • Procurement Unit • Compensation/Claims Unit • Cost Unit	Enter the name of the Finance/Administration Section Chief, Deputy, and Unit Leaders after each position title. If there is a shift change during the specified operational period, list both names, separated by a slash. For all individuals, use at least the first initial and last name.
9	**Prepared by** • Name • Position/Title • Signature • Date/Time	Enter the name, ICS position, and signature of the person preparing the form. Enter date (month/day/year) and time prepared (24-hour clock).

ASSIGNMENT LIST (ICS 204)

1. Incident Name:	2. Operational Period: Date From: Date To: Time From: Time To:	3. Branch: Division: Group: Staging Area:

4. Operations Personnel: Name / Contact Number(s)

Operations Section Chief: _____

Branch Director: _____

Division/Group Supervisor: _____

5. Resources Assigned:		# of Persons	Contact (e.g., phone, pager, radio frequency, etc.)	Reporting Location, Special Equipment and Supplies, Remarks, Notes, Information
Resource Identifier	Leader			

6. Work Assignments:

7. Special Instructions:

8. Communications (radio and/or phone contact numbers needed for this assignment):

Name/Function	Primary Contact: indicate cell, pager, or radio (frequency/system/channel)
/	
/	
/	
/	

9. Prepared by: Name: _____ Position/Title: _____ Signature: _____

ICS 204 | **IAP Page** ____ Date/Time: _____

ICS 204
Assignment List

Purpose. The Assignment List(s) (ICS 204) informs Division and Group supervisors of incident assignments. Once the Command and General Staffs agree to the assignments, the assignment information is given to the appropriate Divisions and Groups.

Preparation. The ICS 204 is normally prepared by the Resources Unit, using guidance from the Incident Objectives (ICS 202), Operational Planning Worksheet (ICS 215), and the Operations Section Chief. It must be approved by the Incident Commander, but may be reviewed and initialed by the Planning Section Chief and Operations Section Chief as well.

Distribution. The ICS 204 is duplicated and attached to the ICS 202 and given to all recipients as part of the Incident Action Plan (IAP). In some cases, assignments may be communicated via radio/telephone/fax. All completed original forms must be given to the Documentation Unit.

Notes:

- The ICS 204 details assignments at Division and Group levels and is part of the IAP.
- Multiple pages/copies can be used if needed.
- If additional pages are needed, use a blank ICS 204 and repaginate as needed.

Block Number	Block Title	Instructions
1	**Incident Name**	Enter the name assigned to the incident.
2	**Operational Period** • Date and Time From • Date and Time To	Enter the start date (month/day/year) and time (using the 24-hour clock) and end date and time for the operational period to which the form applies.
3	**Branch** **Division** **Group** **Staging Area**	This block is for use in a large IAP for reference only. Write the alphanumeric abbreviation for the Branch, Division, Group, and Staging Area (e.g., "Branch 1," "Division D," "Group 1A") in large letters for easy referencing.
4	**Operations Personnel** • Name, Contact Number(s) – Operations Section Chief – Branch Director – Division/Group Supervisor	Enter the name and contact numbers of the Operations Section Chief, applicable Branch Director(s), and Division/Group Supervisor(s).
5	**Resources Assigned**	Enter the following information about the resources assigned to the Division or Group for this period:
	• Resource Identifier	The identifier is a unique way to identify a resource (e.g., ENG-13, IA-SCC-413). If the resource has been ordered but no identification has been received, use TBD (to be determined).
	• Leader	Enter resource leader's name.
	• # of Persons	Enter total number of persons for the resource assigned, including the leader.
	• Contact (e.g., phone, pager, radio frequency, etc.)	Enter primary means of contacting the leader or contact person (e.g., radio, phone, pager, etc.). Be sure to include the area code when listing a phone number.
5 (continued)	• Reporting Location, Special Equipment and Supplies, Remarks, Notes, Information	Provide special notes or directions specific to this resource. If required, add notes to indicate: (1) specific location/time where the resource should report or be dropped off/picked up; (2) special equipment and supplies that will be used or needed; (3) whether or not the resource received briefings; (4) transportation needs; or (5) other information.

Block Number	Block Title	Instructions
6	**Work Assignments**	Provide a statement of the tactical objectives to be achieved within the operational period by personnel assigned to this Division or Group.
7	**Special Instructions**	Enter a statement noting any safety problems, specific precautions to be exercised, dropoff or pickup points, or other important information.
8	**Communications** (radio and/or phone contact numbers needed for this assignment) • Name/Function • Primary Contact: indicate cell, pager, or radio (frequency/system/channel)	Enter specific communications information (including emergency numbers) for this Branch/Division/Group. If radios are being used, enter function (command, tactical, support, etc.), frequency, system, and channel from the Incident Radio Communications Plan (ICS 205). Phone and pager numbers should include the area code and any satellite phone specifics. In light of potential IAP distribution, use sensitivity when including cell phone number. Add a secondary contact (phone number or radio) if needed.
9	**Prepared by** • Name • Position/Title • Signature • Date/Time	Enter the name, ICS position, and signature of the person preparing the form. Enter date (month/day/year) and time prepared (24-hour clock).

INCIDENT RADIO COMMUNICATIONS PLAN (ICS 205)

1. Incident Name:	2. Date/Time Prepared: Date: Time:	3. Operational Period: Date From: Date To: Time From: Time To:

4. Basic Radio Channel Use:

Zone Grp.	Ch #	Function	Channel Name/Trunked Radio System Talkgroup	Assignment	RX Freq N or W	RX Tone/NAC	TX Freq N or W	TX Tone/NAC	Mode (A, D, or M)	Remarks

5. Special Instructions:

6. Prepared by (Communications Unit Leader): Name: _____ Signature: _____

ICS 205	IAP Page _____	Date/Time: _____

ICS 205
Incident Radio Communications Plan

Purpose. The Incident Radio Communications Plan (ICS 205) provides information on all radio frequency or trunked radio system talkgroup assignments for each operational period. The plan is a summary of information obtained about available radio frequencies or talkgroups and the assignments of those resources by the Communications Unit Leader for use by incident responders. Information from the Incident Radio Communications Plan on frequency or talkgroup assignments is normally placed on the Assignment List (ICS 204).

Preparation. The ICS 205 is prepared by the Communications Unit Leader and given to the Planning Section Chief for inclusion in the Incident Action Plan.

Distribution. The ICS 205 is duplicated and attached to the Incident Objectives (ICS 202) and given to all recipients as part of the Incident Action Plan (IAP). All completed original forms must be given to the Documentation Unit. Information from the ICS 205 is placed on Assignment Lists.

Notes:

- The ICS 205 is used to provide, in one location, information on all radio frequency assignments down to the Division/Group level for each operational period.
- The ICS 205 serves as part of the IAP.

Block Number	Block Title	Instructions
1	**Incident Name**	Enter the name assigned to the incident.
2	**Date/Time Prepared**	Enter date prepared (month/day/year) and time prepared (using the 24-hour clock).
3	**Operational Period** • Date and Time From • Date and Time To	Enter the start date (month/day/year) and time (using the 24-hour clock) and end date and time for the operational period to which the form applies.
4	**Basic Radio Channel Use**	Enter the following information about radio channel use:
	Zone Group	
	Channel Number	Use at the Communications Unit Leader's discretion. Channel Number (Ch #) may equate to the channel number for incident radios that are programmed or cloned for a specific Communications Plan, or it may be used just as a reference line number on the ICS 205 document.
	Function	Enter the Net function each channel or talkgroup will be used for (Command, Tactical, Ground-to-Air, Air-to-Air, Support, Dispatch).
	Channel Name/Trunked Radio System Talkgroup	Enter the nomenclature or commonly used name for the channel or talk group such as the National Interoperability Channels which follow DHS frequency Field Operations Guide (FOG).
	Assignment	Enter the name of the ICS Branch/Division/Group/Section to which this channel/talkgroup will be assigned.
	RX (Receive) Frequency (N or W)	Enter the Receive Frequency (RX Freq) as the mobile or portable subscriber would be programmed using xxx.xxxx out to four decimal places, followed by an "N" designating narrowband or a "W" designating wideband emissions. The name of the specific trunked radio system with which the talkgroup is associated may be entered across all fields on the ICS 205 normally used for conventional channel programming information.
	RX Tone/NAC	Enter the Receive Continuous Tone Coded Squelch System (CTCSS) subaudible tone (RX Tone) or Network Access Code (RX NAC) for the receive frequency as the mobile or portable subscriber would be programmed.

Block Number	Block Title	Instructions
4 (continued)	TX (Transmit) Frequency (N or W)	Enter the Transmit Frequency (TX Freq) as the mobile or portable subscriber would be programmed using xxx.xxxx out to four decimal places, followed by an "N" designating narrowband or a "W" designating wideband emissions.
	TX Tone/NAC	Enter the Transmit Continuous Tone Coded Squelch System (CTCSS) subaudible tone (TX Tone) or Network Access Code (TX NAC) for the transmit frequency as the mobile or portable subscriber would be programmed.
	Mode (A, D, or M)	Enter "A" for analog operation, "D" for digital operation, or "M" for mixed mode operation.
	Remarks	Enter miscellaneous information concerning repeater locations, information concerning patched channels or talkgroups using links or gateways, etc.
5	**Special Instructions**	Enter any special instructions (e.g., using cross-band repeaters, secure-voice, encoders, private line (PL) tones, etc.) or other emergency communications needs). If needed, also include any special instructions for handling an incident within an incident.
6	**Prepared by** (Communications Unit Leader) • Name • Signature • Date/Time	Enter the name and signature of the person preparing the form, typically the Communications Unit Leader. Enter date (month/day/year) and time prepared (24-hour clock).

COMMUNICATIONS LIST (ICS 205A)

1. Incident Name:	2. Operational Period: Date From: Date To: Time From: Time To:

3. Basic Local Communications Information:

Incident Assigned Position	Name (Alphabetized)	Method(s) of Contact (phone, pager, cell, etc.)

4. Prepared by: Name: _____ Position/Title: _____ Signature: _____

ICS 205A | **IAP Page** _____ | Date/Time: _____

ICS 205A
Communications List

Purpose. The Communications List (ICS 205A) records methods of contact for incident personnel. While the Incident Radio Communications Plan (ICS 205) is used to provide information on all radio frequencies down to the Division/Group level, the ICS 205A indicates all methods of contact for personnel assigned to the incident (radio frequencies, phone numbers, pager numbers, etc.), and functions as an incident directory.

Preparation. The ICS 205A can be filled out during check-in and is maintained and distributed by Communications Unit personnel. This form should be updated each operational period.

Distribution. The ICS 205A is distributed within the ICS organization by the Communications Unit, and posted as necessary. All completed original forms must be given to the Documentation Unit. If this form contains sensitive information such as cell phone numbers, it should be clearly marked in the header that it contains sensitive information and is not for public release.

Notes:

- The ICS 205A is an optional part of the Incident Action Plan (IAP).
- This optional form is used in conjunction with the ICS 205.
- If additional pages are needed, use a blank ICS 205A and repaginate as needed.

Block Number	Block Title	Instructions
1	**Incident Name**	Enter the name assigned to the incident.
2	**Operational Period** • Date and Time From • Date and Time To	Enter the start date (month/day/year) and time (using the 24-hour clock) and end date and time for the operational period to which the form applies.
3	**Basic Local Communications Information**	Enter the communications methods assigned and used for personnel by their assigned ICS position.
	• Incident Assigned Position	Enter the ICS organizational assignment.
	• Name	Enter the name of the assigned person.
	• Method(s) of Contact (phone, pager, cell, etc.)	For each assignment, enter the radio frequency and contact number(s) to include area code, etc. If applicable, include the vehicle license or ID number assigned to the vehicle for the incident (e.g., HAZMAT 1, etc.).
4	**Prepared by** • Name • Position/Title • Signature • Date/Time	Enter the name, ICS position, and signature of the person preparing the form. Enter date (month/day/year) and time prepared (24-hour clock).

MEDICAL PLAN (ICS 206)

1. Incident Name:	2. Operational Period: Date From: Time From:	Date To: Time To:

3. Medical Aid Stations:

Name	Location	Contact Number(s)/Frequency	Paramedics on Site?
			☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No

4. Transportation (indicate air or ground):

Ambulance Service	Location	Contact Number(s)/Frequency	Level of Service
			☐ ALS ☐ BLS
			☐ ALS ☐ BLS
			☐ ALS ☐ BLS
			☐ ALS ☐ BLS

5. Hospitals:

Hospital Name	Address, Latitude & Longitude if Helipad	Contact Number(s)/ Frequency	Travel Time		Trauma Center	Burn Center	Helipad
			Air	Ground			
					☐ Yes Level:____	☐ Yes ☐ No	☐ Yes ☐ No
					☐ Yes Level:____	☐ Yes ☐ No	☐ Yes ☐ No
					☐ Yes Level:____	☐ Yes ☐ No	☐ Yes ☐ No
					☐ Yes Level:____	☐ Yes ☐ No	☐ Yes ☐ No
					☐ Yes Level:____	☐ Yes ☐ No	☐ Yes ☐ No

6. Special Medical Emergency Procedures:

☐ Check box if aviation assets are utilized for rescue. If assets are used, coordinate with Air Operations.

7. Prepared by (Medical Unit Leader): Name: _____ Signature: _____

8. Approved by (Safety Officer): Name: _____ Signature: _____

ICS 206	IAP Page _____	Date/Time: _____

ICS 206
Medical Plan

Purpose. The Medical Plan (ICS 206) provides information on incident medical aid stations, transportation services, hospitals, and medical emergency procedures.

Preparation. The ICS 206 is prepared by the Medical Unit Leader and reviewed by the Safety Officer to ensure ICS coordination. If aviation assets are utilized for rescue, coordinate with Air Operations.

Distribution. The ICS 206 is duplicated and attached to the Incident Objectives (ICS 202) and given to all recipients as part of the Incident Action Plan (IAP). Information from the plan pertaining to incident medical aid stations and medical emergency procedures may be noted on the Assignment List (ICS 204). All completed original forms must be given to the Documentation Unit.

Notes:

- The ICS 206 serves as part of the IAP.
- This form can include multiple pages.

Block Number	Block Title	Instructions
1	**Incident Name**	Enter the name assigned to the incident.
2	**Operational Period** • Date and Time From • Date and Time To	Enter the start date (month/day/year) and time (using the 24-hour clock) and end date and time for the operational period to which the form applies.
3	**Medical Aid Stations**	Enter the following information on the incident medical aid station(s):
	• Name	Enter name of the medical aid station.
	• Location	Enter the location of the medical aid station (e.g., Staging Area, Camp Ground).
	• Contact Number(s)/Frequency	Enter the contact number(s) and frequency for the medical aid station(s).
	• Paramedics on Site? ☐ Yes ☐ No	Indicate (yes or no) if paramedics are at the site indicated.
4	**Transportation** (indicate air or ground)	Enter the following information for ambulance services available to the incident:
	• Ambulance Service	Enter name of ambulance service.
	• Location	Enter the location of the ambulance service.
	• Contact Number(s)/Frequency	Enter the contact number(s) and frequency for the ambulance service.
	• Level of Service ☐ ALS ☐ BLS	Indicate the level of service available for each ambulance, either ALS (Advanced Life Support) or BLS (Basic Life Support).

Block Number	Block Title	Instructions
5	**Hospitals**	Enter the following information for hospital(s) that could serve this incident:
	• Hospital Name	Enter hospital name and identify any predesignated medivac aircraft by name a frequency.
	• Address, Latitude & Longitude if Helipad	Enter the physical address of the hospital and the latitude and longitude if the hospital has a helipad.
	• Contact Number(s)/ Frequency	Enter the contact number(s) and/or communications frequency(s) for the hospital.

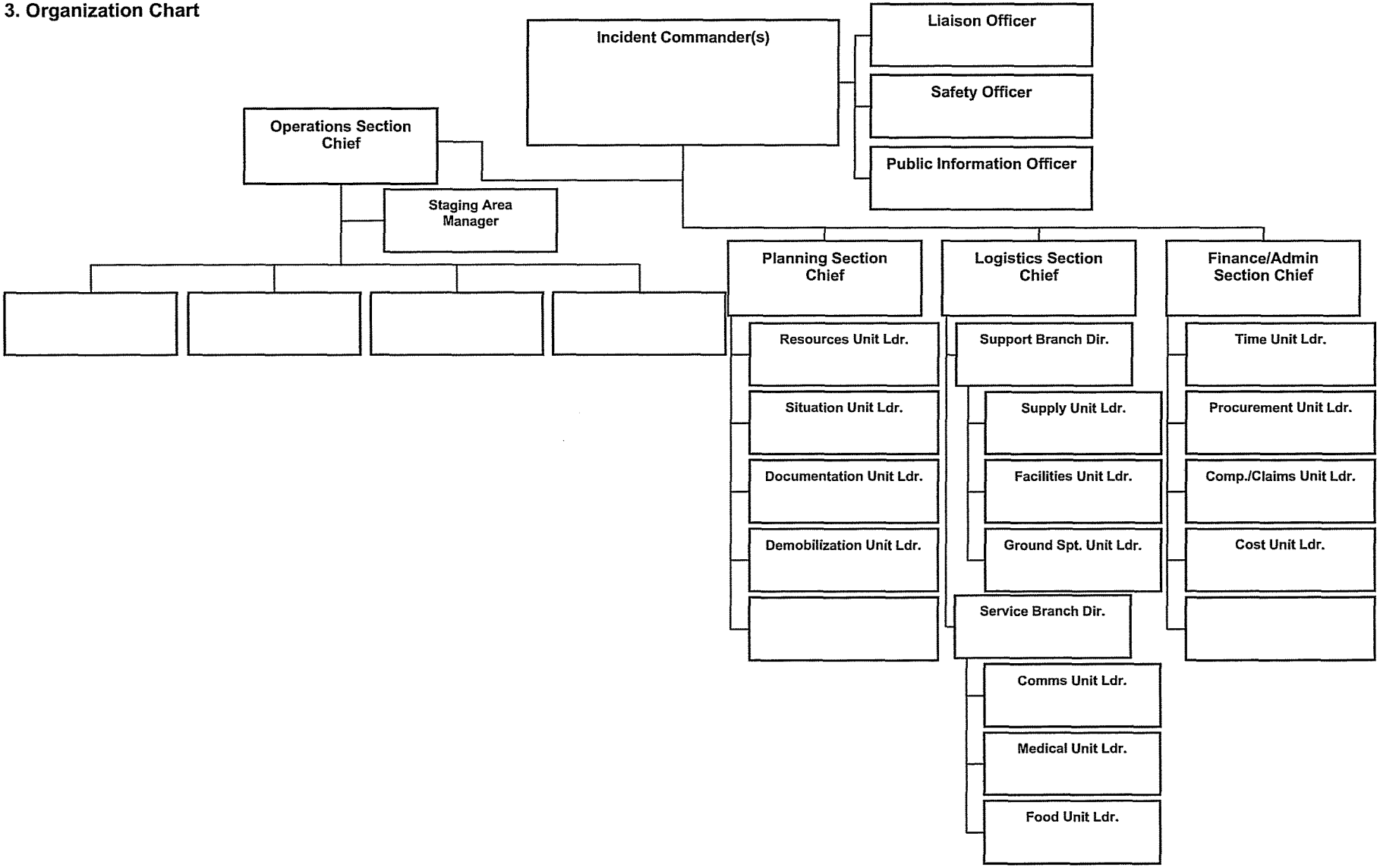
	• Travel Time
	  • Air
	  • Ground
		Enter the travel time by air and ground from the incident to the hospital.

	• Trauma Center ☐ Yes Level:_____	Indicate yes and the trauma level if the hospital has a trauma center.
	• Burn Center ☐ Yes ☐ No	Indicate (yes or no) if the hospital has a burn center.
	• Helipad ☐ Yes ☐ No	Indicate (yes or no) if the hospital has a helipad. Latitude and Longitude data format need to compliment Medical Evacuation Helicopters and Medical Air Resources
6	**Special Medical Emergency Procedures**	Note any special emergency instructions for use by incident personnel, including (1) who should be contacted, (2) how should they be contacted; and (3) who manages an incident within an incident due to a rescue, accident, etc. Include procedures for how to report medical emergencies.
	☐ Check box if aviation assets are utilized for rescue. If assets are used, coordinate with Air Operations.	Self explanatory. Incident assigned aviation assets should be included in ICS 220.
7	**Prepared by** (Medical Unit Leader) • Name • Signature	Enter the name and signature of the person preparing the form, typically the Medical Unit Leader. Enter date (month/day/year) and time prepared (24-hour clock).
8	**Approved by** (Safety Officer) • Name • Signature • Date/Time	Enter the name of the person who approved the plan, typically the Safety Officer. Enter date (month/day/year) and time reviewed (24-hour clock).

INCIDENT ORGANIZATION CHART (ICS 207)

1. Incident Name:	2. Operational Period: Date From: Date To: Time From: Time To:

3. Organization Chart



ICS 207	IAP Page ___	4. Prepared by: Name:_____ Position/Title: _____ Signature: _____ Date/Time: _____

ICS 207
Incident Organization Chart

Purpose. The Incident Organization Chart (ICS 207) provides a **visual wall chart** depicting the ICS organization position assignments for the incident. The ICS 207 is used to indicate what ICS organizational elements are currently activated and the names of personnel staffing each element. An actual organization will be event-specific. The size of the organization is dependent on the specifics and magnitude of the incident and is scalable and flexible. Personnel responsible for managing organizational positions are listed in each box as appropriate.

Preparation. The ICS 207 is prepared by the Resources Unit Leader and reviewed by the Incident Commander. Complete only the blocks where positions have been activated, and add additional blocks as needed, especially for Agency Representatives and all Operations Section organizational elements. For detailed information about positions, consult the NIMS ICS Field Operations Guide. The ICS 207 is intended to be used as a wall-size chart and printed on a plotter for better visibility. A chart is completed for each operational period, and updated when organizational changes occur.

Distribution. The ICS 207 is intended to be **wall mounted** at Incident Command Posts and other incident locations as needed, and is not intended to be part of the Incident Action Plan (IAP). All completed original forms must be given to the Documentation Unit.

Notes:

- The ICS 207 is intended to be **wall mounted** (printed on a plotter). Document size can be modified based on individual needs.
- Also available as 8½ x 14 (legal size) chart.
- ICS allows for organizational flexibility, so the Intelligence/Investigative Function can be embedded in several different places within the organizational structure.
- Use additional pages if more than three branches are activated. Additional pages can be added based on individual need (such as to distinguish more Division/Groups and Branches as they are activated).

Block Number	Block Title	Instructions
1	**Incident Name**	Print the name assigned to the incident.
2	**Operational Period** • Date and Time From • Date and Time To	Enter the start date (month/day/year) and time (using the 24-hour clock) and end date and time for the operational period to which the form applies.
3	**Organization Chart**	• Complete the incident organization chart. • For all individuals, use at least the first initial and last name. • List agency where it is appropriate, such as for Unified Commanders. • If there is a shift change during the specified operational period, list both names, separated by a slash.
4	**Prepared by** • Name • Position/Title • Signature • Date/Time	Enter the name, ICS position, and signature of the person preparing the form. Enter date (month/day/year) and time prepared (24-hour clock).

SAFETY MESSAGE/PLAN (ICS 208)

1. Incident Name:	2. Operational Period: Date From: Date To: Time From: Time To:

3. Safety Message/Expanded Safety Message, Safety Plan, Site Safety Plan:

4. Site Safety Plan Required? Yes ☐ No ☐
Approved Site Safety Plan(s) Located At:

5. Prepared by: Name: _____ Position/Title: _____ Signature: _____

ICS 208	IAP Page _____	Date/Time: _____

ICS 208
Safety Message/Plan

Purpose. The Safety Message/Plan (ICS 208) expands on the Safety Message and Site Safety Plan.

Preparation. The ICS 208 is an optional form that may be included and completed by the Safety Officer for the Incident Action Plan (IAP).

Distribution. The ICS 208, if developed, will be reproduced with the IAP and given to all recipients as part of the IAP. All completed original forms must be given to the Documentation Unit.

Notes:
- The ICS 208 may serve (optionally) as part of the IAP.
- Use additional copies for continuation sheets as needed, and indicate pagination as used.

Block Number	Block Title	Instructions
1	**Incident Name**	Enter the name assigned to the incident.
2	**Operational Period** • Date and Time From • Date and Time To	Enter the start date (month/day/year) and time (using the 24-hour clock) and end date and time for the operational period to which the form applies.
3	**Safety Message/Expanded Safety Message, Safety Plan, Site Safety Plan**	Enter clear, concise statements for safety message(s), priorities, and key command emphasis/decisions/directions. Enter information such as known safety hazards and specific precautions to be observed during this operational period. If needed, additional safety message(s) should be referenced and attached.
4	**Site Safety Plan Required?** Yes ☐ No ☐	Check whether or not a site safety plan is required for this incident.
	Approved Site Safety Plan(s) Located At	Enter where the approved Site Safety Plan(s) is located.
5	**Prepared by** • Name • Position/Title • Signature • Date/Time	Enter the name, ICS position, and signature of the person preparing the form. Enter date (month/day/year) and time prepared (24-hour clock).

INCIDENT STATUS SUMMARY (ICS 209)

*1. Incident Name:			2. Incident Number:	
*3. Report Version (check one box on left): ☐ Initial Rpt # (if used): ☐ Update ☐ Final	*4. Incident Commander(s) & Agency or Organization:		5. Incident Management Organization:	*6. Incident Start Date/Time: Date: _____ Time: _____ Time Zone: _____
7. Current Incident Size or Area Involved (use unit label – e.g., "sq mi," "city block"):	8. Percent (%) Contained _____ Completed _____	*9. Incident Definition:	10. Incident Complexity Level:	*11. For Time Period: From Date/Time: _____ To Date/Time: _____

Approval & Routing Information

*12. Prepared By: Print Name: _____ ICS Position: _____ Date/Time Prepared: _____	*13. Date/Time Submitted: Time Zone:
*14. Approved By: Print Name: _____ ICS Position: _____ Signature: _____	*15. Primary Location, Organization, or Agency Sent To:

Incident Location Information

*16. State:	*17. County/Parish/Borough:	*18. City:
19. Unit or Other:	*20. Incident Jurisdiction:	21. Incident Location Ownership (if different than jurisdiction):
22. Longitude (indicate format): Latitude (indicate format):	23. US National Grid Reference:	24. Legal Description (township, section, range):
*25. Short Location or Area Description (list all affected areas or a reference point):		26. UTM Coordinates:
27. Note any electronic geospatial data included or attached (indicate data format, content, and collection time information and labels):		

Incident Summary

*28. Significant Events for the Time Period Reported (summarize significant progress made, evacuations, incident growth, etc.):				
29. Primary Materials or Hazards Involved (hazardous chemicals, fuel types, infectious agents, radiation, etc.):				
30. Damage Assessment Information (summarize damage and/or restriction of use or availability to residential or commercial property, natural resources, critical infrastructure and key resources, etc.):	A. Structural Summary	B. # Threatened (72 hrs)	C. # Damaged	D. # Destroyed
	E. Single Residences			
	F. Nonresidential Commercial Property			
	Other Minor Structures			
	Other			

* *Required when applicable.*

INCIDENT STATUS SUMMARY (ICS 209)

*1. Incident Name:	2. Incident Number:

Additional Incident Decision Support Information

*31. Public Status Summary:	A. # This Reporting Period	B. Total # to Date
C. Indicate Number of Civilians (Public) Below:		
D. Fatalities		
E. With Injuries/Illness		
F. Trapped/In Need of Rescue		
G. Missing *(note if estimated)*		
H. Evacuated *(note if estimated)*		
I. Sheltering in Place *(note if estimated)*		
J. In Temporary Shelters *(note if est.)*		
K. Have Received Mass Immunizations		
L. Require Immunizations *(note if est.)*		
M. In Quarantine		
N. Total # Civilians (Public) Affected:		

*32. Responder Status Summary:	A. # This Reporting Period	B. Total # to Date
C. Indicate Number of Responders Below:		
D. Fatalities		
E. With Injuries/Illness		
F. Trapped/In Need of Rescue		
G. Missing		
H. Sheltering in Place		
I. Have Received Immunizations		
J. Require Immunizations		
K. In Quarantine		
N. Total # Responders Affected:		

33. Life, Safety, and Health Status/Threat Remarks:

35. Weather Concerns (synopsis of current and predicted weather; discuss related factors that may cause concern):

*34. Life, Safety, and Health Threat Management:	A. Check if Active
A. No Likely Threat	☐
B. Potential Future Threat	☐
C. Mass Notifications in Progress	☐
D. Mass Notifications Completed	☐
E. No Evacuation(s) Imminent	☐
F. Planning for Evacuation	☐
G. Planning for Shelter-in-Place	☐
H. Evacuation(s) in Progress	☐
I. Shelter-in-Place in Progress	☐
J. Repopulation in Progress	☐
K. Mass Immunization in Progress	☐
L. Mass Immunization Complete	☐
M. Quarantine in Progress	☐
N. Area Restriction in Effect	☐
	☐
	☐
	☐
	☐

36. Projected Incident Activity, Potential, Movement, Escalation, or Spread and influencing factors during the next operational period and in 12-, 24-, 48-, and 72-hour timeframes:

12 hours:

24 hours:

48 hours:

72 hours:

Anticipated after 72 hours:

37. Strategic Objectives (define planned end-state for incident):

INCIDENT STATUS SUMMARY (ICS 209)

*1. Incident Name:	2. Incident Number:

Additional Incident Decision Support Information *(continued)*

38. Current Incident Threat Summary and Risk Information in 12-, 24-, 48-, and 72-hour timeframes and beyond. Summarize primary incident threats to life, property, communities and community stability, residences, health care facilities, other critical infrastructure and key resources, commercial facilities, natural and environmental resources, cultural resources, and continuity of operations and/or business. Identify corresponding incident-related potential economic or cascading impacts.

12 hours:

24 hours:

48 hours:

72 hours:

Anticipated after 72 hours:

39. Critical Resource Needs in 12-, 24-, 48-, and 72-hour timeframes and beyond to meet critical incident objectives. List resource category, kind, and/or type, and amount needed, in priority order:

12 hours:

24 hours:

48 hours:

72 hours:

Anticipated after 72 hours:

40. Strategic Discussion: Explain the relation of overall strategy, constraints, and current available information to:

1) critical resource needs identified above,
2) the Incident Action Plan and management objectives and targets,
3) anticipated results.

Explain major problems and concerns such as operational challenges, incident management problems, and social, political, economic, or environmental concerns or impacts.

41. Planned Actions for Next Operational Period:

42. Projected Final Incident Size/Area (use unit label – e.g., "sq mi"):

43. Anticipated Incident Management Completion Date:

44. Projected Significant Resource Demobilization Start Date:

45. Estimated Incident Costs to Date:

46. Projected Final Incident Cost Estimate:

47. Remarks (or continuation of any blocks above – list block number in notation):

** Required when applicable.*

INCIDENT STATUS SUMMARY (ICS 209)

1. Incident Name:	2. Incident Number:

Incident Resource Commitment Summary

48. Agency or Organization:	49. **Resources** (summarize resources by category, kind, and/or type; show # of resources on top ½ of box, show # of personnel associated with resource on bottom ½ of box):	50. Additional Personnel not assigned to a resource:	51. **Total Personnel** (includes those associated with resources – e.g., aircraft or engines – *and* individual overhead):
52. Total Resources			

53. Additional Cooperating and Assisting Organizations Not Listed Above:

ICS 209, Page ___ of ___	* *Required when applicable.*

ICS 209
Incident Status Summary

Purpose. The ICS 209 is used for reporting information on significant incidents. It is not intended for every incident, as most incidents are of short duration and do not require scarce resources, significant mutual aid, or additional support and attention. The ICS 209 contains basic information elements needed to support decisionmaking at all levels above the incident to support the incident. Decisionmakers may include the agency having jurisdiction, but also all multiagency coordination system (MACS) elements and parties, such as cooperating and assisting agencies/organizations, dispatch centers, emergency operations centers, administrators, elected officials, and local, tribal, county, State, and Federal agencies. Once ICS 209 information has been submitted from the incident, decisionmakers and others at all incident support and coordination points may transmit and share the information (based on its sensitivity and appropriateness) for access and use at local, regional, State, and national levels as it is needed to facilitate support.

Accurate and timely completion of the ICS 209 is necessary to identify appropriate resource needs, determine allocation of limited resources when multiple incidents occur, and secure additional capability when there are limited resources due to constraints of time, distance, or other factors. The information included on the ICS 209 influences the priority of the incident, and thus its share of available resources and incident support.

The ICS 209 is designed to provide a "snapshot in time" to effectively move incident decision support information where it is needed. It should contain the most accurate and up-to-date information available at the time it is prepared. However, readers of the ICS 209 may have access to more up-to-date or real-time information in reference to certain information elements on the ICS 209. Coordination among communications and information management elements within ICS and among MACS should delineate authoritative sources for more up-to-date and/or real-time information when ICS 209 information becomes outdated in a quickly evolving incident.

Reporting Requirements. The ICS 209 is intended to be used when an incident reaches a certain threshold where it becomes significant enough to merit special attention, require additional resource support needs, or cause media attention, increased public safety threat, etc. Agencies or organizations may set reporting requirements and, therefore, ICS 209s should be completed according to each jurisdiction or discipline's policies, mobilization guide, or preparedness plans. It is recommended that consistent ICS 209 reporting parameters be adopted and used by jurisdictions or disciplines for consistency over time, documentation, efficiency, trend monitoring, incident tracking, etc.

For example, an agency or MAC (Multiagency Coordination) Group may require the submission of an initial ICS 209 when a new incident has reached a certain predesignated level of significance, such as when a given number of resources are committed to the incident, when a new incident is not completed within a certain timeframe, or when impacts/threats to life and safety reach a given level.

Typically, ICS 209 forms are completed either once daily or for each operational period – in addition to the initial submission. Jurisdictional or organizational guidance may indicate frequency of ICS 209 submission for particular definitions of incidents or for all incidents. This specific guidance may help determine submission timelines when operational periods are extremely short (e.g., 2 hours) and it is not necessary to submit new ICS 209 forms for all operational periods.

Any plans or guidelines should also indicate parameters for when it is appropriate to stop submitting ICS 209s for an incident, based upon incident activity and support levels.

Preparation. When an Incident Management Organization (such as an Incident Management Team) is in place, the Situation Unit Leader or Planning Section Chief prepares the ICS 209 at the incident. On other incidents, the ICS 209 may be completed by a dispatcher in the local communications center, or by another staff person or manager. This form should be completed at the incident or at the closest level to the incident.

The ICS 209 should be completed with the best possible, currently available, and verifiable information at the time it is completed and signed.

This form is designed to serve incidents impacting specific geographic areas that can easily be defined. It also has the flexibility for use on ubiquitous events, or those events that cover extremely large areas and that may involve many jurisdictions and ICS organizations. For these incidents, it will be useful to clarify on the form exactly which portion of the larger incident the ICS 209 is meant to address. For example, a particular ICS 209 submitted during a statewide outbreak of mumps may be relevant only to mumps-related activities in Story County, Iowa. This can be indicated in both the incident name, Block 1, and in the Incident Location Information section in Blocks 16–26.

While most of the "Incident Location Information" in Blocks 16–26 is optional, the more information that can be submitted, the better. Submission of multiple location indicators increases accuracy, improves interoperability, and increases information sharing between disparate systems. Preparers should be certain to follow accepted protocols or standards when entering location information, and clearly label all location information. As with other ICS 209 data, geospatial information may be widely shared and utilized, so accuracy is essential.

If electronic data is submitted with the ICS 209, do not attach or send extremely large data files. Incident geospatial data that is distributed with the ICS 209 should be in simple incident geospatial basics, such as the incident perimeter, point of origin, etc. Data file sizes should be small enough to be easily transmitted through dial-up connections or other limited communications capabilities when ICS 209 information is transmitted electronically. Any attached data should be clearly labeled as to format content and collection time, and should follow existing naming conventions and standards.

Distribution. ICS 209 information is meant to be completed at the level as close to the incident as possible, preferably at the incident. Once the ICS 209 has been submitted outside the incident to a dispatch center or MACS element, it may subsequently be transmitted to various incident supports and coordination entities based on the support needs and the decisions made within the MACS in which the incident occurs.

Coordination with public information system elements and investigative/intelligence information organizations at the incident and within MACS is essential to protect information security and to ensure optimal information sharing and coordination. There may be times in which particular ICS 209s contain sensitive information that should not be released to the public (such as information regarding active investigations, fatalities, etc.). When this occurs, the ICS 209 (or relevant sections of it) should be labeled appropriately, and care should be taken in distributing the information within MACS.

All completed and signed original ICS 209 forms MUST be given to the incident's Documentation Unit and/or maintained as part of the official incident record.

Notes:

- To promote flexibility, only a limited number of ICS 209 blocks are typically required, and most of those are required only when applicable.
- Most fields are optional, to allow responders to use the form as best fits their needs and protocols for information collection.
- For the purposes of the ICS 209, responders are those personnel who are assigned to an incident or who are a part of the response community as defined by NIMS. This may include critical infrastructure owners and operators, nongovernmental and nonprofit organizational personnel, and contract employees (such as caterers), depending on local/jurisdictional/discipline practices.
- For additional flexibility only pages 1–3 are numbered, for two reasons:
  - Possible submission of additional pages for the Remarks Section (Block 47), and
  - Possible submission of additional copies of the fourth/last page (the "Incident Resource Commitment Summary") to provide a more detailed resource summary.

Block Number	Block Title	Instructions
*1	**Incident Name**	**REQUIRED BLOCK.** • Enter the full name assigned to the incident. • Check spelling of the full incident name. • For an incident that is a Complex, use the word "Complex" at the end of the incident name. • If the name changes, explain comments in Remarks, Block 47. • Do not use the same incident name for different incidents in the same calendar year.

Block Number	Block Title	Instructions
2	**Incident Number**	• Enter the appropriate number based on current guidance. The incident number may vary by jurisdiction and discipline. • Examples include: o A computer-aided dispatch (CAD) number. o An accounting number. o A county number. o A disaster declaration number. o A combination of the State, unit/agency ID, and a dispatch system number. o A mission number. o Any other unique number assigned to the incident and derived by means other than those above. • Make sure the number entered is correct. • Do not use the same incident number for two different incidents in the same calendar year. • Incident numbers associated with host jurisdictions or agencies and incident numbers assigned by agencies represented in Unified Command should be listed, or indicated in Remarks, Block 47.
*3	**Report Version** (check one box on left)	**REQUIRED BLOCK.** • This indicates the current version of the ICS 209 form being submitted. • If only one ICS 209 will be submitted, check BOTH "Initial" and "Final" (or check only "Final").
	☐ Initial	Check "Initial" if this is the first ICS 209 for this incident.
	☐ Update	Check "Update" if this is a subsequent report for the same incident. These can be submitted at various time intervals (see "Reporting Requirements" above).
	☐ Final	• Check "Final" if this is the last ICS 209 to be submitted for this incident (usually when the incident requires only minor support that can be supplied by the organization having jurisdiction). • Incidents may also be marked as "Final" if they become part of a new Complex (when this occurs, it can be indicated in Remarks, Block 47).
	Report # (if used)	Use this optional field if your agency or organization requires the tracking of ICS 209 report numbers. Agencies may also track the ICS 209 by the date/time submitted.
*4	**Incident Commander(s) & Agency or Organization**	**REQUIRED BLOCK.** • Enter both the first and last name of the Incident Commander. • If the incident is under a Unified Command, list all Incident Commanders by first initial and last name separated by a comma, including their organization. For example: L. Burnett – Minneapolis FD, R. Domanski – Minneapolis PD, C. Taylor – St. Paul PD, Y. Martin – St. Paul FD, S. McIntyre – U.S. Army Corps, J. Hartl – NTSB
5	**Incident Management Organization**	Indicate the incident management organization for the incident, which may be a Type 1, 2, or 3 Incident Management Team (IMT), a Unified Command, a Unified Command with an IMT, etc. This block should not be completed unless a recognized incident management organization is assigned to the incident.

Block Number	Block Title	Instructions
*6	**Incident Start Date/Time**	**REQUIRED.** This is always the start date and time of the incident (not the report date and time or operational period).
	Date	Enter the start date (month/day/year).
	Time	Enter the start time (using the 24-hour clock).
	Time Zone	Enter the time zone of the incident (e.g., EDT, PST).
7	**Current Incident Size or Area Involved** (use unit label – e.g., "sq mi," "city block")	• Enter the appropriate incident descriptive size or area involved (acres, number of buildings, square miles, hectares, square kilometers, etc.). • Enter the total area involved for incident Complexes in this block, and list each sub-incident and size in Remarks (Block 47). • Indicate that the size is an estimate, if a more specific figure is not available. • Incident size may be a population figure rather than a geographic figure, depending on the incident definition and objectives. • If the incident involves more than one jurisdiction or mixed ownership, agencies/organizations may require listing a size breakdown by organization, or including this information in Remarks (Block 47). • The incident may be one part of a much larger event (refer to introductory instructions under "Preparation). Incident size/area depends on the area actively managed within the incident objectives and incident operations, and may also be defined by a delegation of authority or letter of expectation outlining management bounds.
8	**Percent (%) Contained or Completed** (circle one)	• Enter the percent that this incident is completed or contained (e.g., 50%), with a % label. • For example, a spill may be 65% contained, or flood response objectives may be 50% met.
*9	**Incident Definition**	**REQUIRED BLOCK.** Enter a general definition of the incident in this block. This may be a general incident category or kind description, such as "tornado," "wildfire," "bridge collapse," "civil unrest," "parade," "vehicle fire," "mass casualty," etc.
10	**Incident Complexity Level**	Identify the incident complexity level as determined by Unified/Incident Commanders, if available or used.
*11	**For Time Period**	**REQUIRED BLOCK.** • Enter the time interval for which the form applies. This period should include all of the time since the last ICS 209 was submitted, or if it is the initial ICS 209, it should cover the time lapsed since the incident started. • The time period may include one or more operational periods, based on agency/organizational reporting requirements.
	From Date/Time	• Enter the start date (month/day/year). • Enter the start time (using the 24-hour clock).
	To Date/Time	• Enter the end date (month/day/year). • Enter the end time (using the 24-hour clock).

Block Number	Block Title	Instructions
APPROVAL & ROUTING INFORMATION		
*12	**Prepared By**	**REQUIRED BLOCK.** When an incident management organization is in place, this would be the Situation Unit Leader or Planning Section Chief at the incident. On other incidents, it could be a dispatcher in the local emergency communications center, or another staff person or manager.
	Print Name	Print the name of the person preparing the form.
	ICS Position	The ICS title of the person preparing the form (e.g., "Situation Unit Leader").
	Date/Time Prepared	Enter the date (month/day/year) and time (using the 24-hour clock) the form was prepared. Enter the time zone if appropriate.
*13	**Date/Time Submitted**	**REQUIRED.** Enter the submission date (month/day/year) and time (using the 24-hour clock).
	Time Zone	Enter the time zone from which the ICS 209 was submitted (e.g., EDT, PST).
*14	**Approved By**	**REQUIRED.** When an incident management organization is in place, this would be the Planning Section Chief or Incident Commander at the incident. On other incidents, it could be the jurisdiction's dispatch center manager, organizational administrator, or other manager.
	Print Name	Print the name of the person approving the form.
	ICS Position	The position of the person signing the ICS 209 should be entered (e.g., "Incident Commander").
	Signature	Signature of the person approving the ICS 209, typically the Incident Commander. The original signed ICS 209 should be maintained with other incident documents.
*15	**Primary Location, Organization, or Agency Sent To**	**REQUIRED BLOCK.** Enter the appropriate primary location or office the ICS 209 was sent to apart from the incident. This most likely is the entity or office that ordered the incident management organization that is managing the incident. This may be a dispatch center or a MACS element such as an emergency operations center. If a dispatch center or other emergency center prepared the ICS 209 for the incident, indicate where it was submitted initially.
INCIDENT LOCATION INFORMATION		
• Much of the "Incident Location Information" in Blocks 16–26 is optional, but completing as many fields as possible increases accuracy, and improves interoperability and information sharing between disparate systems. • As with all ICS 209 information, accuracy is essential because the information may be widely distributed and used in a variety of systems. Location and/or geospatial data may be used for maps, reports, and analysis by multiple parties outside the incident. • Be certain to follow accepted protocols, conventions, or standards where appropriate when submitting location information, and clearly label all location information. • Incident location information is usually based on the point of origin of the incident, and the majority of the area where the incident jurisdiction is.		
*16	**State**	**REQUIRED BLOCK WHEN APPLICABLE.** • Enter the State where the incident originated. • If other States or jurisdictions are involved, enter them in Block 25 or Block 44.
*17	**County / Parish / Borough**	**REQUIRED BLOCK WHEN APPLICABLE.** • Enter the county, parish, or borough where the incident originated. • If other counties or jurisdictions are involved, enter them in Block 25 or Block 47.

Block Number	Block Title	Instructions
*18	**City**	**REQUIRED BLOCK WHEN APPLICABLE.** • Enter the city where the incident originated. • If other cities or jurisdictions are involved, enter them in Block 25 or Block 47.
19	**Unit or Other**	Enter the unit, sub-unit, unit identification (ID) number or code (if used), or other information about where the incident originated. This may be a local identifier that indicates primary incident jurisdiction or responsibility (e.g., police, fire, public works, etc.) or another type of organization. Enter specifics in Block 25.
*20	**Incident Jurisdiction**	**REQUIRED BLOCK WHEN APPLICABLE.** Enter the jurisdiction where the incident originated (the entry may be general, such as Federal, city, or State, or may specifically identify agency names such as Warren County, U.S. Coast Guard, Panama City, NYPD).
21	**Incident Location Ownership** (if different than jurisdiction)	• When relevant, indicate the ownership of the area where the incident originated, especially if it is different than the agency having jurisdiction. • This may include situations where jurisdictions contract for emergency services, or where it is relevant to include ownership by private entities, such as a large industrial site.
22	**22. Longitude** (indicate format): **Latitude** (indicate format):	• Enter the longitude and latitude where the incident originated, if available and normally used by the authority having jurisdiction for the incident. • Clearly label the data, as longitude and latitude can be derived from various sources. For example, if degrees, minutes, and seconds are used, label as "33 degrees, 45 minutes, 01 seconds."
23	**US National Grid Reference**	• Enter the US National Grid (USNG) reference where the incident originated, if available and commonly used by the agencies/jurisdictions with primary responsibility for the incident. • Clearly label the data.
24	**Legal Description** (township, section, range)	• Enter the legal description where the incident originated, if available and commonly used by the agencies/jurisdictions with primary responsibility for the incident. • Clearly label the data (e.g., N 1/2 SE 1/4, SW 1/4, S24, T32N, R18E).
*25	**Short Location or Area Description** (list all affected areas or a reference point)	**REQUIRED BLOCK.** • List all affected areas as described in instructions for Blocks 16–24 above, OR summarize a general location, OR list a reference point for the incident (e.g., "the southern third of Florida," "in ocean 20 miles west of Catalina Island, CA," or "within a 5 mile radius of Walden, CO"). • This information is important for readers unfamiliar with the area (or with other location identification systems) to be able to quickly identify the general location of the incident on a map. • Other location information may also be listed here if needed or relevant for incident support (e.g., base meridian).
26	**UTM Coordinates**	Indicate Universal Transverse Mercator reference coordinates if used by the discipline or jurisdiction.

Block Number	Block Title	Instructions
27	**Note any electronic geospatial data included or attached** (indicate data format, content, and collection time information and labels)	• Indicate whether and how geospatial data is included or attached. • Utilize common and open geospatial data standards. • WARNING: Do not attach or send extremely large data files with the ICS 209. Incident geospatial data that is distributed with the ICS 209 should be simple incident geospatial basics, such as the incident perimeter, origin, etc. Data file sizes should be small enough to be easily transmitted through dial-up connections or other limited communications capabilities when ICS 209 information is transmitted electronically. • NOTE: Clearly indicate data content. For example, data may be about an incident perimeter (such as a shape file), the incident origin (a point), a point and radius (such as an evacuation zone), or a line or lines (such as a pipeline). • NOTE: Indicate the data format (e.g., .shp, .kml, .kmz, or .gml file) and any relevant information about projection, etc. • NOTE: Include a hyperlink or other access information if incident map data is posted online or on an FTP (file transfer protocol) site to facilitate downloading and minimize information requests. • NOTE: Include a point of contact for getting geospatial incident information, if included in the ICS 209 or available and supporting the incident.
INCIDENT SUMMARY		
*28	**Significant Events for the Time Period Reported** (summarize significant progress made, evacuations, incident growth, etc.)	**REQUIRED BLOCK.** • Describe significant events that occurred during the period being reported in Block 6. Examples include: o Road closures. o Evacuations. o Progress made and accomplishments. o Incident command transitions. o Repopulation of formerly evacuated areas and specifics. o Containment. • Refer to other blocks in the ICS 209 when relevant for additional information (e.g., "Details on evacuations may be found in Block 33"), or in Remarks, Block 47. • Be specific and detailed in reference to events. For example, references to road closures should include road number and duration of closure (or include further detail in Block 33). Use specific metrics if needed, such as the number of people or animals evacuated, or the amount of a material spilled and/or recovered. • This block may be used for a single-paragraph synopsis of overall incident status.
29	**Primary Materials or Hazards Involved** (hazardous chemicals, fuel types, infectious agents, radiation, etc.)	• When relevant, enter the appropriate primary materials, fuels, or other hazards involved in the incident that are leaking, burning, infecting, or otherwise influencing the incident. • Examples include hazardous chemicals, wildland fuel models, biohazards, explosive materials, oil, gas, structural collapse, avalanche activity, criminal activity, etc.
	Other	Enter any miscellaneous issues which impacted Critical Infrastructure and Key Resources.

Block Number	Block Title	Instructions
30	**Damage Assessment Information** (summarize damage and/or restriction of use or availability to residential or commercial property, natural resources, critical infrastructure and key resources, etc.)	• Include a short summary of damage or use/access restrictions/ limitations caused by the incident for the reporting period, and cumulatively. • Include if needed any information on the facility status, such as operational status, if it is evacuated, etc. when needed. • Include any critical infrastructure or key resources damaged/destroyed/ impacted by the incident, the kind of infrastructure, and the extent of damage and/or impact and any known cascading impacts. • Refer to more specific or detailed damage assessment forms and packages when they are used and/or relevant.
	A. Structural Summary	Complete this table as needed based on the definitions for 30B–F below. Note in table or in text block if numbers entered are estimates or are confirmed. Summaries may also include impact to Shoreline and Wildlife, etc.
	B. # Threatened (72 hrs)	Enter the number of structures potentially threatened by the incident within the next 72 hours, based on currently available information.
	C. # Damaged	Enter the number of structures damaged by the incident.
	D. # Destroyed	Enter the number of structures destroyed beyond repair by the incident.
	E. Single Residences	Enter the number of single dwellings/homes/units impacted in Columns 30B–D. Note any specifics in the text block if needed, such as type of residence (apartments, condominiums, single-family homes, etc.).
	F. Nonresidential Commercial Properties	Enter the number of buildings or units impacted in Columns 30B–D. This includes any primary structure used for nonresidential purposes, excluding Other Minor Structures (Block 30G). Note any specifics regarding building or unit types in the text block.
	Other Minor Structures	Enter any miscellaneous structures impacted in Columns 30B–D not covered in 30E–F above, including any minor structures such as booths, sheds, or outbuildings.
	Other	Enter any miscellaneous issues which impacted Critical Infrastructure and Key Resources.

Block Number	Block Title	Instructions
ADDITIONAL INCIDENT DECISION SUPPORT INFORMATION (PAGE 2)		
*31	**Public Status Summary**	• This section is for summary information regarding incident-related injuries, illness, and fatalities for civilians (or members of the public); see 31C–N below. • Explain or describe the nature of any reported injuries, illness, or other activities in Life, Safety, and Health Status/Threat Remarks (Block 33). • Illnesses include those that may be caused through a biological event such as an epidemic or an exposure to toxic or radiological substances. • NOTE: *Do not estimate any fatality information.* • NOTE: Please use caution when reporting information in this section that may be on the periphery of the incident or change frequently. This information should be reported as accurately as possible as a snapshot in time, as much of the information is subject to frequent change. • NOTE: Do not complete this block if the incident covered by the ICS 209 is *not directly responsible* for these actions (such as evacuations, sheltering, immunizations, etc.) *even if they are related to the incident.* o Only the authority having jurisdiction should submit reports for these actions, to mitigate multiple/conflicting reports. o For example, if managing evacuation shelters is part of the incident operation itself, do include these numbers in Block 31J with any notes in Block 33. • NOTE: When providing an estimated value, denote in parenthesis: "est." **Handling Sensitive Information** • Release of information in this section should be carefully coordinated within the incident management organization to ensure synchronization with public information and investigative/intelligence actions. • Thoroughly review the "Distribution" section in the introductory ICS 209 instructions for details on handling sensitive information. Use caution when providing information in any situation involving fatalities, and verify that appropriate notifications have been made prior to release of this information. Electronic transmission of any ICS 209 may make information available to many people and networks at once. • Information regarding fatalities should be cleared with the Incident Commander and/or an organizational administrator prior to submission of the ICS 209.
	A. # This Reporting Period	Enter the total number of individuals impacted in each category for this reporting period (since the previous ICS 209 was submitted).
	B. Total # to Date	• Enter the total number of individuals impacted in each category for the entire duration of the incident. • This is a cumulative total number that should be adjusted each reporting period.
	C. Indicate Number of Civilians (Public) Below	• For lines 31D–M below, enter the number of civilians affected for each category. • Indicate if numbers are estimates, for those blocks where this is an option. • Civilians are those members of the public who are affected by the incident, but who are not included as part of the response effort through Unified Command partnerships and those organizations and agencies assisting and cooperating with response efforts.
	D. Fatalities	• Enter the number of *confirmed* civilian/public fatalities. • See information in introductory instructions ("Distribution") and in Block 31 instructions regarding sensitive handling of fatality information.
	E. With Injuries/Illness	Enter the number of civilian/public injuries or illnesses directly related to the incident. Injury or illness is defined by the incident or jurisdiction(s).

Block Number	Block Title	Instructions
*31 (continued)	F. Trapped/In Need of Rescue	Enter the number of civilians who are trapped or in need of rescue due to the incident.
	G. Missing (note if estimated)	Enter the number of civilians who are missing due to the incident. Indicate if an estimate is used.
	H. Evacuated (note if estimated)	Enter the number of civilians who are evacuated due to the incident. These are likely to be best estimates, but indicate if they are estimated.
	I. Sheltering-in-Place (note if estimated)	Enter the number of civilians who are sheltering in place due to the incident. Indicate if estimates are used.
	J. In Temporary Shelters (note if estimated)	Enter the number of civilians who are in temporary shelters as a direct result of the incident, noting if the number is an estimate.
	K. Have Received Mass Immunizations	Enter the number of civilians who have received mass immunizations due to the incident and/or as part of incident operations. Do not estimate.
	L. Require Mass Immunizations (note if estimated)	Enter the number of civilians who require mass immunizations due to the incident and/or as part of incident operations. Indicate if it is an estimate.
	M. In Quarantine	Enter the number of civilians who are in quarantine due to the incident and/or as part of incident operations. Do not estimate.
	N. Total # Civilians (Public) Affected	Enter sum totals for Columns 31A and 31B for Rows 31D–M.
*32	**Responder Status Summary**	• This section is for summary information regarding incident-related injuries, illness, and fatalities for responders; see 32C–N. • Illnesses include those that may be related to a biological event such as an epidemic or an exposure to toxic or radiological substances directly in relation to the incident. • Explain or describe the nature of any reported injuries, illness, or other activities in Block 33. • NOTE: *Do not estimate any fatality information or responder status information.* • NOTE: Please use caution when reporting information in this section that may be on the periphery of the incident or change frequently. This information should be reported as accurately as possible as a snapshot in time, as much of the information is subject to frequent change. • NOTE: Do not complete this block if the incident covered by the ICS 209 is *not directly responsible* for these actions (such as evacuations, sheltering, immunizations, etc.) even if they are related to the incident. Only the authority having jurisdiction should submit reports for these actions, to mitigate multiple/conflicting reports. **Handling Sensitive Information** • Release of information in this section should be carefully coordinated within the incident management organization to ensure synchronization with public information and investigative/intelligence actions. • Thoroughly review the "Distribution" section in the introductory ICS 209 instructions for details on handling sensitive information. Use caution when providing information in any situation involving fatalities, and verify that appropriate notifications have been made prior to release of this information. Electronic transmission of any ICS 209 may make information available to many people and networks at once. • Information regarding fatalities should be cleared with the Incident Commander and/or an organizational administrator prior to submission of the ICS 209.

Block Number	Block Title	Instructions
*32 (continued)	A. # This Reporting Period	Enter the total number of responders impacted in each category for this reporting period (since the previous ICS 209 was submitted).
	B. Total # to Date	• Enter the total number of individuals impacted in each category for the *entire duration* of the incident. • This is a *cumulative* total number that should be adjusted each reporting period.
	C. Indicate Number of Responders Below	• For lines 32D–M below, enter the number of responders relevant for each category. • Responders are those personnel included as part of Unified Command partnerships and those organizations and agencies assisting and cooperating with response efforts.
	D. Fatalities	• Enter the number of *confirmed* responder fatalities. • See information in introductory instructions ("Distribution") and for Block 32 regarding sensitive handling of fatality information.
	E. With Injuries/Illness	• Enter the number of incident responders with serious injuries or illnesses due to the incident. • *For responders, serious injuries or illness are typically those in which the person is unable to continue to perform in his or her incident assignment,* but the authority having jurisdiction may have additional guidelines on reporting requirements in this area.
	F. Trapped/In Need Of Rescue	Enter the number of incident responders who are in trapped or in need of rescue due to the incident.
	G. Missing	Enter the number of incident responders who are missing due to incident conditions.
	H.	(BLANK; use however is appropriate.)
	I. Sheltering in Place	Enter the number of responders who are sheltering in place due to the incident. Once responders become the victims, this needs to be noted in Block 33 or Block 47 and handled accordingly.
	J.	(BLANK; use however is appropriate.)
	L. Require Immunizations	Enter the number of responders who require immunizations due to the incident and/or as part of incident operations.
	M. In Quarantine	Enter the number of responders who are in quarantine as a direct result of the incident and/or related to incident operations.
	N. Total # Responders Affected	Enter sum totals for Columns 32A and 32B for Rows 32D–M.
33	**Life, Safety, and Health Status/Threat Remarks**	• Enter any details needed for Blocks 31, 32, and 34. Enter any specific comments regarding illness, injuries, fatalities, and threat management for this incident, such as whether estimates were used for numbers given in Block 31. • This information should be reported as accurately as possible as a snapshot in time, as much of the information is subject to frequent change. • Evacuation information can be very sensitive to local residents and officials. Be accurate in the assessment. • Clearly note primary responsibility and contacts for any activities or information in Blocks 31, 32, and 34 that may be caused by the incident, but that are being managed and/or reported by other parties. • Provide additional explanation or information as relevant in Blocks 28, 36, 38, 40, 41, or in Remarks (Block 47).

Block Number	Block Title	Instructions
*34	**Life, Safety, and Health Threat Management**	Note any details in Life, Safety, and Health Status/Threat Remarks (Block 33), and provide additional explanation or information as relevant in Blocks 28, 36, 38, 40, 41, or in Remarks (Block 47). Additional pages may be necessary for notes.
	A. Check if Active	Check any applicable blocks in 34C–P based on currently available information regarding incident activity and potential.
	B. Notes	Note any specific details, or include in Block 33.
	C. No Likely Threat	Check if there is no likely threat to life, health, and safety.
	D. Potential Future Threat	Check if there is a potential future threat to life, health, and safety.
	E. Mass Notifications In Progress	• Check if there are any mass notifications in progress regarding emergency situations, evacuations, shelter in place, or other public safety advisories related to this incident. • These may include use of threat and alert systems such as the Emergency Alert System or a "reverse 911" system. • Please indicate the areas where mass notifications have been completed (e.g., "mass notifications to ZIP codes 50201, 50014, 50010, 50011," or "notified all residents within a 5-mile radius of Gatlinburg").
	F. Mass Notifications Completed	Check if actions referred to in Block 34E above have been completed.
	G. No Evacuation(s) Imminent	Check if evacuations are not anticipated in the near future based on current information.
	H. Planning for Evacuation	Check if evacuation planning is underway in relation to this incident.
	I. Planning for Shelter-in-Place	Check if planning is underway for shelter-in-place activities related to this incident.
	J. Evacuation(s) in Progress	Check if there are active evacuations in progress in relation to this incident.
	K. Shelter-In-Place in Progress	Check if there are active shelter-in-place actions in progress in relation to this incident.
	L. Repopulation in Progress	Check if there is an active repopulation in progress related to this incident.
	M. Mass Immunization in Progress	Check if there is an active mass immunization in progress related to this incident.
	N. Mass Immunization Complete	Check if a mass immunization effort has been completed in relation to this incident.
	O. Quarantine in Progress	Check if there is an active quarantine in progress related to this incident.
	P. Area Restriction in Effect	Check if there are any restrictions in effect, such as road or area closures, especially those noted in Block 28.

Block Number	Block Title	Instructions
35	**Weather Concerns** (synopsis of current and predicted weather; discuss related factors that may cause concern)	• Complete a short synopsis/discussion on significant weather factors that could cause concerns for the incident when relevant. • Include current and/or predicted weather factors, and the timeframe for predictions. • Include relevant factors such as: o Wind speed (label units, such as mph). o Wind direction (clarify and label where wind is coming from and going to in plain language – e.g., "from NNW," "from E," or "from SW"). o Temperature (label units, such as F). o Relative humidity (label %). o Watches. o Warnings. o Tides. o Currents. • Any other weather information relative to the incident, such as flooding, hurricanes, etc.
36	**Projected Incident Activity, Potential, Movement, Escalation, or Spread** and influencing factors during the next operational period and in 12-, 24-, 48-, and 72-hour timeframes **12 hours** **24 hours** **48 hours** **72 hours** **Anticipated after 72 hours**	• Provide an estimate (when it is possible to do so) of the direction/scope in which the incident is expected to spread, migrate, or expand during the next indicated operational period, or other factors that may cause activity changes. • Discuss incident potential relative to values at risk, or values to be protected (such as human life), and the potential changes to those as the incident changes. • Include an estimate of the acreage or area that will likely be affected. • If known, provide the above information in 12-, 24-, 48- and 72-hour timeframes, and any activity anticipated after 72 hours.
37	**Strategic Objectives** (define planned end-state for incident)	Briefly discuss the desired outcome for the incident based on currently available information. Note any high-level objectives and any possible strategic benefits as well (especially for planned events).

Block Number	Block Title	Instructions
ADDITIONAL INCIDENT DECISION SUPPORT INFORMATION (continued) **(PAGE 3)**		
38	**Current Incident Threat Summary and Risk Information in 12-, 24-, 48-, and 72-hour timeframes and beyond.** Summarize primary incident threats to life, property, communities and community stability, residences, health care facilities, other critical infrastructure and key resources, commercial facilities, natural and environmental resources, cultural resources, and continuity of operations and/or business. Identify corresponding incident-related potential economic or cascading impacts. **12 hours** **24 hours** **48 hours** **72 hours** **Anticipated after 72 hours**	Summarize major or significant threats due to incident activity based on currently available information. Include a breakdown of threats in terms of 12-, 24-, 48-, and 72-hour timeframes.

Block Number	Block Title	Instructions
39	**Critical Resource Needs** in 12-, 24-, 48-, and 72-hour timeframes and beyond to meet critical incident objectives. List resource category, kind, and/or type, and amount needed, in priority order: **12 hours** **24 hours** **48 hours** **72 hours** **Anticipated after 72 hours**	• List the specific critical resources and numbers needed, in order of priority. *Be specific as to the need.* • Use plain language and common terminology for resources, and indicate resource category, kind, and type (if available or known) to facilitate incident support. • If critical resources are listed in this block, there should be corresponding orders placed for them through appropriate resource ordering channels. • Provide critical resource needs in 12-, 24-, 48- and 72-hour increments. List the most critical resources needed for each timeframe, if needs have been identified for each timeframe. Listing critical resources by the time they are needed gives incident support personnel a "heads up" for short-range planning, and assists the ordering process to ensure these resources will be in place when they are needed. • More than one resource need may be listed for each timeframe. For example, a list could include: o 24 hrs: 3 Type 2 firefighting helicopters, 2 Type I Disaster Medical Assistance Teams o 48 hrs: Mobile Communications Unit (Law/Fire) o After 72 hrs: 1 Type 2 Incident Management Team • Documentation in the ICS 209 can help the incident obtain critical regional or national resources through outside support mechanisms including multiagency coordination systems and mutual aid. o Information provided in other blocks on the ICS 209 can help to support the need for resources, including Blocks 28, 29, 31–38, and 40–42. o Additional comments in the Remarks section (Block 47) can also help explain what the incident is requesting and why it is critical (for example, "Type 2 Incident Management Team is needed in three days to transition command when the current Type 2 Team times out"). • Do not use this block for noncritical resources.
40	**Strategic Discussion: Explain the relation of overall strategy, constraints, and current available information to:** 1) critical resource needs identified above, 2) the Incident Action Plan and management objectives and targets, 3) anticipated results. **Explain major problems and concerns such as operational challenges, incident management problems, and social, political, economic, or environmental concerns or impacts.**	• Wording should be consistent with Block 39 to justify critical resource needs, which should relate to planned actions in the Incident Action Plan. • Give a short assessment of the likelihood of meeting the incident management targets, given the current management strategy and currently known constraints. • Identify when the chosen management strategy will succeed given the current constraints. Adjust the anticipated incident management completion target in Block 43 as needed based on this discussion. • Explain major problems and concerns as indicated.

Block Number	Block Title	Instructions
41	**Planned Actions for Next Operational Period**	• Provide a short summary of actions planned for the next operational period. • Examples: o "The current Incident Management Team will transition out to a replacement IMT." o "Continue to review operational/ engineering plan to facilitate removal of the partially collapsed west bridge supports." o "Continue refining mapping of the recovery operations and damaged assets using GPS." o "Initiate removal of unauthorized food vendors."
42	**Projected Final Incident Size/Area** (use unit label – e.g., "sq mi")	• Enter an estimate of the total area likely to be involved or affected over the course of the incident. • Label the estimate of the total area or population involved, affected, or impacted with the relevant units such as acres, hectares, square miles, etc. • Note that total area involved may not be limited to geographic area (see previous discussions regarding incident definition, scope, operations, and objectives). Projected final size may involve a population rather than a geographic area.
43	**Anticipated Incident Management Completion Date**	• Enter the date (month/day/year) at which time it is expected that incident objectives will be met. This is often explained similar to incident containment or control, or the time at which the incident is expected to be closed or when significant incident support will be discontinued. • Avoid leaving this block blank if possible, as this is important information for managers.
44	**Projected Significant Resource Demobilization Start Date**	Enter the date (month/day/year) when initiation of significant resource demobilization is anticipated.
45	**Estimated Incident Costs to Date**	• Enter the estimated total incident costs to date for the entire incident based on currently available information. • Incident costs include estimates of all costs for the response, including all management and support activities per discipline, agency, or organizational guidance and policy. • This does not include damage assessment figures, as they are impacts from the incident and not response costs. • If costs decrease, explain in Remarks (Block 47). • If additional space is required, please add as an attachment.
46	**Projected Final Incident Cost Estimate**	• Enter an estimate of the total costs for the incident once all costs have been processed based on current spending and projected incident potential, per discipline, agency, or organizational guidance and policy. This is often an estimate of daily costs combined with incident potential information. • This does not include damage assessment figures, as they are impacts from the incident and not response costs. • If additional space is required, please add as an attachment.

Block Number	Block Title	Instructions
47	**Remarks** (or continuation of any blocks above – list block number in notation)	• Use this block to expand on information that has been entered in previous blocks, or to include other pertinent information that has not been previously addressed. • List the block number for any information continued from a previous block. • Additional information may include more detailed weather information, specifics on injuries or fatalities, threats to critical infrastructure or other resources, more detailed evacuation site locations and number of evacuated, information or details regarding incident cause, etc. • For Complexes that include multiple incidents, list all sub-incidents included in the Complex. • List jurisdictional or ownership breakdowns if needed when an incident is in more than one jurisdiction and/or ownership area. Breakdown may be: o By size (e.g., 35 acres in City of Gatlinburg, 250 acres in Great Smoky Mountains), and/or o By geography (e.g., incident area on the west side of the river is in jurisdiction of City of Minneapolis; area on east side of river is City of St. Paul jurisdiction; river is joint jurisdiction with USACE). • Explain any reasons for incident size reductions or adjustments (e.g., reduction in acreage due to more accurate mapping). • This section can also be used to list any additional information about the incident that may be needed by incident support mechanisms outside the incident itself. This may be basic information needed through multiagency coordination systems or public information systems (e.g., a public information phone number for the incident, or the incident Web site address). • Attach additional pages if it is necessary to include additional comments in the Remarks section.

INCIDENT RESOURCE COMMITMENT SUMMARY (PAGE 4)

- This last/fourth page of the ICS 209 can be copied and used if needed to accommodate additional resources, agencies, or organizations. Write the actual page number on the pages as they are used.
- Include only resources that have been assigned to the incident and that have arrived and/or been checked in to the incident. Do not include resources that have been ordered but have *not* yet arrived.

For summarizing:

- When there are large numbers of responders, it may be helpful to group agencies or organizations together. Use the approach that works best for the multiagency coordination system applicable to the incident. For example,
  - Group State, local, county, city, or Federal responders together under such headings, or
  - Group resources from one jurisdiction together and list only individual jurisdictions (e.g., list the public works, police, and fire department resources for a city under that city's name).
- On a large incident, it may also be helpful to group similar categories, kinds, or types of resources together for this summary.

Block Number	Block Title	Instructions
48	**Agency or Organization**	• List the agencies or organizations contributing resources to the incident as responders, through mutual aid agreements, etc. • List agencies or organizations using clear language so readers who may not be from the discipline or host jurisdiction can understand the information. • Agencies or organizations may be listed individually or in groups. • When resources are grouped together, individual agencies or organizations may be listed below in Block 53. • Indicate in the rows under Block 49 how many resources are assigned to the incident under each resource identified. o These can listed with the number of resources on the top of the box, and the number of personnel associated with the resources on the bottom half of the box. o For example: ▪ *Resource:* Type 2 Helicopters… 3/8 (indicates 3 aircraft, 8 personnel). ▪ *Resource:* Type 1 Decontamination Unit… 1/3 (indicates 1 unit, 3 personnel). • Indicate in the rows under Block 51 the total number of personnel assigned for each agency listed under Block 48, including both individual overhead and those associated with other resources such as fire engines, decontamination units, etc.
49	**Resources** (summarize resources by category, kind, and/or type; show # of resources on top ½ of box, show # of personnel associated with resource on bottom ½ of box)	• List resources using clear language when possible – so ICS 209 readers who may not be from the discipline or host jurisdiction can understand the information. o Examples: Type 1 Fire Engines, Type 4 Helicopters • Enter total numbers in columns for each resource by agency, organization, or grouping in the proper blocks. o These can listed with the number of resources on the top of the box, and the number of personnel associated with the resources on the bottom half of the box. o For example: ▪ *Resource:* Type 2 Helicopters… 3/8 (indicates 3 aircraft, 8 personnel). ▪ *Resource:* Type 1 Decontamination Unit… 1/3 (indicates 1 unit, 3 personnel). • NOTE: One option is to group similar resources together when it is sensible to do so for the summary. o For example, do not list every type of fire engine – rather, it may be advisable to list two generalized types of engines, such as "structure fire engines" and "wildland fire engines" in separate columns with totals for each. • NOTE: It is not advisable to list individual overhead personnel individually in the resource section, especially as this form is intended as a summary. These personnel should be included in the Total Personnel sums in Block 51.
50	**Additional Personnel** not assigned to a resource	List the number of *additional* individuals (or overhead) that are not assigned to a specific resource by agency or organization.
51	**Total Personnel** (includes those associated with resources – e.g., aircraft or engines – *and* individual overhead)	• Enter the total personnel for each agency, organization, or grouping in the Total Personnel column. • WARNING: Do not simply add the numbers across! • The number of Total Personnel for each row should include both: o The total number of personnel assigned to each of the resources listed in Block 49, and o The total number of additional individual overhead personnel from each agency, organization, or group listed in Block 50.

Block Number	Block Title	Instructions
52	**Total Resources**	Include the sum total of resources for each column, including the total for the column under Blocks 49, 50, and 51. This should include the total number of *resources* in Block 49, as personnel totals will be counted under Block 51.
53	**Additional Cooperating and Assisting Organizations Not Listed Above**	• List all agencies and organizations that are not directly involved in the incident, but are providing support. • Examples may include ambulance services, Red Cross, DHS, utility companies, etc. • Do not repeat any resources counted in Blocks 48–52, unless explanations are needed for groupings created under Block 48 (Agency or Organization).

RESOURCE STATUS CHANGE (ICS 210)

1. Incident Name:	2. Operational Period: Date From: Time From:	Date To: Time To:

3. Resource Number	4. New Status (Available, Assigned, O/S)	5. From (Assignment and Status):	6. To (Assignment and Status):	7. Time and Date of Change:	

8. Comments:

9. Prepared by: Name: _____ Position/Title: _____ Signature: _____

ICS 210 Date/Time: _____

ICS 210
Resource Status Change

Purpose. The Resource Status Change (ICS 210) is used by the Incident Communications Center Manager to record status change information received on resources assigned to the incident. This information could be transmitted with a General Message (ICS 213). The form could also be used by Operations as a worksheet to track entry, etc.

Preparation. The ICS 210 is completed by radio/telephone operators who receive status change information from individual resources, Task Forces, Strike Teams, and Division/Group Supervisors. Status information could also be reported by Staging Area and Helibase Managers and fixed-wing facilities.

Distribution. The ICS 210 is maintained by the Communications Unit and copied to Resources Unit and filed by Documentation Unit.

Notes:

- The ICS 210 is essentially a message form that can be used to update Resource Status Cards or T-Cards (ICS 219) for incident-level resource management.
- If additional pages are needed, use a blank ICS 210 and repaginate as needed.

Block Number	Block Title	Instructions
1	**Incident Name**	Enter the name assigned to the incident.
2	**Operational Period** • Date and Time From • Date and Time To	Enter the start date (month/day/year) and time (using the 24-hour clock) and end date and time for the operational period to which the form applies.
3	**Resource Number**	Enter the resource identification (ID) number (this may be a letter and number combination) assigned by either the sending unit or the incident.
4	**New Status** (Available, Assigned, Out of Service)	Indicate the current status of the resource: • Available – Indicates resource is available for incident use immediately. • Assigned – Indicates resource is checked in and assigned a work task on the incident. • Out of Service – Indicates resource is assigned to the incident but unable to respond for mechanical, rest, or personnel reasons. If space permits, indicate the estimated time of return (ETR). It may be useful to indicate the reason a resource is out of service (e.g., "O/S – Mech" (for mechanical issues), "O/S – Rest" (for off shift), or "O/S – Pers" (for personnel issues).
5	**From** (Assignment and Status)	Indicate the current location of the resource (where it came from) and the status. When more than one Division, Staging Area, or Camp is used, identify the specific location (e.g., Division A, Staging Area, Incident Command Post, Western Camp).
6	**To** (Assignment and Status)	Indicate the assigned incident location of the resource and status. When more than one Division, Staging Area, or Camp is used, identify the specific location.
7	**Time and Date of Change**	Enter the time and location of the status change (24-hour clock). Enter the date as well if relevant (e.g., out of service).
8	**Comments**	Enter any special information provided by the resource or dispatch center. This may include details about why a resource is out of service, or individual identifying designators (IDs) of Strike Teams and Task Forces.
9	**Prepared by** • Name • Position/Title • Signature • Date/Time	Enter the name, ICS position/title, and signature of the person preparing the form. Enter date (month/day/year) and time prepared (24-hour clock).

INCIDENT CHECK-IN LIST (ICS 211)

1. Incident Name:	2. Incident Number:	3. Check-In Location (complete all that apply): ☐ Base ☐ Staging Area ☐ ICP ☐ Helibase ☐ Other	4. Start Date/Time: Date: Time:

Check-In Information (use reverse of form for remarks or comments)

5. List single resource personnel (overhead) by agency and name, OR list resources by the following format:							6. Order Request #	7. Date/Time Check-In	8. Leader's Name	9. Total Number of Personnel	10. Incident Contact Information	11. Home Unit or Agency	12. Departure Point, Date and Time	13. Method of Travel	14. Incident Assignment	15. Other Qualifications	16. Data Provided to Resources Unit
State	Agency	Category	Kind	Type	Resource Name or Identifier	ST or TF											

ICS 211	17. Prepared by: Name: _____ Position/Title: _____ Signature: _____ Date/Time: _____

ICS 211
Incident Check-In List

Purpose. Personnel and equipment arriving at the incident can check in at various incident locations. Check-in consists of reporting specific information, which is recorded on the Check-In List (ICS 211). The ICS 211 serves several purposes, as it: (1) records arrival times at the incident of all overhead personnel and equipment, (2) records the initial location of personnel and equipment to facilitate subsequent assignments, and (3) supports demobilization by recording the home base, method of travel, etc., for resources checked in.

Preparation. The ICS 211 is initiated at a number of incident locations including: Staging Areas, Base, and Incident Command Post (ICP). Preparation may be completed by: (1) overhead at these locations, who record the information and give it to the Resources Unit as soon as possible, (2) the Incident Communications Center Manager located in the Communications Center, who records the information and gives it to the Resources Unit as soon as possible, (3) a recorder from the Resources Unit during check-in to the ICP. As an option, the ICS 211 can be printed on colored paper to match the designated Resource Status Card (ICS 219) colors. The purpose of this is to aid the process of completing a large volume of ICS 219s. The ICS 219 colors are:

- 219-1: Header Card – Gray (used only as label cards for T-Card racks)
- 219-2: Crew/Team Card – Green
- 219-3: Engine Card – Rose
- 219-4: Helicopter Card – Blue
- 219-5: Personnel Card – White
- 219-6: Fixed-Wing Card – Orange
- 219-7: Equipment Card – Yellow
- 219-8: Miscellaneous Equipment/Task Force Card – Tan
- 219-10: Generic Card – Light Purple

Distribution. ICS 211s, which are completed by personnel at the various check-in locations, are provided to the Resources Unit, Demobilization Unit, and Finance/Administration Section. The Resources Unit maintains a master list of all equipment and personnel that have reported to the incident.

Notes:
- Also available as 8½ x 14 (legal size) or 11 x 17 chart.
- Use reverse side of form for remarks or comments.
- If additional pages are needed for any form page, use a blank ICS 211 and repaginate as needed.
- Contact information for sender and receiver can be added for communications purposes to confirm resource orders. Refer to 213RR example (Appendix B)

Block Number	Block Title	Instructions
1	**Incident Name**	Enter the name assigned to the incident.
2	**Incident Number**	Enter the number assigned to the incident.
3	**Check-In Location** ☐ Base ☐ Staging Area ☐ ICP ☐ Helibase ☐ Other	Check appropriate box and enter the check-in location for the incident. Indicate specific information regarding the locations under each checkbox. ICP is for Incident Command Post. Other may include…
4	**Start Date/Time** • Date • Time	Enter the date (month/day/year) and time (using the 24-hour clock) that the form was started.

Block Number	Block Title	Instructions
	Check-In Information	Self explanatory.
5	**List single resource personnel (overhead) by agency and name, OR list resources by the following format**	Enter the following information for resources: OPTIONAL: Indicate if resource is a single resource versus part of Strike Team or Task Force. Fields can be left blank if not necessary.
	• State	Use this section to list the home State for the resource.
	• Agency	Use this section to list agency name (or designator), and individual names for all single resource personnel (e.g., ORC, ARL, NYPD).
	• Category	Use this section to list the resource category based on NIMS, discipline, or jurisdiction guidance.
	• Kind	Use this section to list the resource kind based on NIMS, discipline, or jurisdiction guidance.
	• Type	Use this section to list the resource type based on NIMS, discipline, or jurisdiction guidance.
	• Resource Name or Identifier	Use this section to enter the resource name or unique identifier. If it is a Strike Team or a Task Force, list the unique Strike Team or Task Force identifier (if used) on a single line with the component resources of the Strike Team or Task Force listed on the following lines. For example, for an Engine Strike Team with the call sign "XLT459" show "XLT459" in this box and then in the next five rows, list the unique identifier for the five engines assigned to the Strike Team.
	• ST or TF	Use ST or TF to indicate whether the resource is part of a Strike Team or Task Force. See above for additional instructions.
6	**Order Request #**	The order request number will be assigned by the agency dispatching resources or personnel to the incident. Use existing protocol as appropriate for the jurisdiction and/or discipline, since several incident numbers may be used for the same incident.
7	**Date/Time Check-In**	Enter date (month/day/year) and time of check-in (24-hour clock) to the incident.
8	**Leader's Name**	• For equipment, enter the operator's name. • Enter the Strike Team or Task Force leader's name. • Leave blank for single resource personnel (overhead).
9	**Total Number of Personnel**	Enter total number of personnel associated with the resource. Include leaders.
10	**Incident Contact Information**	Enter available contact information (e.g., radio frequency, cell phone number, etc.) for the incident.
11	**Home Unit or Agency**	Enter the home unit or agency to which the resource or individual is normally assigned (may not be departure location).
12	**Departure Point, Date and Time**	Enter the location from which the resource or individual departed for this incident. Enter the departure time using the 24-hour clock.
13	**Method of Travel**	Enter the means of travel the individual used to bring himself/herself to the incident (e.g., bus, truck, engine, personal vehicle, etc.).
14	**Incident Assignment**	Enter the incident assignment at time of dispatch.
15	**Other Qualifications**	Enter additional duties (ICS positions) pertinent to the incident that the resource/individual is qualified to perform. Note that resources should not be reassigned on the incident without going through the established ordering process. This data may be useful when resources are demobilized and remobilized for another incident.

Block Number	Block Title	Instructions
16	**Data Provided to Resources Unit**	Enter the date and time that the information pertaining to that entry was transmitted to the Resources Unit, and the initials of the person who transmitted the information.
17	**Prepared by** • Name • Position/Title • Signature • Date/Time	Enter the name, ICS position/title, and signature of the person preparing the form. Enter date (month/day/year) and time prepared (24-hour clock).

GENERAL MESSAGE (ICS 213)

1. Incident Name (Optional):		
2. To (Name and Position):		
3. From (Name and Position):		
4. Subject:	**5. Date:**	**6. Time**
7. Message:		
8. Approved by: Name: _____ Signature: _____ Position/Title: _____		
9. Reply:		
10. Replied by: Name: _____ Position/Title: _____ Signature: _____		
ICS 213	Date/Time: _____	

ICS 213
General Message

Purpose. The General Message (ICS 213) is used by the incident dispatchers to record incoming messages that cannot be orally transmitted to the intended recipients. The ICS 213 is also used by the Incident Command Post and other incident personnel to transmit messages (e.g., resource order, incident name change, other ICS coordination issues, etc.) to the Incident Communications Center for transmission via radio or telephone to the addressee. This form is used to send any message or notification to incident personnel that requires hard-copy delivery.

Preparation. The ICS 213 may be initiated by incident dispatchers and any other personnel on an incident.

Distribution. Upon completion, the ICS 213 may be delivered to the addressee and/or delivered to the Incident Communication Center for transmission.

Notes:

- The ICS 213 is a three-part form, typically using carbon paper. The sender will complete Part 1 of the form and send Parts 2 and 3 to the recipient. The recipient will complete Part 2 and return Part 3 to the sender.
- A copy of the ICS 213 should be sent to and maintained within the Documentation Unit.
- Contact information for the sender and receiver can be added for communications purposes to confirm resource orders. Refer to 213RR example (Appendix B)

Block Number	Block Title	Instructions
1	**Incident Name** (Optional)	Enter the name assigned to the incident. This block is optional.
2	**To** (Name and Position)	Enter the name and position the General Message is intended for. For all individuals, use at least the first initial and last name. For Unified Command, include agency names.
3	**From** (Name and Position)	Enter the name and position of the individual sending the General Message. For all individuals, use at least the first initial and last name. For Unified Command, include agency names.
4	**Subject**	Enter the subject of the message.
5	**Date**	Enter the date (month/day/year) of the message.
6	**Time**	Enter the time (using the 24-hour clock) of the message.
7	**Message**	Enter the content of the message. Try to be as concise as possible.
8	**Approved by** • Name • Signature • Position/Title	Enter the name, signature, and ICS position/title of the person approving the message.
9	**Reply**	The intended recipient will enter a reply to the message and return it to the originator.
10	**Replied by** • Name • Position/Title • Signature • Date/Time	Enter the name, ICS position/title, and signature of the person replying to the message. Enter date (month/day/year) and time prepared (24-hour clock).

ACTIVITY LOG (ICS 214)

1. Incident Name:	2. Operational Period: Date From: Time From:	Date To: Time To:
3. Name:	4. ICS Position:	5. Home Agency (and Unit):

6. Resources Assigned:

Name	ICS Position	Home Agency (and Unit)

7. Activity Log:

Date/Time	Notable Activities

8. Prepared by: Name: _____ Position/Title: _____ Signature: _____

 Date/Time: _____

ACTIVITY LOG (ICS 214)

1. Incident Name:

2. Operational Period: Date From: Date To:
Time From: Time To:

7. Activity Log (continuation):

Date/Time	Notable Activities

8. Prepared by: Name: ________________ Position/Title: ________________ Signature: ________________

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Date/Time: ________________

ICS 214
Activity Log

Purpose. The Activity Log (ICS 214) records details of notable activities at any ICS level, including single resources, equipment, Task Forces, etc. These logs provide basic incident activity documentation, and a reference for any after-action report.

Preparation. An ICS 214 can be initiated and maintained by personnel in various ICS positions as it is needed or appropriate. Personnel should document how relevant incident activities are occurring and progressing, or any notable events or communications.

Distribution. Completed ICS 214s are submitted to supervisors, who forward them to the Documentation Unit. All completed original forms must be given to the Documentation Unit, which maintains a file of all ICS 214s. It is recommended that individuals retain a copy for their own records.

Notes:

- The ICS 214 can be printed as a two-sided form.
- Use additional copies as continuation sheets as needed, and indicate pagination as used.

Block Number	Block Title	Instructions
1	**Incident Name**	Enter the name assigned to the incident.
2	**Operational Period** • Date and Time From • Date and Time To	Enter the start date (month/day/year) and time (using the 24-hour clock) and end date and time for the operational period to which the form applies.
3	**Name**	Enter the title of the organizational unit or resource designator (e.g., Facilities Unit, Safety Officer, Strike Team).
4	**ICS Position**	Enter the name and ICS position of the individual in charge of the Unit.
5	**Home Agency** (and Unit)	Enter the home agency of the individual completing the ICS 214. Enter a unit designator if utilized by the jurisdiction or discipline.
6	**Resources Assigned**	Enter the following information for resources assigned:
	• Name	Use this section to enter the resource's name. For all individuals, use at least the first initial and last name. Cell phone number for the individual can be added as an option.
	• ICS Position	Use this section to enter the resource's ICS position (e.g., Finance Section Chief).
	• Home Agency (and Unit)	Use this section to enter the resource's home agency and/or unit (e.g., Des Moines Public Works Department, Water Management Unit).
7	**Activity Log** • Date/Time • Notable Activities	• Enter the time (24-hour clock) and briefly describe individual notable activities. Note the date as well if the operational period covers more than one day. • Activities described may include notable occurrences or events such as task assignments, task completions, injuries, difficulties encountered, etc. • This block can also be used to track personal work habits by adding columns such as "Action Required," "Delegated To," "Status," etc.
8	**Prepared by** • Name • Position/Title • Signature • Date/Time	Enter the name, ICS position/title, and signature of the person preparing the form. Enter date (month/day/year) and time prepared (24-hour clock).

OPERATIONAL PLANNING WORKSHEET (ICS 215)

1. Incident Name:				2. Operational Period: Date From: Time From:												Date To: Time To:			
3. Branch	4. Division, Group, or Other	5. Work Assignment & Special Instructions	6. Resources													7. Overhead Position(s)	8. Special Equipment & Supplies	9. Reporting Location	10. Requested Arrival Time
			Req.																
			Have																
			Need																
			Req.																
			Have																
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			Need																
			Req.																
			Have																
			Need																
		11. Total Resources Required															14. Prepared by: Name:		
		12. Total Resources Have on Hand															Position/Title:		
ICS 215		13. Total Resources Need To Order															Signature: Date/Time:		

ICS 215
Operational Planning Worksheet

Purpose. The Operational Planning Worksheet (ICS 215) communicates the decisions made by the Operations Section Chief during the Tactics Meeting concerning resource assignments and needs for the next operational period. The ICS 215 is used by the Resources Unit to complete the Assignment Lists (ICS 204) and by the Logistics Section Chief for ordering resources for the incident.

Preparation. The ICS 215 is initiated by the Operations Section Chief and often involves logistics personnel, the Resources Unit, and the Safety Officer. The form is shared with the rest of the Command and General Staffs during the Planning Meeting. It may be useful in some disciplines or jurisdictions to prefill ICS 215 copies prior to incidents.

Distribution. When the Branch, Division, or Group work assignments and accompanying resource allocations are agreed upon, the form is distributed to the Resources Unit to assist in the preparation of the ICS 204. The Logistics Section will use a copy of this worksheet for preparing requests for resources required for the next operational period.

Notes:

- This worksheet can be made into a wall mount.
- Also available as 8½ x 14 (legal size) and 11 x 17 chart.
- If additional pages are needed, use a blank ICS 215 and repaginate as needed.

Block Number	Block Title	Instructions
1	**Incident Name**	Enter the name assigned to the incident.
2	**Operational Period** • Date and Time From • Date and Time To	Enter the start date (month/day/year) and time (using the 24-hour clock) and end date and time for the operational period to which the form applies.
3	**Branch**	Enter the Branch of the work assignment for the resources.
4	**Division, Group, or Other**	Enter the Division, Group, or other location (e.g., Staging Area) of the work assignment for the resources.
5	**Work Assignment & Special Instructions**	Enter the specific work assignments given to each of the Divisions/Groups and any special instructions, as required.
6	**Resources**	Complete resource headings for category, kind, and type as appropriate for the incident. The use of a slash indicates a single resource in the upper portion of the slash and a Strike Team or Task Force in the bottom portion of the slash.
	• Required	Enter, for the appropriate resources, the number of resources by type (engine, squad car, Advanced Life Support ambulance, etc.) required to perform the work assignment.
	• Have	Enter, for the appropriate resources, the number of resources by type (engines, crew, etc.) available to perform the work assignment.
	• Need	Enter the number of resources needed by subtracting the number in the "Have" row from the number in the "Required" row.
7	**Overhead Position(s)**	List any supervisory and nonsupervisory ICS position(s) not directly assigned to a previously identified resource (e.g., Division/Group Supervisor, Assistant Safety Officer, Technical Specialist, etc.).
8	**Special Equipment & Supplies**	List special equipment and supplies, including aviation support, used or needed. This may be a useful place to monitor span of control.
9	**Reporting Location**	Enter the specific location where the resources are to report (Staging Area, location at incident, etc.).
10	**Requested Arrival Time**	Enter the time (24-hour clock) that resources are requested to arrive at the reporting location.

Block Number	Block Title	Instructions
11	**Total Resources Required**	Enter the total number of resources required by category/kind/type as preferred (e.g., engine, squad car, ALS ambulance, etc.). A slash can be used again to indicate total single resources in the upper portion of the slash and total Strike Teams/ Task Forces in the bottom portion of the slash.
12	**Total Resources Have on Hand**	Enter the total number of resources on hand that are assigned to the incident for incident use. A slash can be used again to indicate total single resources in the upper portion of the slash and total Strike Teams/Task Forces in the bottom portion of the slash.
13	**Total Resources Need To Order**	Enter the total number of resources needed. A slash can be used again to indicate total single resources in the upper portion of the slash and total Strike Teams/Task Forces in the bottom portion of the slash.
14	**Prepared by** • Name • Position/Title • Signature • Date/Time	Enter the name, ICS position, and signature of the person preparing the form. Enter date (month/day/year) and time prepared (24-hour clock).

INCIDENT ACTION PLAN SAFETY ANALYSIS (ICS 215A)

1. Incident Name:	2. Incident Number:
3. Date/Time Prepared: Date: Time:	4. Operational Period: Date From: Date To: Time From: Time To:

5. Incident Area	6. Hazards/Risks	7. Mitigations

8. **Prepared by** (Safety Officer): Name: _____ Signature: _____

Prepared by (Operations Section Chief): Name: _____ Signature: _____

ICS 215A Date/Time: _____

ICS 215A
Incident Action Plan Safety Analysis

Purpose. The purpose of the Incident Action Plan Safety Analysis (ICS 215A) is to aid the Safety Officer in completing an operational risk assessment to prioritize hazards, safety, and health issues, and to develop appropriate controls. This worksheet addresses communications challenges between planning and operations, and is best utilized in the planning phase and for Operations Section briefings.

Preparation. The ICS 215A is typically prepared by the Safety Officer during the incident action planning cycle. When the Operations Section Chief is preparing for the tactics meeting, the Safety Officer collaborates with the Operations Section Chief to complete the Incident Action Plan Safety Analysis. This worksheet is closely linked to the Operational Planning Worksheet (ICS 215). Incident areas or regions are listed along with associated hazards and risks. For those assignments involving risks and hazards, mitigations or controls should be developed to safeguard responders, and appropriate incident personnel should be briefed on the hazards, mitigations, and related measures. Use additional sheets as needed.

Distribution. When the safety analysis is completed, the form is distributed to the Resources Unit to help prepare the Operations Section briefing. All completed original forms must be given to the Documentation Unit.

Notes:

- This worksheet can be made into a wall mount, and can be part of the IAP.
- If additional pages are needed, use a blank ICS 215A and repaginate as needed.

Block Number	Block Title	Instructions
1	**Incident Name**	Enter the name assigned to the incident.
2	**Incident Number**	Enter the number assigned to the incident.
3	**Date/Time Prepared**	Enter date (month/day/year) and time (using the 24-hour clock) prepared.
4	**Operational Period** • Date and Time From • Date and Time To	Enter the start date (month/day/year) and time (24-hour clock) and end date and time for the operational period to which the form applies.
5	**Incident Area**	Enter the incident areas where personnel or resources are likely to encounter risks. This may be specified as a Branch, Division, or Group.
6	**Hazards/Risks**	List the types of hazards and/or risks likely to be encountered by personnel or resources at the incident area relevant to the work assignment.
7	**Mitigations**	List actions taken to reduce risk for each hazard indicated (e.g., specify personal protective equipment or use of a buddy system or escape routes).
8	**Prepared by** (Safety Officer and Operations Section Chief) • Name • Signature • Date/Time	Enter the name of both the Safety Officer and the Operations Section Chief, who should collaborate on form preparation. Enter date (month/day/year) and time (24-hour clock) reviewed.

SUPPORT VEHICLE/EQUIPMENT INVENTORY (ICS 218)

1. Incident Name:	2. Incident Number:	3. Date/Time Prepared: Date: Time:	4. Vehicle/Equipment Category:

5. Vehicle/Equipment Information

Order Request Number	Incident ID No.	Vehicle or Equipment Classification	Vehicle or Equipment Make	Category/ Kind/Type, Capacity, or Size	Vehicle or Equipment Features	Agency or Owner	Operator Name or Contact	Vehicle License or ID No.	Incident Assignment	Incident Start Date and Time	Incident Release Date and Time

ICS 218	6. Prepared by: Name: _____ Position/Title: _____ Signature: _____

ICS 218
Support Vehicle/Equipment Inventory

Purpose. The Support Vehicle/Equipment Inventory (ICS 218) provides an inventory of all transportation and support vehicles and equipment assigned to the incident. The information is used by the Ground Support Unit to maintain a record of the types and locations of vehicles and equipment on the incident. The Resources Unit uses the information to initiate and maintain status/resource information.

Preparation. The ICS 218 is prepared by Ground Support Unit personnel at intervals specified by the Ground Support Unit Leader.

Distribution. Initial inventory information recorded on the form should be given to the Resources Unit. Subsequent changes to the status or location of transportation and support vehicles and equipment should be provided to the Resources Unit immediately.

Notes:

- If additional pages are needed, use a blank ICS 218 and repaginate as needed.
- Also available as 8½ x 14 (legal size) and 11 x 17 chart.

Block Number	Block Title	Instructions
1	**Incident Name**	Enter the name assigned to the incident.
2	**Incident Number**	Enter the number assigned to the incident.
3	**Date/Time Prepared**	Enter the date (month/day/year) and time (using the 24-hour clock) the form is prepared.
4	**Vehicle/Equipment Category**	Enter the specific vehicle or equipment category (e.g., buses, generators, dozers, pickups/sedans, rental cars, etc.). Use a separate sheet for each vehicle or equipment category.
5	**Vehicle/Equipment Information**	Record the following information:
	Order Request Number	Enter the order request number for the resource as used by the jurisdiction or discipline, or the relevant EMAC order request number.
	Incident Identification Number	Enter any special incident identification numbers or agency radio identifier assigned to the piece of equipment used only during the incident, if this system if used (e.g., "Decontamination Unit 2," or "Water Tender 14").
	Vehicle or Equipment Classification	Enter the specific vehicle or equipment classification (e.g., bus, backhoe, Type 2 engine, etc.) as relevant.
	Vehicle or Equipment Make	Enter the vehicle or equipment manufacturer name (e.g., "GMC," "International").
	Category/Kind/Type, Capacity, or Size	Enter the vehicle or equipment category/kind/type, capacity, or size (e.g., 30-person bus, 3/4-ton truck, 50 kW generator).
	Vehicle or Equipment Features	Indicate any vehicle or equipment features such as 2WD, 4WD, towing capability, number of axles, heavy-duty tires, high clearance, automatic vehicle locator (AVL), etc.
	Agency or Owner	Enter the name of the agency or owner of the vehicle or equipment.
	Operator Name or Contact	Enter the operator name and/or contact information (cell phone, radio frequency, etc.).
	Vehicle License or Identification Number	Enter the license plate number or another identification number (such as a serial or rig number) of the vehicle or equipment.
	Incident Assignment	Enter where the vehicle or equipment will be located at the incident and its function (use abbreviations per discipline or jurisdiction).

Block Number	Block Title	Instructions
5 (continued)	Incident Start Date and Time	Indicate start date (month/day/year) and time (using the 24-hour clock) for driver or for equipment as may be relevant.
	Incident Release Date and Time	Enter the date (month/day/year) and time (using the 24-hour clock) the vehicle or equipment is released from the incident.
6	**Prepared by** • Name • Position/Title • Signature	Enter the name, ICS position/title, and signature of the person preparing the form.

ICS 219
Resource Status Card (T-Card)

Purpose. Resource Status Cards (ICS 219) are also known as "T-Cards," and are used by the Resources Unit to record status and location information on resources, transportation, and support vehicles and personnel. These cards provide a visual display of the status and location of resources assigned to the incident.

Preparation. Information to be placed on the cards may be obtained from several sources including, but not limited to:

- Incident Briefing (ICS 201).
- Incident Check-In List (ICS 211).
- General Message (ICS 213).
- Agency-supplied information or electronic resource management systems.

Distribution. ICS 219s are displayed in resource status or "T-Card" racks where they can be easily viewed, retrieved, updated, and rearranged. The Resources Unit typically maintains cards for resources assigned to an incident until demobilization. At demobilization, all cards should be turned in to the Documentation Unit.

Notes. There are eight different status cards (see list below) and a header card, to be printed front-to-back on cardstock. Each card is printed on a different color of cardstock and used for a different resource category/kind/type. The format and content of information on each card varies depending upon the intended use of the card.

- 219-1: Header Card – Gray (used only as label cards for T-Card racks)
- 219-2: Crew/Team Card – Green
- 219-3: Engine Card – Rose
- 219-4: Helicopter Card – Blue
- 219-5: Personnel Card – White
- 219-6: Fixed-Wing Card – Orange
- 219-7: Equipment Card – Yellow
- 219-8: Miscellaneous Equipment/Task Force Card – Tan
- 219-10: Generic Card – Light Purple

Acronyms. Abbreviations utilized on the cards are listed below:

- AOV: Agency-owned vehicle
- ETA: Estimated time of arrival
- ETD: Estimated time of departure
- ETR: Estimated time of return
- O/S Mech: Out-of-service for mechanical reasons
- O/S Pers: Out-of-service for personnel reasons
- O/S Rest: Out-of-service for rest/recuperation purposes/guidelines, or due to operating time limits/policies for pilots, operators, drivers, equipment, or aircraft
- POV: Privately owned vehicle

Prepared by:
Date/Time:
ICS 219-1 HEADER CARD (GRAY)

Prepared by:
Date/Time:
ICS 219-1 HEADER CARD (GRAY)

ICS 219-1: Header Card

Block Title	Instructions
Prepared by **Date/Time**	Enter the name of the person preparing the form. Enter the date (month/day/year) and time prepared (using the 24-hour clock).

ST/Unit:	LDW:	# Pers:	Order #:
Agency	Cat/Kind/Type		Name/ID #

Front

Date/Time Checked In:

Leader Name:

Primary Contact Information:

Crew/Team ID #(s) or Name(s):

Manifest: ☐ Yes ☐ No

Total Weight:

Method of Travel to Incident: ☐ AOV ☐ POV ☐ Bus ☐ Air ☐ Other

Home Base:

Departure Point:

ETD: **ETA:**

Transportation Needs at Incident: ☐ Vehicle ☐ Bus ☐ Air ☐ Other

Date/Time Ordered:

Remarks:

Prepared by:

Date/Time:

ICS 219-2 CREW/TEAM (GREEN)

ST/Unit:	LDW:	# Pers:	Order #:
Agency	Cat/Kind/Type		Name/ID #

Back

Incident Location: **Time:**

Status: ☐ Assigned ☐ O/S Rest ☐ O/S Pers ☐ Available ☐ O/S Mech ☐ ETR: ____

Notes:

Incident Location: **Time:**

Status: ☐ Assigned ☐ O/S Rest ☐ O/S Pers ☐ Available ☐ O/S Mech ☐ ETR: ____

Notes:

Incident Location: **Time:**

Status: ☐ Assigned ☐ O/S Rest ☐ O/S Pers ☐ Available ☐ O/S Mech ☐ ETR: ____

Notes:

Incident Location: **Time:**

Status: ☐ Assigned ☐ O/S Rest ☐ O/S Pers ☐ Available ☐ O/S Mech ☐ ETR: ____

Notes:

Prepared by:

Date/Time:

ICS 219-2 CREW/TEAM (GREEN)

ICS 219-2: Crew/Team Card

Block Title	Instructions
ST/Unit	Enter the State and/or unit identifier (3–5 letters) used by the authority having jurisdiction.
LDW (Last Day Worked)	Indicate the last available workday that the resource is allowed to work
# Pers	Enter total number of personnel associated with the crew/team. Include leaders.
Order #	The order request number will be assigned by the agency dispatching resources or personnel to the incident. Use existing protocol as appropriate for the jurisdiction and/or discipline, since several incident numbers may be used for the same incident.
Agency	Use this section to list agency name or designator (e.g., ORC, ARL, NYPD).
Cat/Kind/Type	Enter the category/kind/type based on NIMS, discipline, or jurisdiction guidance.
Name/ID #	Use this section to enter the resource name or unique identifier (e.g., 13, Bluewater, Utility 32).
Date/Time Checked In	Enter date (month/day/year) and time of check-in (24-hour clock) to the incident.
Leader Name	Enter resource leader's name (use at least the first initial and last name).
Primary Contact Information	Enter the primary contact information (e.g., cell phone number, radio, etc.) for the leader. If radios are being used, enter function (command, tactical, support, etc.), frequency, system, and channel from the Incident Radio Communications Plan (ICS 205). Phone and pager numbers should include the area code and any satellite phone specifics.
Crew/Team ID #(s) or Name(s)	Provide the identifier number(s) or name(s) for this crew/team (e.g., Air Monitoring Team 2, Entry Team 3).
Manifest ☐ Yes ☐ No	Use this section to enter whether or not the resource or personnel has a manifest. If they do, indicate the manifest number.
Total Weight	Enter the total weight for the crew/team. This information is necessary when the crew/team are transported by charter air.
Method of Travel to Incident ☐ AOV ☐ POV ☐ Bus ☐ Air ☐ Other	Check the box(es) for the appropriate method(s) of travel the individual used to bring himself/herself to the incident. AOV is "agency-owned vehicle." POV is "privately owned vehicle."
Home Base	Enter the home base to which the resource or individual is normally assigned (may not be departure location).
Departure Point	Enter the location from which the resource or individual departed for this incident.
ETD	Use this section to enter the crew/team's estimated time of departure (using the 24-hour clock) from their home base.
ETA	Use this section to enter the crew/team's estimated time of arrival (using the 24-hour clock) at the incident.

Block Title	Instructions
Transportation Needs at Incident ☐ Vehicle ☐ Bus ☐ Air ☐ Other	Check the box(es) for the appropriate method(s) of transportation at the incident.
Date/Time Ordered	Enter date (month/day/year) and time (24-hour clock) the crew/team was ordered to the incident.
Remarks	Enter any additional information pertaining to the crew/team.
BACK OF FORM	
Incident Location	Enter the location of the crew/team.
Time	Enter the time (24-hour clock) the crew/team reported to this location.
Status ☐ Assigned ☐ O/S Rest ☐ O/S Pers ☐ Available ☐ O/S Mech ☐ ETR: _____	Enter the crew/team's current status: • Assigned – Assigned to the incident • O/S Rest – Out-of-service for rest/recuperation purposes/guidelines, or due to operating time limits/policies for pilots, operators, drivers, equipment, or aircraft • O/S Pers – Out-of-service for personnel reasons • Available – Available to be assigned to the incident • O/S Mech – Out-of-service for mechanical reasons • ETR – Estimated time of return
Notes	Enter any additional information pertaining to the crew/team's current location or status.
Prepared by **Date/Time**	Enter the name of the person preparing the form. Enter the date (month/day/year) and time prepared (using the 24-hour clock).

ST/Unit:	LDW:	# Pers:	Order #:
Agency	Cat/Kind/Type		Name/ID #

Front

Date/Time Checked In:
Leader Name:
Primary Contact Information:
Resource ID #(s) or Name(s):
Home Base:
Departure Point:
ETD: / ETA:
Date/Time Ordered:
Remarks:
Prepared by: Date/Time:
ICS 219-3 ENGINE (ROSE)

ST/Unit:	LDW:	# Pers:	Order #:
Agency	Cat/Kind/Type		Name/ID #

Back

Incident Location:	Time:
Status: ☐ Assigned ☐ O/S Rest ☐ O/S Pers ☐ Available ☐ O/S Mech ☐ ETR: ____	
Notes:	
Incident Location:	Time:
Status: ☐ Assigned ☐ O/S Rest ☐ O/S Pers ☐ Available ☐ O/S Mech ☐ ETR: ____	
Notes:	
Incident Location:	Time:
Status: ☐ Assigned ☐ O/S Rest ☐ O/S Pers ☐ Available ☐ O/S Mech ☐ ETR: ____	
Notes:	
Incident Location:	Time:
Status: ☐ Assigned ☐ O/S Rest ☐ O/S Pers ☐ Available ☐ O/S Mech ☐ ETR: ____	
Notes:	
Prepared by: Date/Time:	
ICS 219-3 ENGINE (ROSE)	

ICS 219-3: Engine Card

Block Title	Instructions
ST/Unit	Enter the State and or unit identifier (3–5 letters) used by the authority having jurisdiction.
LDW (Last Day Worked)	Indicate the last available workday that the resource is allowed to work
# Pers	Enter total number of personnel associated with the resource. Include leaders.
Order #	The order request number will be assigned by the agency dispatching resources or personnel to the incident. Use existing protocol as appropriate for the jurisdiction and/or discipline since several incident numbers may be used for the same incident.
Agency	Use this section to list agency name or designator (e.g., ORC, ARL, NYPD).
Cat/Kind/Type	Enter the category/kind/type based on NIMS, discipline, or jurisdiction guidance.
Name/ID #	Use this section to enter the resource name or unique identifier (e.g., 13, Bluewater, Utility 32).
Date/Time Checked In	Enter date (month/day/year) and time of check-in (24-hour clock) to the incident.
Leader Name	Enter resource leader's name (use at least the first initial and last name).
Primary Contact Information	Enter the primary contact information (e.g., cell phone number, radio, etc.) for the leader. If radios are being used, enter function (command, tactical, support, etc.), frequency, system, and channel from the Incident Radio Communications Plan (ICS 205). Phone and pager numbers should include the area code and any satellite phone specifics.
Resource ID #(s) or Name(s)	Provide the identifier number(s) or name(s) for the resource(s).
Home Base	Enter the home base to which the resource or individual is normally assigned (may not be departure location).
Departure Point	Enter the location from which the resource or individual departed for this incident.
ETD	Use this section to enter the resource's estimated time of departure (using the 24-hour clock) from their home base.
ETA	Use this section to enter the resource's estimated time of arrival (using the 24-hour clock) at the incident.
Date/Time Ordered	Enter date (month/day/year) and time (24-hour clock) the resource was ordered to the incident.
Remarks	Enter any additional information pertaining to the resource.
BACK OF FORM	
Incident Location	Enter the location of the resource.
Time	Enter the time (24-hour clock) the resource reported to this location.
Status ☐ Assigned ☐ O/S Rest ☐ O/S Pers ☐ Available ☐ O/S Mech ☐ ETR: _____	Enter the resource's current status: • Assigned – Assigned to the incident • O/S Rest – Out-of-service for rest/recuperation purposes/guidelines, or due to operating time limits/policies for pilots, operators, drivers, equipment, or aircraft • O/S Pers – Out-of-service for personnel reasons • Available – Available to be assigned to the incident • O/S Mech – Out-of-service for mechanical reasons • ETR – Estimated time of return
Notes	Enter any additional information pertaining to the resource's current location or status.

Block Title	Instructions
Prepared by **Date/Time**	Enter the name of the person preparing the form. Enter the date (month/day/year) and time prepared (using the 24-hour clock).

ST/Unit:	LDW:	# Pers:	Order #:
Agency	Cat/Kind/Type		Name/ID #

Front

Date/Time Checked In:

Pilot Name:

Home Base:

Departure Point:

ETD: | ETA:

Destination Point:

Date/Time Ordered:

Remarks:

Prepared by:

Date/Time:

ICS 219-4 HELICOPTER (BLUE)

ST/Unit:	LDW:	# Pers:	Order #:
Agency	Cat/Kind/Type		Name/ID #

Back

Incident Location: | Time:

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: ____

Notes:

Incident Location: | Time:

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: ____

Notes:

Incident Location: | Time:

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: ____

Notes:

Incident Location: | Time:

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: ____

Notes:

Prepared by:

Date/Time:

ICS 219-4 HELICOPTER (BLUE)

ICS 219-4: Helicopter Card

Block Title	Instructions
ST/Unit	Enter the State and or unit identifier (3–5 letters) used by the authority having jurisdiction.
LDW (Last Day Worked)	Indicate the last available workday that the resource is allowed to work.
# Pers	Enter total number of personnel associated with the resource. Include the pilot.
Order #	The order request number will be assigned by the agency dispatching resources or personnel to the incident. Use existing protocol as appropriate for the jurisdiction and/or discipline since several incident numbers may be used for the same incident.
Agency	Use this section to list agency name or designator (e.g., ORC, ARL, NYPD).
Cat/Kind/Type	Enter the category/kind/type based on NIMS, discipline, or jurisdiction guidance.
Name/ID #	Use this section to enter the resource name or unique identifier.
Date/Time Checked In	Enter date (month/day/year) and time of check-in (24-hour clock) to the incident.
Pilot Name:	Enter pilot's name (use at least the first initial and last name).
Home Base	Enter the home base to which the resource or individual is normally assigned (may not be departure location).
Departure Point	Enter the location from which the resource or individual departed for this incident.
ETD	Use this section to enter the resource's estimated time of departure (using the 24-hour clock) from their home base.
ETA	Use this section to enter the resource's estimated time of arrival (using the 24-hour clock) at the destination point.
Destination Point	Use this section to enter the location at the incident where the resource has been requested to report.
Date/Time Ordered	Enter date (month/day/year) and time (24-hour clock) the resource was ordered to the incident.
Remarks	Enter any additional information pertaining to the resource.
BACK OF FORM	
Incident Location	Enter the location of the resource.
Time	Enter the time (24-hour clock) the resource reported to this location.
Status ☐ Assigned ☐ O/S Rest ☐ O/S Pers ☐ Available ☐ O/S Mech ☐ ETR: _____	Enter the resource's current status: • Assigned – Assigned to the incident • O/S Rest – Out-of-service for rest/recuperation purposes/guidelines, or due to operating time limits/policies for pilots, operators, drivers, equipment, or aircraft • O/S Pers – Out-of-service for personnel reasons • Available – Available to be assigned to the incident • O/S Mech – Out-of-service for mechanical reasons • ETR – Estimated time of return
Notes	Enter any additional information pertaining to the resource's current location or status.
Prepared by **Date/Time**	Enter the name of the person preparing the form. Enter the date (month/day/year) and time prepared (using the 24-hour clock).

ST/Unit:	Name:	Position/Title:

Front

Date/Time Checked In:

Name:

Primary Contact Information:

Manifest: ☐ Yes ☐ No	Total Weight:

Method of Travel to Incident:
☐ AOV ☐ POV ☐ Bus ☐ Air ☐ Other

Home Base:

Departure Point:

ETD:	ETA:

Transportation Needs at Incident:
☐ Vehicle ☐ Bus ☐ Air ☐ Other

Date/Time Ordered:

Remarks:

Prepared by:

Date/Time:

ICS 219-5 PERSONNEL (WHITE CARD)

ST/Unit:	Name:	Position/Title:

Back

Incident Location:	Time:

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: ____

Notes:

Incident Location:	Time:

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: ____

Notes:

Incident Location:	Time:

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: ____

Notes:

Incident Location:	Time:

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: ____

Notes:

Prepared by:

Date/Time:

ICS 219-5 PERSONNEL (WHITE CARD)

ICS 219-5: Personnel Card

Block Title	Instructions
ST/Unit	Enter the State and or unit identifier (3–5 letters) used by the authority having jurisdiction.
Name	Enter the individual's first initial and last name.
Position/Title	Enter the individual's ICS position/title.
Date/Time Checked In	Enter date (month/day/year) and time of check-in (24-hour clock) to the incident.
Name	Enter the individual's full name.
Primary Contact Information	Enter the primary contact information (e.g., cell phone number, radio, etc.) for the leader. If radios are being used, enter function (command, tactical, support, etc.), frequency, system, and channel from the Incident Radio Communications Plan (ICS 205). Phone and pager numbers should include the area code and any satellite phone specifics.
Manifest ☐ Yes ☐ No	Use this section to enter whether or not the resource or personnel has a manifest. If they do, indicate the manifest number.
Total Weight	Enter the total weight for the crew. This information is necessary when the crew are transported by charter air.
Method of Travel to Incident ☐ AOV ☐ POV ☐ Bus ☐ Air ☐ Other	Check the box(es) for the appropriate method(s) of travel the individual used to bring himself/herself to the incident. AOV is "agency-owned vehicle." POV is "privately owned vehicle."
Home Base	Enter the home base to which the resource or individual is normally assigned (may not be departure location).
Departure Point	Enter the location from which the resource or individual departed for this incident.
ETD	Use this section to enter the crew's estimated time of departure (using the 24-hour clock) from their home base.
ETA	Use this section to enter the crew's estimated time of arrival (using the 24-hour clock) at the incident.
Transportation Needs at Incident ☐ Vehicle ☐ Bus ☐ Air ☐ Other	Check the box(es) for the appropriate method(s) of transportation at the incident.
Date/Time Ordered	Enter date (month/day/year) and time (24-hour clock) the crew was ordered to the incident.
Remarks	Enter any additional information pertaining to the crew.
BACK OF FORM	
Incident Location	Enter the location of the crew.
Time	Enter the time (24-hour clock) the crew reported to this location.

Block Title	Instructions
Status ☐ Assigned ☐ O/S Rest ☐ O/S Pers ☐ Available ☐ O/S Mech ☐ ETR: _____	Enter the crew's current status: • Assigned – Assigned to the incident • O/S Rest – Out-of-service for rest/recuperation purposes/guidelines, or due to operating time limits/policies for pilots, operators, drivers, equipment, or aircraft • O/S Pers – Out-of-service for personnel reasons • Available – Available to be assigned to the incident • O/S Mech – Out-of-service for mechanical reasons • ETR – Estimated time of return
Notes	Enter any additional information pertaining to the crew's current location or status.
Prepared by **Date/Time**	Enter the name of the person preparing the form. Enter the date (month/day/year) and time prepared (using the 24-hour clock).

ST/Unit:	LDW:	# Pers:	Order #:
Agency	Cat/Kind/Type		Name/ID #

Front

Date/Time Checked-In:	
Pilot Name:	
Home Base:	
Departure Point:	
ETD:	ETA:
Destination Point:	
Date/Time Ordered:	
Manufacturer:	
Remarks:	
Prepared by: Date/Time:	
ICS 219-6 FIXED-WING (ORANGE)	

ST/Unit:	LDW:	# Pers:	Order #:
Agency	Cat/Kind/Type		Name/ID #

Back

Incident Location:	Time:
Status: ☐ Assigned ☐ O/S Rest ☐ O/S Pers ☐ Available ☐ O/S Mech ☐ ETR: ____	
Notes:	

Incident Location:	Time:
Status: ☐ Assigned ☐ O/S Rest ☐ O/S Pers ☐ Available ☐ O/S Mech ☐ ETR: ____	
Notes:	

Incident Location:	Time:
Status: ☐ Assigned ☐ O/S Rest ☐ O/S Pers ☐ Available ☐ O/S Mech ☐ ETR: ____	
Notes:	

Incident Location:	Time:
Status: ☐ Assigned ☐ O/S Rest ☐ O/S Pers ☐ Available ☐ O/S Mech ☐ ETR: ____	
Notes:	
Prepared by: Date/Time:	
ICS 219-6 FIXED-WING (ORANGE)	

ICS 219-6: Fixed-Wing Card

Block Title	Instructions
ST/Unit	Enter the State and or unit identifier (3–5 letters) used by the authority having jurisdiction.
LDW (Last Day Worked)	Indicate the last available workday that the resource is allowed to work.
# Pers	Enter total number of personnel associated with the resource. Include the pilot.
Order #	The order request number will be assigned by the agency dispatching resources or personnel to the incident. Use existing protocol as appropriate for the jurisdiction and/or discipline since several incident numbers may be used for the same incident.
Agency	Use this section to list agency name or designator (e.g., ORC, ARL, NYPD).
Cat/Kind/Type	Enter the category/kind/type based on NIMS, discipline, or jurisdiction guidance.
Name/ID #	Use this section to enter the resource name or unique identifier.
Date/Time Checked In	Enter date (month/day/year) and time of check-in (24-hour clock) to the incident.
Pilot Name:	Enter pilot's name (use at least the first initial and last name).
Home Base	Enter the home base to which the resource or individual is normally assigned (may not be departure location).
Departure Point	Enter the location from which the resource or individual departed for this incident.
ETD	Use this section to enter the resource's estimated time of departure (using the 24-hour clock) from their home base.
ETA	Use this section to enter the resource's estimated time of arrival (using the 24-hour clock) at the destination point.
Destination Point	Use this section to enter the location at the incident where the resource has been requested to report.
Date/Time Ordered	Enter date (month/day/year) and time (24-hour clock) the resource was ordered to the incident.
Manufacturer	Enter the manufacturer of the aircraft.
Remarks	Enter any additional information pertaining to the resource.
BACK OF FORM	
Incident Location	Enter the location of the resource.
Time	Enter the time (24-hour clock) the resource reported to this location.
Status ☐ Assigned ☐ O/S Rest ☐ O/S Pers ☐ Available ☐ O/S Mech ☐ ETR: _____	Enter the resource's current status: • Assigned – Assigned to the incident • O/S Rest – Out-of-service for rest/recuperation purposes/guidelines, or due to operating time limits/policies for pilots, operators, drivers, equipment, or aircraft • O/S Pers – Out-of-service for personnel reasons • Available – Available to be assigned to the incident • O/S Mech – Out-of-service for mechanical reasons • ETR – Estimated time of return
Notes	Enter any additional information pertaining to the resource's current location or status.
Prepared by Date/Time	Enter the name of the person preparing the form. Enter the date (month/day/year) and time prepared (using the 24-hour clock).

ST/Unit:	LDW:	# Pers:	Order #:
Agency	Cat/Kind/Type		Name/ID #

Front

Date/Time Checked In:
Leader Name:
Primary Contact Information:
Resource ID #(s) or Name(s):
Home Base:
Departure Point:
ETD: ETA:
Date/Time Ordered:
Remarks:
Prepared by: Date/Time:
ICS 219-7 EQUIPMENT (YELLOW)

ST/Unit:	LDW:	# Pers:	Order #:
Agency	Cat/Kind/Type		Name/ID #

Back

Incident Location:	Time:
Status: ☐ Assigned ☐ O/S Rest ☐ O/S Pers ☐ Available ☐ O/S Mech ☐ ETR: ____	
Notes:	
Incident Location:	Time:
Status: ☐ Assigned ☐ O/S Rest ☐ O/S Pers ☐ Available ☐ O/S Mech ☐ ETR: ____	
Notes:	
Incident Location:	Time:
Status: ☐ Assigned ☐ O/S Rest ☐ O/S Pers ☐ Available ☐ O/S Mech ☐ ETR: ____	
Notes:	
Incident Location:	Time:
Status: ☐ Assigned ☐ O/S Rest ☐ O/S Pers ☐ Available ☐ O/S Mech ☐ ETR: ____	
Notes:	
Prepared by: Date/Time:	
ICS 219-7 EQUIPMENT (YELLOW)	

ICS 219-6: Fixed-Wing Card

Block Title	Instructions
ST/Unit	Enter the State and or unit identifier (3–5 letters) used by the authority having jurisdiction.
LDW (Last Day Worked)	Indicate the last available workday that the resource is allowed to work.
# Pers	Enter total number of personnel associated with the resource. Include the pilot.
Order #	The order request number will be assigned by the agency dispatching resources or personnel to the incident. Use existing protocol as appropriate for the jurisdiction and/or discipline since several incident numbers may be used for the same incident.
Agency	Use this section to list agency name or designator (e.g., ORC, ARL, NYPD).
Cat/Kind/Type	Enter the category/kind/type based on NIMS, discipline, or jurisdiction guidance.
Name/ID #	Use this section to enter the resource name or unique identifier.
Date/Time Checked In	Enter date (month/day/year) and time of check-in (24-hour clock) to the incident.
Pilot Name:	Enter pilot's name (use at least the first initial and last name).
Home Base	Enter the home base to which the resource or individual is normally assigned (may not be departure location).
Departure Point	Enter the location from which the resource or individual departed for this incident.
ETD	Use this section to enter the resource's estimated time of departure (using the 24-hour clock) from their home base.
ETA	Use this section to enter the resource's estimated time of arrival (using the 24-hour clock) at the destination point.
Destination Point	Use this section to enter the location at the incident where the resource has been requested to report.
Date/Time Ordered	Enter date (month/day/year) and time (24-hour clock) the resource was ordered to the incident.
Manufacturer	Enter the manufacturer of the aircraft.
Remarks	Enter any additional information pertaining to the resource.
BACK OF FORM	
Incident Location	Enter the location of the resource.
Time	Enter the time (24-hour clock) the resource reported to this location.
Status ☐ Assigned ☐ O/S Rest ☐ O/S Pers ☐ Available ☐ O/S Mech ☐ ETR: _____	Enter the resource's current status: • Assigned – Assigned to the incident • O/S Rest – Out-of-service for rest/recuperation purposes/guidelines, or due to operating time limits/policies for pilots, operators, drivers, equipment, or aircraft • O/S Pers – Out-of-service for personnel reasons • Available – Available to be assigned to the incident • O/S Mech – Out-of-service for mechanical reasons • ETR – Estimated time of return
Notes	Enter any additional information pertaining to the resource's current location or status.
Prepared by **Date/Time**	Enter the name of the person preparing the form. Enter the date (month/day/year) and time prepared (using the 24-hour clock).

ST/Unit:	LDW:	# Pers:	Order #:
Agency	Cat/Kind/Type		Name/ID #

Front

Date/Time Checked In:

Leader Name:

Primary Contact Information:

Resource ID #(s) or Name(s):

Home Base:

Departure Point:

ETD: **ETA:**

Date/Time Ordered:

Remarks:

Prepared by:

Date/Time:

ICS 219-8 MISCELLANEOUS EQUIPMENT/TASK FORCE (TAN)

ST/Unit:	LDW:	# Pers:	Order #:
Agency	Cat/Kind/Type		Name/ID #

Back

Incident Location: **Time:**

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: ____

Notes:

Incident Location: **Time:**

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: ____

Notes:

Incident Location: **Time:**

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: ____

Notes:

Incident Location: **Time:**

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: ____

Notes:

Prepared by:

Date/Time:

ICS 219-8 MISCELLANEOUS EQUIPMENT/TASK FORCE (TAN)

ICS 219-8: Miscellaneous Equipment/Task Force Card

Block Title	Instructions
ST/Unit	Enter the State and or unit identifier (3–5 letters) used by the authority having jurisdiction.
LDW (Last Day Worked)	Indicate the last available work day that the resource is allowed to work.
# Pers	Enter total number of personnel associated with the resource. Include leaders.
Order #	The order request number will be assigned by the agency dispatching resources or personnel to the incident. Use existing protocol as appropriate for the jurisdiction and/or discipline since several incident numbers may be used for the same incident.
Agency	Use this section to list agency name or designator (e.g., ORC, ARL, NYPD).
Cat/Kind/Type	Enter the category/kind/type based on NIMS, discipline, or jurisdiction guidance.
Name/ID #	Use this section to enter the resource name or unique identifier (e.g., 13, Bluewater, Utility 32).
Date/Time Checked In	Enter date (month/day/year) and time of check-in (24-hour clock) to the incident.
Leader Name	Enter resource leader's name (use at least the first initial and last name).
Primary Contact Information	Enter the primary contact information (e.g., cell phone number, radio, etc.) for the leader. If radios are being used, enter function (command, tactical, support, etc.), frequency, system, and channel from the Incident Radio Communications Plan (ICS 205). Phone and pager numbers should include the area code and any satellite phone specifics.
Resource ID #(s) or Name(s)	Provide the identifier number or name for this resource.
Home Base	Enter the home base to which the resource or individual is normally assigned (may not be departure location).
Departure Point	Enter the location from which the resource or individual departed for this incident.
ETD	Use this section to enter the resource's estimated time of departure (using the 24-hour clock) from their home base.
ETA	Use this section to enter the resource's estimated time of arrival (using the 24-hour clock) at the incident.
Date/Time Ordered	Enter date (month/day/year) and time (24-hour clock) the resource was ordered to the incident.
Remarks	Enter any additional information pertaining to the resource.
BACK OF FORM	
Incident Location	Enter the location of the resource.
Time	Enter the time (24-hour clock) the resource reported to this location.
Status ☐ Assigned ☐ O/S Rest ☐ O/S Pers ☐ Available ☐ O/S Mech ☐ ETR: _____	Enter the resource's current status: • Assigned – Assigned to the incident • O/S Rest – Out-of-service for rest/recuperation purposes/guidelines, or due to operating time limits/policies for pilots, operators, drivers, equipment, or aircraft • O/S Pers – Out-of-service for personnel reasons • Available – Available to be assigned to the incident • O/S Mech – Out-of-service for mechanical reasons • ETR – Estimated time of return
Notes	Enter any additional information pertaining to the resource's current location or status.

Block Title	Instructions
Prepared by **Date/Time**	Enter the name of the person preparing the form. Enter the date (month/day/year) and time prepared (using the 24-hour clock).

ST/Unit:	LDW:	# Pers:	Order #:
Agency	Cat/Kind/Type		Name/ID #

Front

Date/Time Checked In:

Leader Name:

Primary Contact Information:

Resource ID #(s) or Name(s):

Home Base:

Departure Point:

ETD: | **ETA:**

Date/Time Ordered:

Remarks:

Prepared by:

Date/Time:

ICS 219-10 GENERIC (LIGHT PURPLE)

ST/Unit:	LDW:	# Pers:	Order #:
Agency	Cat/Kind/Type		Name/ID #

Back

Incident Location: | **Time:**

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: ____

Notes:

Incident Location: | **Time:**

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: ____

Notes:

Incident Location: | **Time:**

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: ____

Notes:

Incident Location: | **Time:**

Status:
☐ Assigned ☐ O/S Rest ☐ O/S Pers
☐ Available ☐ O/S Mech ☐ ETR: ____

Notes:

Prepared by:

Date/Time:

ICS 219-10 GENERIC (LIGHT PURPLE)

ICS 219-10: Generic Card

Block Title	Instructions
ST/Unit	Enter the State and or unit identifier (3–5 letters) used by the authority having jurisdiction.
LDW (Last Day Worked)	Indicate the last available workday that the resource is allowed to work.
# Pers	Enter total number of personnel associated with the resource. Include leaders.
Order #	The order request number will be assigned by the agency dispatching resources or personnel to the incident. Use existing protocol as appropriate for the jurisdiction and/or discipline since several incident numbers may be used for the same incident.
Agency	Use this section to list agency name or designator (e.g., ORC, ARL, NYPD).
Cat/Kind/Type	Enter the category/kind/type based on NIMS, discipline, or jurisdiction guidance.
Name/ID #	Use this section to enter the resource name or unique identifier (e.g., 13, Bluewater, Utility 32).
Date/Time Checked In	Enter date (month/day/year) and time of check-in (24-hour clock) to the incident.
Leader Name	Enter resource leader's name (use at least the first initial and last name).
Primary Contact Information	Enter the primary contact information (e.g., cell phone number, radio, etc.) for the leader. If radios are being used, enter function (command, tactical, support, etc.), frequency, system, and channel from the Incident Radio Communications Plan (ICS 205). Phone and pager numbers should include the area code and any satellite phone specifics.
Resource ID #(s) or Name(s)	Provide the identifier number(s) or name(s) for this resource.
Home Base	Enter the home base to which the resource or individual is normally assigned (may not be departure location).
Departure Point	Enter the location from which the resource or individual departed for this incident.
ETD	Use this section to enter the resource's estimated time of departure (using the 24-hour clock) from their home base.
ETA	Use this section to enter the resource's estimated time of arrival (using the 24-hour clock) at the incident.
Date/Time Ordered	Enter date (month/day/year) and time (24-hour clock) the resource was ordered to the incident.
Remarks	Enter any additional information pertaining to the resource.
BACK OF FORM	
Incident Location	Enter the location of the resource.
Time	Enter the time (24-hour clock) the resource reported to this location.
Status ☐ Assigned ☐ O/S Rest ☐ O/S Pers ☐ Available ☐ O/S Mech ☐ ETR: _____	Enter the resource's current status: • Assigned – Assigned to the incident • O/S Rest – Out-of-service for rest/recuperation purposes/guidelines, or due to operating time limits/policies for pilots, operators, drivers, equipment, or aircraft • O/S Pers – Out-of-service for personnel reasons • Available – Available to be assigned to the incident • O/S Mech – Out-of-service for mechanical reasons • ETR – Estimated time of return
Notes	Enter any additional information pertaining to the resource's current location or status.

Block Title	Instructions
Prepared by **Date/Time**	Enter the name of the person preparing the form. Enter the date (month/day/year) and time prepared (using the 24-hour clock).

AIR OPERATIONS SUMMARY (ICS 220)

1. Incident Name:	2. Operational Period: Date From: Date To: Time From: Time To:	3. Sunrise: Sunset:

4. Remarks (safety notes, hazards, air operations special equipment, etc.):	5. Ready Alert Aircraft: Medivac: New Incident:	6. Temporary Flight Restriction Number: Altitude: Center Point:

7. Personnel:	Name:	Phone Number:
Air Operations Branch Director		
Air Support Group Supervisor		
Air Tactical Group Supervisor		
Helicopter Coordinator		
Helibase Manager		

8. Frequencies:	AM	FM
Air/Air Fixed-Wing		
Air/Air Rotary-Wing – Flight Following		
Air/Ground		
Command		
Deck Coordinator		
Take-Off & Landing Coordinator		
Air Guard		

9. Fixed-Wing (category/kind/type, make/model, N#, base):
Air Tactical Group Supervisor Aircraft:
Other Fixed-Wing Aircraft:

10. Helicopters (use additional sheets as necessary):

FAA N#	Category/Kind/Type	Make/Model	Base	Available	Start	Remarks

11. Prepared by: Name: _____ Position/Title: _____ Signature: _____

ICS 220, Page 1 Date/Time: _____

AIR OPERATIONS SUMMARY (ICS 220)

1. Incident Name:	2. Operational Period: Date From: Date To: Time From: Time To:	3. Sunrise: Sunset:

12. Task/Mission/Assignment (category/kind/type and function includes: air tactical, reconnaissance, personnel transport, search and rescue, etc.):

Category/Kind/Type and Function	Name of Personnel or Cargo (if applicable) or Instructions for Tactical Aircraft	Mission Start	Fly From	Fly To

11. Prepared by: Name: _____ Position/Title: _____ Signature: _____

 Date/Time: _____

ICS 220
Air Operations Summary

Purpose. The Air Operations Summary (ICS 220) provides the Air Operations Branch with the number, type, location, and specific assignments of helicopters and air resources.

Preparation. The ICS 220 is completed by the Operations Section Chief or the Air Operations Branch Director during each Planning Meeting. General air resources assignment information is obtained from the Operational Planning Worksheet (ICS 215), which also is completed during each Planning Meeting. Specific designators of the air resources assigned to the incident are provided by the Air and Fixed-Wing Support Groups. If aviation assets would be utilized for rescue or are referenced on the Medical Plan (ICS 206), coordinate with the Medical Unit Leader and indicate on the ICS 206.

Distribution. After the ICS 220 is completed by Air Operations personnel, the form is given to the Air Support Group Supervisor and Fixed-Wing Coordinator personnel. These personnel complete the form by indicating the designators of the helicopters and fixed-wing aircraft assigned missions during the specified operational period. This information is provided to Air Operations personnel who, in turn, give the information to the Resources Unit.

Notes:

- If additional pages are needed for any form page, use a blank ICS 220 and repaginate as needed.

Block Number	Block Title	Instructions
1	**Incident Name**	Enter the name assigned to the incident.
2	**Operational Period** • Date and Time From • Date and Time To	Enter the start date (month/day/year) and time (using the 24-hour clock) and end date and time for the operational period to which the form applies.
3	**Sunrise/Sunset**	Enter the sunrise and sunset times.
4	**Remarks** (safety notes, hazards, air operations special equipment, etc.)	Enter special instructions or information, including safety notes, hazards, and priorities for Air Operations personnel.
5	**Ready Alert Aircraft** • Medivac • New Incident	Identify ready alert aircraft that will be used as Medivac for incident assigned personnel and indicate on the Medical Plan (ICS 206). Identify aircraft to be used for new incidents within the area or new incident(s) within an incident.
6	**Temporary Flight Restriction Number** • Altitude • Center Point	Enter Temporary Flight Restriction Number, altitude (from the center point), and center point (latitude and longitude). This number is provided by the Federal Aviation Administration (FAA) or is the order request number for the Temporary Flight Restriction.
7	**Personnel** • Name • Phone Number	Enter the name and phone number of the individuals in Air Operations.
	Air Operations Branch Director	
	Air Support Group Supervisor	
	Air Tactical Group Supervisor	
	Helicopter Coordinator	
	Helibase Manager	

Block Number	Block Title	Instructions
8	**Frequencies** • AM • FM	Enter primary air/air, air/ground (if applicable), command, deck coordinator, take-off and landing coordinator, and other radio frequencies to be used during the incident.
	Air/Air Fixed-Wing	
	Air/Air Rotary-Wing – Flight Following	Flight following is typically done by Air Operations.
	Air/Ground	
	Command	
	Deck Coordinator	
	Take-Off & Landing Coordinator	
	Air Guard	
9	**Fixed-Wing** (category/kind/type, make/model, N#, base)	Enter the category/kind/type based on NIMS, discipline, or jurisdiction guidance, make/model, N#, and base of air assets allocated to the incident.
	Air Tactical Group Supervisor Aircraft	
	Other Fixed-Wing Aircraft	
10	**Helicopters**	Enter the following information about the helicopter resources allocated to the incident.
	FAA N#	Enter the FAA N#.
	Category/Kind/Type	Enter the helicopter category/kind/type based on NIMS, discipline, or jurisdiction guidance.
	Make/Model	Enter the make and model of the helicopter.
	Base	Enter the base where the helicopter is located.
	Available	Enter the time the aircraft is available.
	Start	Enter the time the aircraft becomes operational.
	Remarks	
11	**Prepared by** • Name • Position/Title • Signature • Date/Time	Enter the name, ICS position, and signature of the person preparing the form. Enter date (month/day/year) and time prepared (24-hour clock).
12	**Task/Mission/Assignment** (category/kind/type and function includes: air tactical, reconnaissance, personnel transport, search and rescue, etc.)	Enter the specific assignment (e.g., water or retardant drops, logistical support, or availability status for a specific purpose, support backup, recon, Medivac, etc.). If applicable, enter the primary air/air and air/ground radio frequency to be used. Mission assignments may be listed by priority.
	Category/Kind/Type and Function	
	Name of Personnel or Cargo (if applicable) or Instructions for Tactical Aircraft	
	Mission Start	
	Fly From	Enter the incident location or air base the aircraft is flying from.
	Fly To	Enter the incident location or air base the aircraft is flying to.

DEMOBILIZATION CHECK-OUT (ICS 221)

1. Incident Name:	2. Incident Number:	
3. Planned Release Date/Time: Date: Time:	4. Resource or Personnel Released:	5. Order Request Number:

6. Resource or Personnel:

You and your resources are in the process of being released. Resources are not released until the checked boxes below have been signed off by the appropriate overhead and the Demobilization Unit Leader (or Planning Section representative).

LOGISTICS SECTION

	Unit/Manager	Remarks	Name	Signature
☐	Supply Unit			
☐	Communications Unit			
☐	Facilities Unit			
☐	Ground Support Unit			
☐	Security Manager			
☐				

FINANCE/ADMINISTRATION SECTION

	Unit/Leader	Remarks	Name	Signature
☐	Time Unit			
☐				
☐				

OTHER SECTION/STAFF

	Unit/Other	Remarks	Name	Signature
☐				
☐				

PLANNING SECTION

	Unit/Leader	Remarks	Name	Signature
☐				
☐	Documentation Leader			
☐	Demobilization Leader			

7. Remarks:

8. Travel Information:

Room Overnight: ☐ Yes ☐ No

Estimated Time of Departure: _____

Actual Release Date/Time: _____

Destination: _____

Estimated Time of Arrival: _____

Travel Method: _____

Contact Information While Traveling: _____

Manifest: ☐ Yes ☐ No
Number: _____

Area/Agency/Region Notified: _____

9. Reassignment Information: ☐ Yes ☐ No

Incident Name: _____

Incident Number: _____

Location: _____

Order Request Number: _____

10. Prepared by: Name: _____ Position/Title: _____ Signature: _____

ICS 221

Date/Time: _____

ICS 221
Demobilization Check-Out

Purpose. The Demobilization Check-Out (ICS 221) ensures that resources checking out of the incident have completed all appropriate incident business, and provides the Planning Section information on resources released from the incident. Demobilization is a planned process and this form assists with that planning.

Preparation. The ICS 221 is initiated by the Planning Section, or a Demobilization Unit Leader if designated. The Demobilization Unit Leader completes the top portion of the form and checks the appropriate boxes in Block 6 that may need attention after the Resources Unit Leader has given written notification that the resource is no longer needed. The individual resource will have the appropriate overhead personnel sign off on any checked box(es) in Block 6 prior to release from the incident.

Distribution. After completion, the ICS 221 is returned to the Demobilization Unit Leader or the Planning Section. All completed original forms must be given to the Documentation Unit. Personnel may request to retain a copy of the ICS 221.

Notes:

- Members are not released until form is complete when all of the items checked in Block 6 have been signed off.
- If additional pages are needed for any form page, use a blank ICS 221 and repaginate as needed.

Block Number	Block Title	Instructions
1	**Incident Name**	Enter the name assigned to the incident.
2	**Incident Number**	Enter the number assigned to the incident.
3	**Planned Release Date/Time**	Enter the date (month/day/year) and time (using the 24-hour clock) of the planned release from the incident.
4	**Resource or Personnel Released**	Enter name of the individual or resource being released.
5	**Order Request Number**	Enter order request number (or agency demobilization number) of the individual or resource being released.
6	**Resource or Personnel** You and your resources are in the process of being released. Resources are not released until the checked boxes below have been signed off by the appropriate overhead and the Demobilization Unit Leader (or Planning Section representative). • Unit/Leader/Manager/Other • Remarks • Name • Signature	Resources are not released until the checked boxes below have been signed off by the appropriate overhead. Blank boxes are provided for any additional unit requirements as needed (e.g., Safety Officer, Agency Representative, etc.).
	Logistics Section ☐ Supply Unit ☐ Communications Unit ☐ Facilities Unit ☐ Ground Support Unit ☐ Security Manager	The Demobilization Unit Leader will enter an "X" in the box to the left of those Units requiring the resource to check out. Identified Unit Leaders or other overhead are to sign the appropriate line to indicate release.

Block Number	Block Title	Instructions
6 (continued)	**Finance/Administration Section** ☐ Time Unit	The Demobilization Unit Leader will enter an "X" in the box to the left of those Units requiring the resource to check out. Identified Unit Leaders or other overhead are to sign the appropriate line to indicate release.
	Other Section/Staff ☐	The Demobilization Unit Leader will enter an "X" in the box to the left of those Units requiring the resource to check out. Identified Unit Leaders or other overhead are to sign the appropriate line to indicate release.
	Planning Section ☐ Documentation Leader ☐ Demobilization Leader	The Demobilization Unit Leader will enter an "X" in the box to the left of those Units requiring the resource to check out. Identified Unit Leaders or other overhead are to sign the appropriate line to indicate release.
7	**Remarks**	Enter any additional information pertaining to demobilization or release (e.g., transportation needed, destination, etc.). This section may also be used to indicate if a performance rating has been completed as required by the discipline or jurisdiction.
8	**Travel Information**	Enter the following travel information:
	Room Overnight	Use this section to enter whether or not the resource or personnel will be staying in a hotel overnight prior to returning home base and/or unit.
	Estimated Time of Departure	Use this section to enter the resource's or personnel's estimated time of departure (using the 24-hour clock).
	Actual Release Date/Time	Use this section to enter the resource's or personnel's actual release date (month/day/year) and time (using the 24-hour clock).
	Destination	Use this section to enter the resource's or personnel's destination.
	Estimated Time of Arrival	Use this section to enter the resource's or personnel's estimated time of arrival (using the 24-hour clock) at the destination.
	Travel Method	Use this section to enter the resource's or personnel's travel method (e.g., POV, air, etc.).
	Contact Information While Traveling	Use this section to enter the resource's or personnel's contact information while traveling (e.g., cell phone, radio frequency, etc.).
	Manifest ☐ Yes ☐ No Number	Use this section to enter whether or not the resource or personnel has a manifest. If they do, indicate the manifest number.
	Area/Agency/Region Notified	Use this section to enter the area, agency, and/or region that was notified of the resource's travel. List the name (first initial and last name) of the individual notified and the date (month/day/year) he or she was notified.
9	**Reassignment Information** ☐ Yes ☐ No	Enter whether or not the resource or personnel was reassigned to another incident. If the resource or personnel was reassigned, complete the section below.
	Incident Name	Use this section to enter the name of the new incident to which the resource was reassigned.
	Incident Number	Use this section to enter the number of the new incident to which the resource was reassigned.
	Location	Use this section to enter the location (city and State) of the new incident to which the resource was reassigned.
	Order Request Number	Use this section to enter the new order request number assigned to the resource or personnel.

Block Number	Block Title	Instructions
10	**Prepared by** • Name • Position/Title • Signature • Date/Time	Enter the name, ICS position, and signature of the person preparing the form. Enter date (month/day/year) and time prepared (using the 24-hour clock).

INCIDENT PERSONNEL PERFORMANCE RATING (ICS 225)

THIS RATING IS TO BE USED ONLY FOR DETERMINING AN INDIVIDUAL'S PERFORMANCE ON AN INCIDENT/EVENT

1. Name:	2. Incident Name:	3. Incident Number:
4. Home Unit Name and Address:	**5. Incident Agency and Address:**	
6. Position Held on Incident:	**7. Date(s) of Assignment:** From: To:	**8. Incident Complexity Level:** ☐1 ☐2 ☐3 ☐4 ☐5
		9. Incident Definition:

10. Evaluation

Rating Factors	N/A	1 – Unacceptable	2	3 – Met Standards	4	5 – Exceeded Expectations
11. Knowledge of the Job/ Professional Competence: Ability to acquire, apply, and share technical and administrative knowledge and skills associated with description of duties. (Includes operational aspects such as marine safety, seamanship, airmanship, SAR, etc., as appropriate.)	☐	Questionable competence and credibility. Operational or specialty expertise inadequate or lacking in key areas. Made little effort to grow professionally. Used knowledge as power against others or bluffed rather than acknowledging ignorance. Effectiveness reduced due to limited knowledge of own organizational role and customer needs. ☐	☐	Competent and credible authority on specialty or operational issues. Acquired and applied excellent operational or specialty expertise for assigned duties. Showed professional growth through education, training, and professional reading. Shared knowledge and information with others clearly and simply. Understood own organizational role and customer needs. ☐	☐	Superior expertise; advice and actions showed great breadth and depth of knowledge. Remarkable grasp of complex issues, concepts, and situations. Rapidly developed professional growth beyond expectations. Vigorously conveyed knowledge, directly resulting in increased workplace productivity. Insightful knowledge of own role, customer needs, and value of work. ☐
12. Ability To Obtain Performance/Results: Quality, quantity, timeliness, and impact of work.	☐	Routine tasks accomplished with difficulty. Results often late or of poor quality. Work had a negative impact on department or unit. Maintained the status quo despite opportunities to improve. ☐	☐	Got the job done in all routine situations and in many unusual ones. Work was timely and of high quality; required same of subordinates. Results had a positive impact on IMT. Continuously improved services and organizational effectiveness. ☐	☐	Maintained optimal balance among quality, quantity, and timeliness of work. Quality of own and subordinates' work surpassed expectations. Results had a significant positive impact on the IMT. Established clearly effective systems of continuous improvement. ☐
13. Planning/ Preparedness: Ability to anticipate, determine goals, identify relevant information, set priorities and deadlines, and create a shared vision of the Incident Management Team (IMT).	☐	Got caught by the unexpected; appeared to be controlled by events. Set vague or unrealistic goals. Used unreasonable criteria to set priorities and deadlines. Rarely had plan of action. Failed to focus on relevant information. ☐	☐	Consistently prepared. Set high but realistic goals. Used sound criteria to set priorities and deadlines. Used quality tools and processes to develop action plans. Identified key information. Kept supervisors and stakeholders informed. ☐	☐	Exceptional preparation. Always looked beyond immediate events or problems. Skillfully balanced competing demands. Developed strategies with contingency plans. Assessed all aspects of problems, including underlying issues and impact. ☐
14. Using Resources: Ability to manage time, materials, information, money, and people (i.e., all IMT components as well as external publics).	☐	Concentrated on unproductive activities or often overlooked critical demands. Failed to use people productively. Did not follow up. Mismanaged information, money, or time. Used ineffective tools or left subordinates without means to accomplish tasks. Employed wasteful methods. ☐	☐	Effectively managed a variety of activities with available resources. Delegated, empowered, and followed up. Skilled time manager, budgeted own and subordinates' time productively. Ensured subordinates had adequate tools, materials, time, and direction. Cost conscious, sought ways to cut waste. ☐	☐	Unusually skilled at bringing scarce resources to bear on the most critical of competing demands. Optimized productivity through effective delegation, empowerment, and follow-up control. Found ways to systematically reduce cost, eliminate waste, and improve efficiency. ☐
15. Adaptability/Attitude: Ability to maintain a positive attitude and modify work methods and priorities in response to new information, changing conditions, political realities, or unexpected obstacles.	☐	Unable to gauge effectiveness of work, recognize political realities, or make adjustments when needed. Maintained a poor outlook. Overlooked or screened out new information. Ineffective in ambiguous, complex, or pressured situations. ☐	☐	Receptive to change, new information, and technology. Effectively used benchmarks to improve performance and service. Monitored progress and changed course as required. Maintained a positive approach. Effectively dealt with pressure and ambiguity. Facilitated smooth transitions. Adjusted direction to accommodate political realities. ☐	☐	Rapidly assessed and confidently adjusted to changing conditions, political realities, new information, and technology. Very skilled at using and responding to measurement indicators. Championed organizational improvements. Effectively dealt with extremely complex situations. Turned pressure and ambiguity into constructive forces for change. ☐
16. Communication Skills: Ability to speak effectively and listen to understand. Ability to express facts and ideas clearly and convincingly.	☐	Unable to effectively articulate ideas and facts; lacked preparation, confidence, or logic. Used inappropriate language or rambled. Nervous or distracting mannerisms detracted from message. Failed to listen carefully or was too argumentative. Written material frequently unclear, verbose, or poorly organized. Seldom proofread. ☐	☐	Effectively expressed ideas and facts in individual and group situations; nonverbal actions consistent with spoken message. Communicated to people at all levels to ensure understanding. Listened carefully for intended message as well as spoken words. Written material clear, concise, and logically organized. Proofread conscientiously. ☐	☐	Clearly articulated and promoted ideas before a wide range of audiences; accomplished speaker in both formal and extemporaneous situations. Adept at presenting complex or sensitive issues. Active listener; remarkable ability to listen with open mind and identify key issues. Clearly and persuasively expressed complex or controversial material, directly contributing to stated objectives. ☐

INCIDENT PERSONNEL PERFORMANCE RATING (ICS 225)

1. Name:	2. Incident Name:	3. Incident Number:

10. Evaluation

Rating Factors	N/A	1 – Unacceptable	2	3 – Met Standards	4	5 – Exceeded Expectations
17. Ability To Work on a Team: Ability to manage, lead and participate in teams, encourage cooperation, and develop esprit de corps.	☐	Used teams ineffectively or at wrong times. Conflicts mismanaged or often left unresolved, resulting in decreased team effectiveness. Excluded team members from vital information. Stifled group discussions or did not contribute productively. Inhibited cross functional cooperation to the detriment of unit or service goals. ☐	☐	Skillfully used teams to increase unit effectiveness, quality, and service. Resolved or managed group conflict, enhanced cooperation, and involved team members in decision process. Valued team participation. Effectively negotiated work across functional boundaries to enhance support of broader mutual goals. ☐	☐	Insightful use of teams raised unit productivity beyond expectations. Inspired high level of esprit de corps, even in difficult situations. Major contributor to team effort. Established relationships and networks across a broad range of people and groups, raising accomplishments of mutual goals to a remarkable level. ☐
18. Consideration for Personnel/Team Welfare: Ability to consider and respond to others' personal needs, capabilities, and achievements; support for and application of worklife concepts and skills.	☐	Seldom recognized or responded to needs of people; left outside resources untapped despite apparent need. Ignorance of individuals' capabilities increased chance of failure. Seldom recognized or rewarded deserving subordinates or other IMT members. ☐	☐	Cared for people. Recognized and responded to their needs; referred to outside resources as appropriate. Considered individuals' capabilities to maximize opportunities for success. Consistently recognized and rewarded deserving subordinates or other IMT members. ☐	☐	Always accessible. Enhanced overall quality of life. Actively contributed to achieving balance among IMT requirements and professional and personal responsibilities. Strong advocate for subordinates; ensured appropriate and timely recognition, both formal and informal. ☐
19. Directing Others: Ability to influence or direct others in accomplishing tasks or missions.	☐	Showed difficulty in directing or influencing others. Low or unclear work standards reduced productivity. Failed to hold subordinates accountable for shoddy work or irresponsible actions. Unwilling to delegate authority to increase efficiency of task accomplishment. ☐	☐	A leader who earned others' support and commitment. Set high work standards; clearly articulated job requirements, expectations, and measurement criteria; held subordinates accountable. When appropriate, delegated authority to those directly responsible for the task. ☐	☐	An inspirational leader who motivated others to achieve results not normally attainable. Won people over rather than imposing will. Clearly articulated vision; empowered subordinates to set goals and objectives to accomplish tasks. Modified leadership style to best meet challenging situations. ☐
20. Judgment/Decisions Under Stress: Ability to make sound decisions and provide valid recommendations by using facts, experience, political acumen, common sense, risk assessment, and analytical thought.	☐	Decisions often displayed poor analysis. Failed to make necessary decisions, or jumped to conclusions without considering facts, alternatives, and impact. Did not effectively weigh risk, cost, and time considerations. Unconcerned with political drivers on organization. ☐	☐	Demonstrated analytical thought and common sense in making decisions. Used facts, data, and experience, and considered the impact of alternatives and political realities. Weighed risk, cost, and time considerations. Made sound decisions promptly with the best available information. ☐	☐	Combined keen analytical thought, an understanding of political processes, and insight to make appropriate decisions. Focused on the key issues and the most relevant information. Did the right thing at the right time. Actions indicated awareness of impact of decisions on others. Not afraid to take reasonable risks to achieve positive results. ☐
21. Initiative Ability to originate and act on new ideas, pursue opportunities to learn and develop, and seek responsibility without guidance and supervision.	☐	Postponed needed action. Implemented or supported improvements only when directed to do so. Showed little interest in career development. Feasible improvements in methods, services, or products went unexplored. ☐	☐	Championed improvement through new ideas, methods, and practices. Anticipated problems and took prompt action to avoid or resolve them. Pursued productivity gains and enhanced mission performance by applying new ideas and methods. ☐	☐	Aggressively sought out additional responsibility. A self-learner. Made worthwhile ideas and practices work when others might have given up. Extremely innovative. Optimized use of new ideas and methods to improve work processes and decisionmaking. ☐
22. Physical Ability for the Job: Ability to invest in the IMT's future by caring for the physical health and emotional well-being of self and others.	☐	Failed to meet minimum standards of sobriety. Tolerated or condoned others' alcohol abuse. Seldom considered subordinates' health and well-being. Unwilling or unable to recognize and manage stress despite apparent need. ☐	☐	Committed to health and well-being of self and subordinates. Enhanced personal performance through activities supporting physical and emotional well-being. Recognized and managed stress effectively. ☐	☐	Remarkable vitality, enthusiasm, alertness, and energy. Consistently contributed at high levels of activity. Optimized personal performance through involvement in activities that supported physical and emotional well-being. Monitored and helped others deal with stress and enhance health and well-being. ☐
23. Adherence to Safety: Ability to invest in the IMT's future by caring for the safety of self and others.	☐	Failed to adequately identify and protect personnel from safety hazards. ☐	☐	Ensured that safe operating procedures were followed. ☐	☐	Demonstrated a significant commitment toward safety of personnel. ☐

24. Remarks:

25. Rated Individual (This rating has been discussed with me):

Signature: _____ Date/Time: _____

26. Rated by: Name: _____ Signature: _____

Home Unit: _____ Position Held on This Incident: _____

ICS 225 Date/Time: _____

ICS 225
Incident Personnel Performance Rating

Purpose. The Incident Personnel Performance Rating (ICS 225) gives supervisors the opportunity to evaluate subordinates on incident assignments. THIS RATING IS TO BE USED ONLY FOR DETERMINING AN INDIVIDUAL'S PERFORMANCE ON AN INCIDENT/EVENT.

Preparation. The ICS 225 is normally prepared by the supervisor for each subordinate, using the evaluation standard given in the form. The ICS 225 will be reviewed with the subordinate, who will sign at the bottom. It will be delivered to the Planning Section before the rater leaves the incident

Distribution. The ICS 225 is provided to the Planning Section Chief before the rater leaves the incident.

Notes:

- Use a blank ICS 225 for each individual.
- Additional pages can be added based on individual need.

Block Number	Block Title	Instructions
1	**Name**	Enter the name of the individual being rated.
2	**Incident Name**	Enter the name assigned to the incident.
3	**Incident Number**	Enter the number assigned to the incident.
4	**Home Unit Address**	Enter the physical address of the home unit for the individual being rated.
5	**Incident Agency and Address**	Enter the name and address of the authority having jurisdiction for the incident.
6	**Position Held on Incident**	Enter the position held (e.g., Resources Unit Leader, Safety Officer, etc.) by the individual being rated.
7	**Date(s) of Assignment** • From • To	Enter the date(s) (month/day/year) the individual was assigned to the incident.
8	**Incident Complexity Level** ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5	Indicate the level of complexity for the incident.
9	**Incident Definition**	Enter a general definition of the incident in this block. This may be a general incident category or kind description, such as "tornado," "wildfire,", "bridge collapse,", "civil unrest," "parade," "vehicle fire," "mass casualty," etc.
10	**Evaluation**	Enter "X" under the appropriate column indicating the individual's level of performance for each duty listed.
	N/A	The duty did not apply to this incident.
	1 – Unacceptable	Does not meet minimum requirements of the individual element. Deficiencies/Improvements needed must be identified in Remarks.
	2 – Needs Improvement	Meets some or most of the requirements of the individual element. IDENTIFY IMPROVEMENT NEEDED IN REMARKS.
	3 – Met Standards	Satisfactory. Employee meets all requirements of the individual element.

Block Number	Block Title	Instructions
	4 – Fully Successful	Employee meets all requirements and exceeds one or several of the requirements of the individual element.
10	5 – Exceeded Expectations	Superior. Employee consistently exceeds the performance requirements.
11	**Knowledge of the Job/ Professional Competence:**	Ability to acquire, apply, and share technical and administrative knowledge and skills associated with description of duties. (Includes operational aspects such as marine safety, seamanship, airmanship, SAR, etc., as appropriate.)
12	**Ability To Obtain Performance/Results:**	Quality, quantity, timeliness, and impact of work.
13	**Planning/Preparedness:**	Ability to anticipate, determine goals, identify relevant information, set priorities and deadlines, and create a shared vision of the Incident Management Team (IMT).
14	**Using Resources:**	Ability to manage time, materials, information, money, and people (i.e., all IMT components as well as external publics).
15	**Adaptability/Attitude:**	Ability to maintain a positive attitude and modify work methods and priorities in response to new information, changing conditions, political realities, or unexpected obstacles.
16	**Communication Skills:**	Ability to speak effectively and listen to understand. Ability to express facts and ideas clearly and convincingly.
17	**Ability To Work on a Team:**	Ability to manage, lead and participate in teams, encourage cooperation, and develop esprit de corps.
18	**Consideration for Personnel/Team Welfare:**	Ability to consider and respond to others' personal needs, capabilities, and achievements; support for and application of worklife concepts and skills.
19	**Directing Others:**	Ability to influence or direct others in accomplishing tasks or missions.
20	**Judgment/Decisions Under Stress:**	Ability to make sound decisions and provide valid recommendations by using facts, experience, political acumen, common sense, risk assessment, and analytical thought.
21	**Initiative**	Ability to originate and act on new ideas, pursue opportunities to learn and develop, and seek responsibility without guidance and supervision.
22	**Physical Ability for the Job:**	Ability to invest in the IMT's future by caring for the physical health and emotional well-being of self and others.
23	**Adherence to Safety:**	Ability to invest in the IMT's future by caring for the safety of self and others.
24	**Remarks**	Enter specific information on why the individual received performance levels.
25	**Rated Individual** (This rating has been discussed with me) • Signature • Date/Time	Enter the signature of the individual being rated. Enter the date (month/day/year) and the time (24-hour clock) signed.
26	**Rated by** • Name • Signature • Home Unit • Position Held on This Incident • Date/Time	Enter the name, signature, home unit, and position held on the incident of the person preparing the form and rating the individual. Enter the date (month/day/year) and the time (24-hour clock) prepared.

Appendix A

INCIDENT STATUS SUMMARY (ICS 209)

***1. Incident Name:** Bayview Tornado		**2. Incident Number:** 0502 (from F and A)	
***3. Report Version** (check one box on left): ☑ Initial ☐ Update ☐ Final Rpt # (if used):	***4. Incident Commander(s) & Agency or Organization:** N. Kempfer-Needland Fire, D. Roberts-Needland EMS, K. Anthony-Granger Co. Sheriff's Office, J. Davila-Needland PD, D.Doan-Granger	**5. Incident Management Organization:** Unified Command	***6. Incident Start Date/Time:** Date: 5-2-2009 Time: 1719 hours Time Zone: Central
7. Current Incident Size or Area Involved (use unit label – e.g., "sq mi," "city block"): 9 Block area	**8. Percent (%) Contained** **Completed** 20%	***9. Incident Definition:** Tornado	**10. Incident Complexity Level:** Type 3	***11. For Time Period:** From Date/Time: 5-2-2009/2029hrs To Date/Time: 5-3-2009/0600hrs

Approval & Routing Information

***12. Prepared By:** Print Name: SL Gaithe ICS Position: Planning Deputy Date/Time Prepared: May 09, 2009 / 2249 hours	***13. Date/Time Submitted:** 0600 hrs **Time Zone:** Central
***14. Approved By:** Print Name: A. Archer ICS Position: Planning Chief Signature:	***15. Primary Location, Organization, or Agency Sent To:** EOC

Incident Location Information

***16. State:** Columbia	***17. County/Parish/Borough:** Granger County	***18. City:** Needland
19. Unit or Other: Needland EMS, Needland Police, Needland Fire	***20. Incident Jurisdiction:** City of Needland	**21. Incident Location Ownership** (if different than jurisdiction): N/A
(b) (7)(F) [redacted]	**23. US National Grid Reference:** N/A	**24. Legal Description** (township, section, range): Bayview area encompassing Bayview Convention Cntr
***25. Short Location or Area Description** (list all affected areas or a reference point): City of Needland in Granger County, State of Columbia. The tornado struck the downtown area new the Bayview Convention Center.		**26. UTM Coordinates:** N/A
27. Note any electronic geospatial data included or attached (indicate data format, content, and collection time information and labels): N/A		

Incident Summary

***28. Significant Events for the Time Period Reported** (summarize significant progress made, evacuations, incident growth, etc.):

Responders call to the scene of a tornado touchdown that damaged many building in a 9 block area of Baytown, Evacuation as well as search and rescue efforts are underway. As of 23:50 42 victims have been confirmed deceased and 983 injuries.

29. Primary Materials or Hazards Involved (hazardous chemicals, fuel types, infectious agents, radiation, etc.):

None known at this time. Mostly Structural Damage and poor weather is hampering rescue/recovery efforts.

30. Damage Assessment Information (summarize damage and/or restriction of use or availability to residential or commercial property, natural resources, critical infrastructure and key resources, etc.):

A. Structural Summary	B. # Threatened (72 hrs)	C. # Damaged	D. # Destroyed
E. Single Residences			
F. Nonresidential Commercial Property	50	12	5
Other Minor Structures			
Other			

* *Required when applicable.*

INCIDENT STATUS SUMMARY (ICS 209)

*1. Incident Name: Bayview Tornado	2. Incident Number: 0502 (from F and A)

Additional Incident Decision Support Information

*31. Public Status Summary:	A. # This Reporting Period	B. Total # to Date
C. Indicate Number of Civilians (Public) Below:		
D. Fatalities	102	
E. With Injuries/Illness	1837	
F. Trapped/In Need of Rescue		
G. Missing *(note if estimated)*		
H. Evacuated *(note if estimated)*		
I. Sheltering in Place *(note if estimated)*		
J. In Temporary Shelters *(note if est.)*	700	
K. Have Received Mass Immunizations	0	
L. Require Immunizations *(note if est.)*	0	
M. In Quarantine	0	
N. Total # Civilians (Public) Affected:		

*32. Responder Status Summary:	A. # This Reporting Period	B. Total # to Date
C. Indicate Number of Responders Below:		
D. Fatalities		
E. With Injuries/Illness	4	
F. Trapped/In Need of Rescue		
G. Missing		
H. Sheltering in Place		
I. Have Received Immunizations		
J. Require Immunizations		
K. In Quarantine		
N. Total # Responders Affected:		

33. Life, Safety, and Health Status/Threat Remarks:

May trapped and missing victims

35. Weather Concerns (synopsis of current and predicted weather; discuss related factors that may cause concern):

Heavy rain and severe weather

*34. Life, Safety, and Health Threat Management:	A. Check if Active
A. No Likely Threat	☐
B. Potential Future Threat	☑
C. Mass Notifications in Progress	☐
D. Mass Notifications Completed	☐
E. No Evacuation(s) Imminent	☐
F. Planning for Evacuation	☐
G. Planning for Shelter-in-Place	☐
H. Evacuation(s) in Progress	☑
I. Shelter-in-Place in Progress	☑
J. Repopulation in Progress	☑
K. Mass Immunization in Progress	☐
L. Mass Immunization Complete	☐
M. Quarantine in Progress	☐
N. Area Restriction in Effect	☑
	☐
	☐
	☐
	☐

36. Projected Incident Activity, Potential, Movement, Escalation, or Spread and influencing factors during the next operational period and in 12-, 24-, 48-, and 72-hour timeframes:

12 hours: Search and rescue, looting, shelter for 1st responders, demobilization

24 hours: Treatment and transport of victims, restore utilities

48 hours: Area clean up

72 hours: Restore business

Anticipated after 72 hours: Rebuild

37. Strategic Objectives (define planned end-state for incident):

The desired outcome is to restore life and property to normal operation as soon as possible.

** Required when applicable.*

INCIDENT STATUS SUMMARY (ICS 209)

*1. Incident Name: Bayview Tornado	2. Incident Number: 0502 (from F and A)

Additional Incident Decision Support Information *(continued)*

38. Current Incident Threat Summary and Risk Information in 12-, 24-, 48-, and 72-hour timeframes and beyond. Summarize primary incident threats to life, property, communities and community stability, residences, health care facilities, other critical infrastructure and key resources, commercial facilities, natural and environmental resources, cultural resources, and continuity of operations and/or business. Identify corresponding incident-related potential economic or cascading impacts.

12 hours: Heavy casualties taxing the EMS system. Severe weather, need for additional Engines

24 hours: N/A

48 hours: Need for relief teams, supplies and equipment

72 hours: Need for supplies, food and drink

Anticipated after 72 hours: Same

39. Critical Resource Needs in 12-, 24-, 48-, and 72-hour timeframes and beyond to meet critical incident objectives. List resource category, kind, and/or type, and amount needed, in priority order:

12 hours: Loss of 6 Engines that are needed by to their community

24 hours:

48 hours:

72 hours:

Anticipated after 72 hours:

40. Strategic Discussion: Explain the relation of overall strategy, constraints, and current available information to:

1) critical resource needs identified above,
2) the Incident Action Plan and management objectives and targets,
3) anticipated results.

Explain major problems and concerns such as operational challenges, incident management problems, and social, political, economic, or environmental concerns or impacts.

41. Planned Actions for Next Operational Period:

Continue with search, rescue and safety operations

42. Projected Final Incident Size/Area (use unit label – e.g., "sq mi"): 9 Sq blocks

43. Anticipated Incident Management Completion Date: Unkown

44. Projected Significant Resource Demobilization Start Date: 4 May 2009

45. Estimated Incident Costs to Date: 277,578

46. Projected Final Incident Cost Estimate: Unknown

47. Remarks (or continuation of any blocks above – list block number in notation):

* *Required when applicable.*

INCIDENT STATUS SUMMARY (ICS 209)

1. Incident Name: Bayview Tornado	2. Incident Number: 0502 (from F and A)

Incident Resource Commitment Summary

48. Agency or Organization:	49. Resources (summarize resources by category, kind, and/or type; show # of resources on top ½ of box, show # of personnel associated with resource on bottom ½ of box):																				50. Additional Personnel not assigned to a resource:	51. Total Personnel (includes those associated with resources – e.g., aircraft or engines – *and* individual overhead):
	Police Motor units	ALS Ambulance	BLS Ambulance	Engine	Ladder Truck	Bus - 45 Pass	Medic	Animal Cont. Off	Backhoe	EMS Res. Team	Rescue	DPW Sedan	Dump Truck	DPW Light Plant	Structural Eng.	Street Sweeper	Heavy Rescue	Police Officer	Medical Examiner	Busses - 20 Passw	Portable Morgue	
City of Needland	33	16	4	22	7		12	5	7	3		4	5	11	3	4	3	40	2		1	19
	33	32	8	88	28		24	5	7	45		4	5	11	3	4	15	40	1		9	302
Granger County Fire Department				15	7																	8
				60	28																	96
Arkansas Pass Fire Department	3	3		3	2		8				3							5				6
	3	6		12	8		8				6							5				54
Boise Fire Department			2	2	2		6				2											4
			4	8	8		6				8											38
Calvinton Fire Department		2		3	2		4															2
		4		12	8		4															30
Columbia State Police	6																	7				1
	6																	7				14
Granger Area Transit Enterprise						18														12		3
						18														12		33
Granger County EMS		21	9				16															4
		42	18				16															80
Granger County Sheriff	12																	23				15
	12																	23				50
City of Pleasant Grove	17			5	2		6				1		2	2				11				9
	17			20	8		6				4		4	4				11				83
MED STAT										3												
										20												30
Port Arkansas	5																					
	5																					5
Taft Police Department	3																4					
	3																4					7
Granger County DPW									4				6	7		8						14
									4				6	7		8						39
52. Total Resources	79	42	15	50	22	18	52	5	11	5	6	4	13	20	3	12	3	90	2	12	1	85	861

53. Additional Cooperating and Assisting Organizations Not Listed Above:

** Required when applicable.*

Appendix B

RESOURCE REQUEST MESSAGE (ICS 213 RR)

1. Incident Name:	2. Date/Time	3. Resource Request Number:

Requestor

4. Order (Use additional forms when requesting different resource sources of supply.):

Qty.	Kind	Type	Detailed Item Description: (Vital characteristics, brand, specs, experience, size, etc.)	Arrival Date and Time		Cost
				Requested	Estimated	

5. Requested Delivery/Reporting Location:

6. Suitable Substitutes and/or Suggested Sources:

7. Requested by Name/Position:	8. Priority: ☐ Urgent ☐ Routine ☐ Low	9. Section Chief Approval:

Logistics

10. Logistics Order Number:	11. Supplier Phone/Fax/Email:
12. Name of Supplier/POC:	

13. Notes:

14. Approval Signature of Auth Logistics Rep:	15. Date/Time:

16. Order placed by (check box): ☐ SPUL ☐ PROC

Finance

17. Reply/Comments from Finance:

18. Finance Section Signature:	19. Date/Time:

APPENDIX E

SITE SPECIFIC HEALTH AND SAFETY PLAN

HEALTH AND SAFETY PLAN

PREPARED FOR:

KEY WEST PIPELINE COMPANY
Key West, Florida

PREPARED BY:

ECT
Environmental Consulting & Technology, Inc.

5405 Cypress Center Drive
Suite 200
Tampa, Florida 33609
(813) 289-9338

93274-0200

JULY 1993

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1.0 INTRODUCTION

This health and safety plan (HSP) was developed to provide for the protection of personnel at the Key West Pipeline Company (KWPC), Key West, Florida facility and be an integral part of the facility response plan.

1.1 PURPOSE AND REFERENCES

The purpose of this HSP is to describe safety, accident, and fire protection requirements and to outline standard operating procedures to ensure the safety of all KWPC personnel. It further provides for protection of the general public and the environment. This is done by indoctrination of all personnel in the requirements of the safety plan by ensuring: all personnel are adequately trained; provisions are made for adequate safety equipment and medical surveillance for personnel exposed to potentially toxic chemicals; provision for the safe conduct of inspections; and provision, as necessary, of exclusion areas and decontamination activities to prevent contamination migration impacts to onsite personnel, the general public, or the environment. The program also provides emergency plans for any contingencies that might affect onsite personnel. Responsibilities and authorities are designated, as well as reporting procedures. The safety program complies with requirements of Occupational Safety and Health Administration (OSHA) for all activities to be conducted.

1.2 DEFINITIONS

The following definitions apply to words or phrases used in this program:

"Cleanup Operation" means an operation where hazardous substances are removed, contained, incinerated, neutralized, stabilized, cleaned up, or in any other manner processed or handled with the ultimate goal of making the site safer for people or the environment.

"Command Post" is a facility at a safe distance upwind from an accident or hazardous substance release area site, where an on-scene coordinator, responders, and technical representatives can make response decisions, deploy

manpower and equipment, maintain liaison with media, and handle communications.

"Decontamination" means the removal of hazardous substances from employees and their equipment to the extent necessary to preclude the occurrence of foreseeable adverse health affects.

"Emergency Response" or "Responding to Emergencies" means a response effort by responders from outside the immediate release area to an occurrence that results, or is likely to result, in an uncontrolled release of hazardous substances. Responses to incidental releases of hazardous substances that can be controlled at the time of release to the immediate release area, or releases of hazardous substances where there is no potential safety or health hazard, are not considered to be emergency responses.

"Hazardous Substance" means any substance designated or listed under items (a) through (c) below:

a. Any substance defined under Section 101 [14] of the Comprehensive Environmental Response, Compensation and Liability Act (includes most hazardous chemicals except petroleum);

b. Any substance listed by the U.S. Department of Transportation as hazardous materials under Title 49 of the Code of Federal Regulation (CFR) Part 172.101 and appendices; and

c. "Hazardous Wastes" as defined in 40 CFR 261.3 or 49 CFR 171.8.

"Health Hazard" means a chemical, mixture of chemicals, or a pathogen for which there is statistically significant evidence that acute or chronic health effects may occur in exposed employees. The term includes chemicals that are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, heptatoxins, nephrotoxins, neurotoxins, and other classes of health hazards as defined in Appendix A to 29 CFR 1910.1200. The term also includes stress due to heat, or site conditions that potentially result in physical injury.

"Immediately Dangerous to Life or Health" or "IDLH" means an atmospheric concentration of any toxic, corrosive, or asphyxiant substance that poses an immediate threat to life; would cause irreversible or delayed adverse health effects, or would interfere with an individual's ability to escape from a dangerous atmosphere.

"Oxygen Deficiency" means that the concentration of oxygen by volume is below 19.5 percent oxygen, in which case atmosphere-supplying respiratory protection must be provided.

"Qualified Person" means a person with specific training, knowledge, and experience in the area for which the person has the responsibility and authority to control.

"Site Safety and Health Supervisor (or Official)" means the individual located on a hazardous substance site who is responsible to the Qualified Individual (QI) and has the authority and knowledge necessary to implement the HSP and verify compliance with applicable safety and health requirements.

"Uncontrolled Hazardous Substance Site" means an area where an accumulation of hazardous substances creates a threat to the health and safety of individuals and/or the environment.

"Vapor Dispersion" means the movement of vapor clouds in air due to wind, gravity spreading, and mixing.

1.3 SAFETY ORGANIZATION, ADMINISTRATION, AND RESPONSIBILITIES

The QI has primary responsibility for implementing the HSP by (1) advising the senior management on all aspects of health and safety issues at the facility, (2) defining potential onsite hazards, (2) selecting and ensuring that appropriate protective clothing/gear will be worn and maintained properly, (3) coordinating medical monitoring for potentially exposed personnel, (4) supervising emergency response training for selected personnel, and (5) enforcing the provisions of the plan.

The QI shall delegate supervision of onsite safety to a designated Site Safety Supervisor (SSS). The responsibilities of this position include:

1. Characterizing the potential specific chemical and physical hazards to be encountered in the conduct of the emergency response with the QI;

2. Categorizing facility personnel as to the levels of potential exposure to any dangerous levels of hazardous materials;
3. Assuring that adequate and appropriate safety training and equipment are available for personnel;
4. Arranging for medical examinations for specified personnel, if necessary;
5. Determining and posting locations and routes to medical facilities and arranging emergency transportation to medical facilities (as required);
6. Notifying (as required) local public emergency officers (i.e., police and fire department) and environmental regulatory agencies of the nature of the emergency incident;
7. Observing work party members for symptoms of exposure or stress;
8. Arranging for the availability of onsite emergency medical care and first aid, as necessary;
9. Upgrading or downgrading the levels of personnel protection based upon site characteristics.

The responsibilities of all emergency response personnel onsite include:

1. Complying with all aspects of the safety plan, including strict adherence to the "buddy system";
2. Obeying the orders of the SSS or designate; and
3. Notifying the SSS or designate of hazardous or potentially hazardous incidents or working situations.

2.0 SITE HAZARD CHARACTERIZATION/ANALYSIS

An emergency response incident at this site could pose various health and safety concerns, which could result in potential serious injury. These hazards may be a function of the nature of the facility, or a consequence of the work being performed. These concerns are generally classified as follows:

Site Related: Chemical Exposure
Fire and Explosion
Oxygen Deficiency
Physical Safety Hazards
Electrical Hazards

Work Related: Heat Stress
Physical/Electrical Hazards from Site Operations

Conservative judgment is recommended when assessing the protective measures required to protect workers and the surrounding population. General categories of health hazards that may be present at the facility are described in the following subsections.

2.1 CHEMICAL EXPOSURE

Preventing exposure to toxic chemicals is a primary concern during uncontrolled hazardous substance releases. Chemical substances present in airborne, liquid, or solid form enter the unprotected human body by inhalation, direct skin contact, or ingestion, where they may cause a wide variety of toxic effects, depending on the chemical. Some chemical effects, such as burning, coughing, nausea, and rashes, are obvious during or shortly after exposure (i.e., acute). These effects may be temporary and reversible, or they may cause permanent disability or death. Other

chemicals may cause permanent damage without any short-term warning signs (chronic). This is particularly true for repeated exposures to low levels of toxic chemicals.

Chemicals of concern at the KWPC facility include JP-5 (petroleum hydrocarbon) and ethylene glycol monomethyl ether (methyl cellosolve) a fuel system ice inhibitor. In addition to the potential hazard associated with flammability of these compounds, these materials may contain benzene, heavy and light naphthalenes, toluene, xylene, fluorene, phenanthrene, and acrolein.

The following paragraphs describe routes of entry and potential symptoms from exposure to these compounds at sufficiently high concentrations. The exposure information was obtained through "Hazardline", via direct computer linkage and from Dangerous Properties of Industrial Materials (Sax, 6th Edition). Hazardline, a data base owned by Occupational Health Services, Inc., offers complete and comprehensive information on hazardous substances and is updated daily. Supplemental information was obtained from Patty's Industrial Hygiene and Toxicology, Volume IIC, third revised edition.

2.1.1 BENZENE

Routes of Entry: Inhalation of vapor that may be supplemented by percutaneous absorption, although benzene is poorly absorbed through intact skin, ingestion, and skin and eye contact.

Permissible Exposure Limit (PEL): 29 CFR 1910.1028 work practice standard sets of PEL of 1.0 parts per million (ppm) with an action level of 0.5 ppm, and a short-term exposure limit of 5.0 ppm for any 15 minute period. Initial monitoring required for each work practice.

Determination in Air: Adsorption on charcoal, workups with carbon disulfide (CS_2), or analysis by gas chromatography. See National Institute for Occupational Safety and Health (NIOSH) Methods, Set U. Benzene may also be determined with long duration detect tubes.

Harmful Effects and Symptoms: *Local* - Exposure to liquid and vapor may produce primary irritation to skin, eyes, and upper respiratory tract. If the liquid is aspirated into the lung, it may cause pulmonary edema and hemorrhage.. Erythema, vesiculation, and dry, scaly dermatitis may also develop from defatting of the skin. *Systemic* - Acute exposure to benzene results in central nervous system depression. Symptoms include headache, dizziness, nausea, and convulsions.

First Aid: If this chemical gets into the eyes, irrigate immediately. If this chemical contacts the skin, wash with soap promptly. If a person breathes in large amounts of this chemical, move the exposed person to fresh air at once and perform artificial respiration. When this chemical has been swallowed, get medical attention. Do not induce vomiting.

Personal Protective Methods: Wear appropriate chemical-resistant gloves and clothing to prevent repeated or prolonged skin contact. Wear eye protection to prevent any reasonable probability of eye contact. Personnel should wash promptly with soap when skin is wet or contaminated. Remove clothing immediately if wet or contaminated to avoid flammability hazard.

2.1.2 TOLUENE

Permissible Exposure Limits in Air: The federal standard is 200 ppm as an 8-hour time weighted average with an acceptable ceiling concentration of 300 ppm; acceptable maximum peaks above the ceiling of 500 ppm are allowed for a 10-minute duration.

Determination in Air: Adsorption on charcoal, workups with CS_2, or analysis by gas chromatography. See NIOSH Methods, Set U. Toluene may also be determined with long duration detect tubes.

Routes of Entry: Inhalation of vapor, percutaneous absorption of liquid, ingestion, skin, and eye contact.

Harmful Effects and Symptoms: *Local* - Toluene may cause irritation of the eyes, respiratory tract, and skin. Repeated or prolonged contact with liquid may cause removal of natural lipids from the skin, resulting in dry, fissured dermatitis. The liquid splashed in the eyes may cause irritation and reversible damage. *Systemic* - Acute exposure to toluene predominantly results in central nervous system depression. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness, incoordination with staggering gait, skin paresthesia, collapse, and coma.

First Aid: If this chemical gets into the eyes, irrigate immediately. If this chemical contacts the skin, wash with soap promptly. If a person breathes in large amounts of this chemical, move the exposed person to fresh air at once and perform artificial respiration. When this chemical has been swallowed, get medical attention. Do not induce vomiting.

Personal Protective Methods: Wear appropriate clothing to prevent repeated or prolonged skin contact. Wear eye protection to prevent any reasonable probability of eye contact. Personnel should wash promptly when skin is wet or contaminated. Remove clothing immediately if wet or contaminated to avoid flammability hazard.

2.1.3 XYLENES

Permissible Exposure Limits in Air: The federal standard is 100 ppm (435 milligrams per cubic meter [mg/m^3]) for all isomers. NIOSH recommends adherence to the present federal standard of 100 ppm as a time weighted average (TWA) for up to a 10-hour work day, 40-hour work week. NIOSH also recommends a ceiling concentration of 200 ppm as determined by a sampling period of 10 minutes. The tentative short-term exposure limit (STEL) value is 150 ppm (655 mg/m^3). The notation "skin" is added to indicate the possibility of cutaneous absorption. The IDLH level is 10,000 ppm.

Determination if Air: Adsorption on charcoal, workup with CS_2, or analysis by gas chromatography.

Routes of Entry: Inhalation of vapor and, to a small extent, percutaneous absorption of liquid. Also ingestion and skin and eye contact.

Harmful Effects and Symptoms: *Local* - Xylene vapor may cause irritation of the eyes, nose, and throat. Repeated or prolonged skin contact with xylene may cause drying and defatting of the skin, which may lead to dermatitis. Liquid xylene is irritating to the eyes and mucous membranes, and aspiration of a few milliliters may cause chemical pneumonitis, pulmonary edema, and hemorrhage. Repeated exposure of the eyes to high concentrations of xylene vapor may cause reversible eye damage. *Systemic* - Acute exposure to xylene vapor may cause central nervous system depression and minor reversible effects upon liver and kidneys. At high concentrations xylene vapor may cause dizziness, staggering, drowsiness, and unconsciousness. Also at very high concentrations, breathing xylene vapors may cause pulmonary edema, anorexia, nausea, vomiting, and abdominal pain.

2.1.4 POLYNUCLEAR AROMATIC HYDROCARBONS

2.1.4.1 Fluorene and Phenanthrene

Permissible Exposure Limits in Air: A threshold limit value of 0.2 mg/m^3 as benzene solubles has been assigned by the American Conference of Governmental Industrial Hygienists (ACGIH). These materials are designated by ACGIH as human carcinogens.

Determination in Air: Collection on a membrane filter, benzene extraction, chromatographic separation, measurement by fluorometry, or using an ultraviolet detector.

Routes of Entry: Inhalation of particulates, vapors.

Harmful Effects and Symptoms: Certain polynuclear aromatic hydrocarbons (PAHs) that have been demonstrated as carcinogenic in test animals at relatively high exposure levels are being found in urban air at very low levels. Various environmental fate tests suggest that PAHs are photo-oxidized, and react with oxidants and oxides of sulfur. Because PAHs are adsorbed on particulate matter, chemical half-lives may vary greatly, from a matter of a few hours to several days.

Personal Protective Methods: Good particulate emission controls are the indicated engineering control scheme where polynuclear aromatics are encountered in the workplace.

2.1.4.2 Naphthalene

Permissible Exposure Limits in Air: The federal standard is 10 ppm (50 mg/m^3). The tentative PEL value is 15 ppm (75 mg/m^3). The IDLH level is 500 ppm.

Determination in Air: Adsorption on charcoal, workup with CS_2, or analysis by gas chromatography. See NIOSH Methods, Set T.

Routes of Entry: Inhalation of vapor or dust, skin absorption, ingestion, and skin and eye contact.

Harmful Effects and Symptoms: *Local* - Naphthalene is a primary irritant and causes erythema and dermatitis upon repeated contact. It is also an allergen and may produce dermatitis in hypersensitive individuals. Direct eye contact with the dust has produced irritation and cataracts. *Systemic* - Inhaling high concentrations of naphthalene vapor or ingesting may cause intravascular hemolysis and its consequences. Initial symptoms include eye irritation, headache, confusion, excitement, malaise, profuse sweating, nausea, vomiting, abdominal pain, and irritation of the bladder.

First Aid: If this chemical gets into the eyes, irrigate immediately. If molten naphthalene contacts the skin, flush with water immediately. Wash promptly after solution contact. If a person breathes in large amounts of this chemical, move the exposed person to fresh air at once and perform artificial respiration. When this chemical has been swallowed, get medical attention. Give large quantities of water and induce vomiting. Do not make an unconscious person vomit.

Personal Protective Methods: Wear appropriate clothing to prevent repeated or prolonged skin contact. Wear eye protection to prevent any reasonable probability of eye contact. Personnel should wash promptly when skin is wet or contaminated. Work clothing should be changed daily if it is possible that clothing is contaminated. Remove nonimpervious clothing promptly if wet or contaminated.

2.1.4.3 Acrolein

Permissible Exposure Limits in Air: The federal standard for exposure to acrolein is 0.1 ppm (0.25 mg/m^3). This is the TWA value as of 1980. The PEL value is 0.3 ppm (0.8 mg/m^3). The IDLH value is 5.0 ppm.

Determination in Air: Impingement in sodium bisulfite, workup with trichloroethane and colorimetric analysis based on reaction with 4-hexylresorcinol in the presence of Mercuric Chloride ($HgCl_2$) to give a blue color.

Routes of Entry: Inhalation of vapor and percutaneous absorption, ingestion, or skin or eye contact.

Harmful Effects and Symptoms: *Local* - In the liquid or pungent vapor form, acrolein produces intense irritation to the eye and mucous membranes of the respiratory tract. Skin burns and dermatitis may result from prolonged or repeated exposures. Sensitization in a few individuals may also occur. *Systemic* - Because of acrolein's pungent, offensive odor and the intense irritation of the conjunctiva and upper respiratory tract, severe toxic effects from acute exposure are rare, as workmen will not tolerate the vapor even in minimal concentration. Acute exposure to acrolein may cause bronchial inflammation, resulting in bronchitis or pulmonary edema.

First Aid: If this chemical gets into the eyes, irrigate immediately. If this chemical contacts the skin, flush with water immediately. If a person breathes in large amounts of this chemical, move the exposed person to fresh air at once and perform artificial respiration. When this chemical has been swallowed, get medical attention. Give large quantities of saltwater and induce vomiting. Do not make an unconscious person vomit.

Personal Protective Methods: Wear appropriate clothing to prevent any possible skin contact. Wear eye protection to prevent any possible eye contact. Personnel should wash immediately when skin is wet or contaminated. Remove clothing immediately if wet or contaminated to avoid flammability hazard. Provide emergency showers and eyewash.

2.1.5 ETHYLENE GLYCOL MONOMETHYL ETHER

Routes of Entry: Inhalation of vapor, readily percutaneous absorption, ingestion and skin and eye contact.

Permissible Exposure Limit (PEL): 29 CFR 1910.1000 Table Z-1-A, Limits for Air Contaminants sets standards of a PEL threshold of 25 ppm or 80 mg/m3. There are no short term exposure or ceiling concentrations listed for this chemical.

Determination in Air: Absorption on glass fiber filter and silica gel with analysis by gas chromatography. See NIOSH Methods, 5500.

Harmful Effects and Symptoms: *Local*-Exposure to vapor may produce irritation to the respiratory tract and eyes. Contact with skin is not appreciably irritating but is moderately toxic by ingestion as indicated by gastrointestinal discomfort. *Systemic*-The chemical exerts action upon the brain, blood, testes and kidneys and it may teratogenic.

First Aid: If this chemical gets into the eyes, irrigate immediately and continues flushing for a minimum of 15 minutes. If this chemical contacts the skin, flush with water for a minimum of 15 minutes. If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. When this chemical has been ingested drink large volume of water and induce vomiting. Immediate medical attention is required following these exposures.

Personal Protective Methods: Wear appropriate chemical resistant gloves (neoprene) and clothing and boots to prevent repeated or prolonged exposure. Wear eye protection to prevent any reasonable probability of eye contact. Remove clothing promptly to avoid exposure.

2.2 INHALATION

The primary exposure route of concern at the facility is **inhalation.** With a surface area of 70-100 square meters, the lungs are extremely vulnerable to chemical agents. Even substances that do not affect the lungs themselves may pass through the lung tissue into the bloodstream, where they are transported to vulnerable areas of the body. Toxic chemicals that are present in the atmosphere from vapor dispersion may be colorless, odorless, and their toxic effects may not produce any immediate symptoms. Respiratory protection is therefore an extremely important consideration for atmospheres that potentially contain high concentrations of hazardous substances. Section 3.0 describes the procedures for prevention of inhalation exposure to chemicals.

2.3 DERMAL CONTACT

Direct contact with the skin and eyes with airborne, liquid, or solid substances is another important route of exposure. Some chemicals directly injure the skin, whereas others pass through the skin into the bloodstream where they are transported to vulnerable organs. The eye is particularly vulnerable because airborne chemicals can dissolve into its moist surface. Protective measures against skin and eye contact include wearing protective clothing and goggles, prohibiting contact lenses (which can trap chemicals against the eye surface), keeping hands away from face, and minimizing contact with liquid and solid chemicals. Section 3.0 describes the protective procedures for prevention of dermal contact with chemicals.

2.4 INGESTION

Ingestion should be the least significant route of exposure at a site. Although deliberate ingestion of chemicals is unlikely, personal habits such as chewing gum or tobacco, drinking, eating, and smoking onsite may provide a route of entry for chemicals and are **prohibited** except in areas outside the exposure area or contaminated zone.

2.5 INJECTION

The last primary route of entry is injection, whereby chemicals are introduced into the body through puncture wounds. Wearing safety shoes and taking common sense precautions are protective measures against injection.

2.6 FIRE AND EXPLOSION

There are many potential causes of fires and explosions at this facility:

- Chemical reactions that produce explosion, fire, or heat;
- Ignition of explosive or flammable chemicals;
- Ignition of oxygen-enriched atmospheres;
- Irritation of shock or friction sensitive compounds; and
- Sudden release of chemicals under pressure.

Explosions or fires may arise spontaneously at a site. However, they are more frequently catalyzed in some manner by investigative or remedial activities such as moving drums, mixing incompatible materials, or introducing an ignition source. At facilities which handle, store, or transport flammable/combustible chemicals, explosions and fires may not only pose the obvious hazards such as intense heat or smoke, but they may also cause the release of toxic chemicals into the environment. Protective measures against the hazard include monitoring for explosive atmospheres and flammable vapors, keeping all potential ignition sources clear of the area, and

employing safe practices when performing any task that might result in the agitation or release of chemicals.

2.7 OXYGEN DEFICIENCY

The oxygen content of normal air at sea level is 21 percent. Physiological effects of oxygen deficiency become apparent when the oxygen concentration decreases to 16 percent. They include impaired attention, coordination, and judgment. Lower oxygen levels may result in brain damage, heart damage, unconsciousness, and death. To take into account individual physiological responses and errors in measurement, levels of 19.5 percent oxygen or lower are considered to be indicative of oxygen deficiency at a hazardous waste site.

Oxygen deficiency may result from the displacement of oxygen by another gas, or the consumption of oxygen by a chemical or physical reaction. Confined spaces or low-lying areas are particularly vulnerable to oxygen deficiency. The primary method of protection is to monitor oxygen levels and use appropriate oxygen-supplying respiratory equipment (as required).

2.8 PHYSICAL SAFETY HAZARDS

Safety hazards that may be encountered at the facility include the following:

- Holes or ditches;
- Precariously positioned equipment or other objects that may fall;
- Slippery surfaces;
- Uneven terrain;
- Steep grades; and
- Unstable surfaces, such as abandoned foundations/piping that may give way.

Some physical hazards are a function of the work itself. For example, heavy equipment creates an additional hazard for workers in the vicinity of the operating equipment. Protective equipment impairs a worker's agility, hearing, and vision, thus increasing chance of accident.

Site personnel should be constantly on the lookout for potential safety hazards, and should immediately inform their supervisors of any hazards so that mitigative actions can be taken.

2.9 ELECTRICAL HAZARDS

Overhead power lines, downed electrical wires, and buried cables all present a danger of shock or electrocution. To help minimize this hazard, low-voltage equipment with ground-fault interrupters and water-tight, corrosion-resistant connecting cables should be used onsite. In addition, lightning is a hazard during outdoor weather operations. Weather conditions should be monitored and work should be suspended during electrical storms.

2.10 HEAT STRESS

Heat stress is a major hazard for workers wearing protective clothing. Depending on the temperature and the work being performed, heat stress can occur very rapidly--within as little as 15 minutes. Careful monitoring of personnel wearing protective clothing and judicious scheduling of work and rest periods are some of the ways to protect against this hazard.

2.11 NOISE

Noise created by heavy equipment can cause physiological stress and temporary or permanent hearing loss. It can also interfere with routine and emergency communication. Noise levels are regulated by OSHA and excess levels may trigger

protective measures and a hearing conservation program (29 CFR 1910.95). Ear plugs or muffs should be used to protect hearing.

3.0 SAFETY OPERATING PROCEDURES

This section describes the safety operating procedures that will be employed at the KWPC facility, including personal protection equipment and safety procedures.

3.1 CATEGORIZATION OF PERSONNEL

All personnel are categorized with respect to the potential level of exposure and hazard that may be encountered at the facility. The personnel categories are described in Table 3-1. The SSS ensures that all personnel are informed of their category description, have been given appropriate training and instructions in use of personal protective equipment, and have received a copy of the HSP.

3.2 PERSONNEL PROTECTION

Personal protective equipment (modified Level C) used for Category I personnel will include:

1. Saranex or Tyvek coveralls,
2. Steel-toe rubber or leather boots,
3. Disposable rubber boot covers (if necessary),
4. Disposable inner-gloves,
5. Disposable outer-gloves (butyl rubber), and
6. Hard hats.

Full-face air purifying respirators with high-efficiency particulate and organic vapor cartridges will be readily available and will be worn, where appropriate, based on onsite measurements of organic vapors (i.e., when organic vapors are detected at levels three to five times the background readings or 5 ppm, whichever is less). Based on known facility conditions and the open area where the work will be performed, the need for Level B protection (i.e., independent air supply) is not anticipated. If conditions occur such that the need for Level B may be warranted,

Table 3-1. Categorization of Personnel

Category I	Modified Level C Protection
Any person involved in direct handling and analysis of hazardous materials whose potential for exposure to dangerous levels of hazardous materials is high. Modified Level C protection is required.	1. Saranex or tyvek coveralls, 2. Steel-toe rubber or leather boots, 3. Disposable rubber boot covers (if necessary), 4. Disposable inner-gloves, 5. Disposable outer-gloves (butyl rubber), 6. Full-face air purifying respirators readily available. To be used based on ambient air levels, and 7. Hard hats (while inside the fenced site area).
Category II	**Modified Level D Protection**
Any person not directly involved in handling of hazardous materials whose potential for exposure to dangerous levels of hazardous materials is low. Level D protection is required.	1. Clothing suitable for ambient weather and terrain, 2. Sturdy leather or rubber boots (not street or jogging shoes), and 3. Hard hats (while inside the fenced site area).

Source: ECT, 1993.

operations in that particular area will be secured and the necessary equipment obtained before further work is performed in that area.

Category II personnel are involved in activities such that Level D protection is required. The use of sturdy leather or rubber boots is required. Clothing that is suitable for the ambient weather and terrain will be worn.

3.3 TRAFFIC

All personnel will adhere to State of Florida and city of Key West traffic regulations and exercise caution while operating motor vehicles on and around the facility.

4.0 CONTINGENCY PLANS

4.1 ACCIDENT/INCIDENT REPORTING

The accident/incident report is used to advise of accidents/incidents which occur at the facility. The report requires immediate notification to the supervisor with follow-up written notification (within 24 hours) for the following incidents: fatalities, lost-time injuries, spill of hazardous materials, theft of hazardous material, fire, explosion, property damage in excess of $300, or loss of one day's scheduled activity.

The following format shall be used to transmit the report:

1. Name and title of the person(s) reporting;
2. Date and time of the accident/incident;
3. Location of the accident/incident;
4. Brief summary of the accident/incident, giving pertinent details including type of operation ongoing at the time of the accident;
5. Cause of the accident/incident, if known;
6. Casualties (fatalities, disabling injuries);
7. Details of any existing chemical hazard or contamination;
8. Estimated property damage, if applicable;
9. Nature of the damage, effect on the work schedule; and
10. Action taken to ensure safety and security.

4.2 FIRE CONTROL

Flammable chemicals in large quantities will be encountered at this facility. No smoking should be allowed in storage or transfer areas; however, fire extinguishers, buckets, and shovels will be available. All fires will be reported immediately to the Key West NAS Fire Department (911) or (305) 293-3333.

4.3 HAZARDOUS MATERIALS CONTROL

In the event of a spill, the facility personnel are to immediately notify the QI.

4.4 EMERGENCY NUMBERS/SERVICES

Location of and access to a phone in case of emergency is provided and a map of the facility is issued to all onsite personnel. Onsite telephones are located at the KWPC Facility.

Figure 4-1 shows the locations of fire and hospital facilities in relation to the site.

Emergency Numbers are as Follows:

Fire	911 or (305) 293-3333
Police	911
Ambulance	911

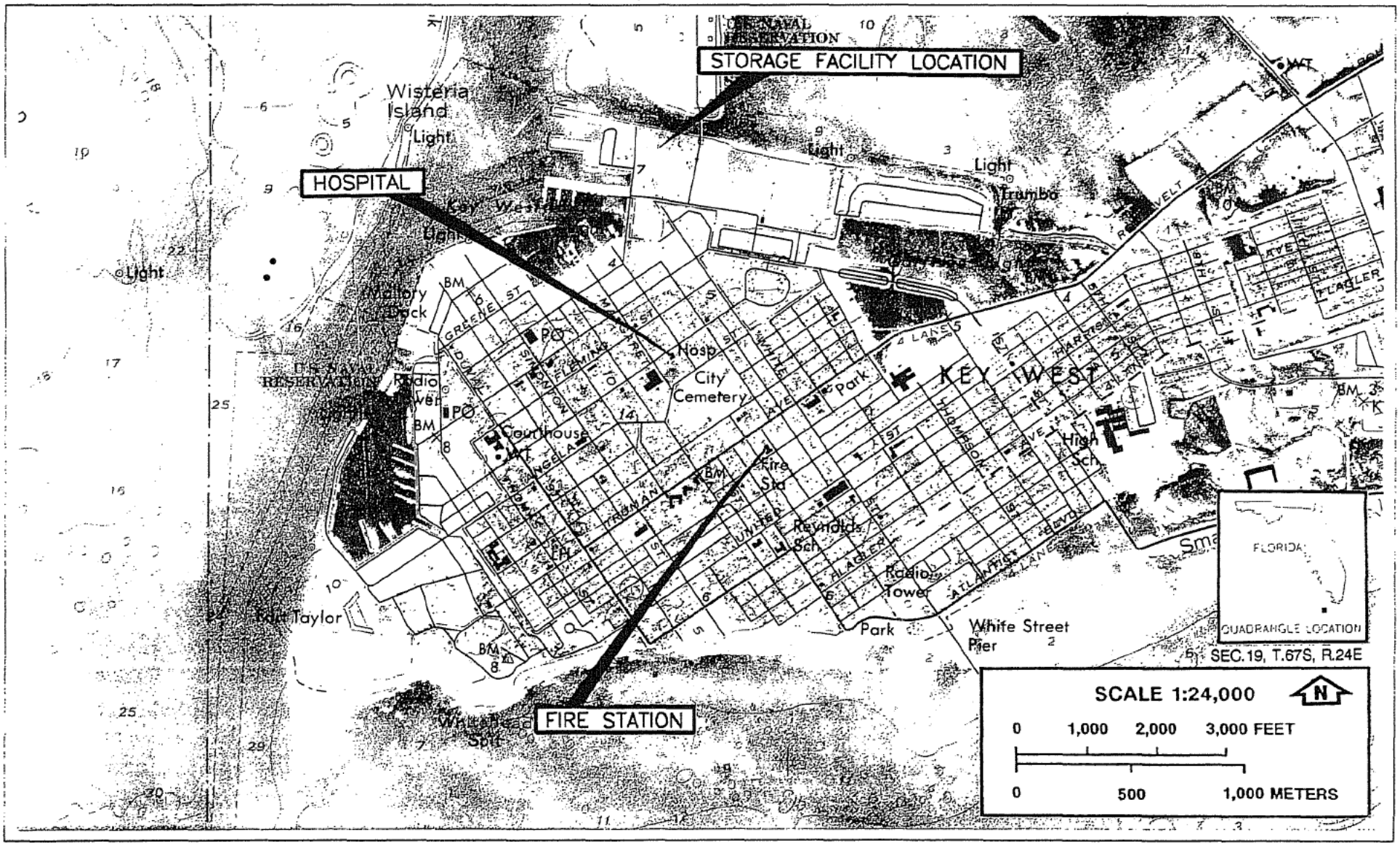

FIGURE 4-1.
SITE LOCATION MAP SHOWING HOSPITAL AND FIRE FACILITIES
HEALTH AND SAFETY PLAN
KEY WEST, FLORIDA
Source: USGS Quadrangle Map of Key West, FL, 1971; ECT, 1993.

ECT
Environmental Consulting & Technology, Inc.

MSDS Document

Product JP5

1. Chemical Product and Company Identification

Trade Name of this Product JP5

Synonyms: Turbine Fuel, Jet A-50, Jet A-1, Jet A, Aviation Jet Fuel, Kerosene

MSDS ID MSDS00014

Manufacturer
Petro Star Inc. Valdez Refinery
2 1/2 Mile Dayville Road
Valdez, AK 99705

Contact Name
Randy Maag
Phone Number
(907) 835-5063
Emergency Phone
(800) 633-8253
Revision Date 3/10/2003

2. Composition and Information on Ingredients

Ingredient	CAS Number	Weight %	ACGIH TLV	PEL	STEL
Kerosene	8008-20-6	100 %	NE	500	

3. Hazard Identification

May cause irritation to eyes, skin, nose throat. May cause burning sensation in chest and/or head. May cause nausea, weakness, restlessness, incoherence, confusion, drowsiness. Can also cause vomiting, diarrhea, dermatitis, and chemical pneumonia (aspiration of liquid), unconsciousness, and other effects, including death.
Highly flammable. Will be easily ignited by heat, sparks or flames.
Vapors may form explosive mixtures with air.
Vapors may travel to source of ignition and flash back.
Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks).
Containers may explode when heated.

Substance may be transported hot.
Fire may produce irritating, corrosive and/or toxic gases.
Vapors may cause dizziness or suffocation.
Runoff from fire control or dilution water may cause pollution.
Suspected Human Carcinogen. Human data are accepted as adequate in quality but are conflicting or insufficient to classify the agent as a confirmed human carcinogen, OR the agent is carcinogenic in experimental animals in doses, by routes of exposure, at sites, of histologic types, or by mechanisms considered relevant to worker exposure.
A potential significant contribution to the overall exposure route exists, including mucous membranes and the eyes, either by contact with vapors or of probable greater significance, by direct skin contact with the substance. Vehicles present in solutions or mixtures can also significantly enhance potential skin absorption. The development of a dermatological condition can significantly affect the potential for dermal absorption.

4. First Aid Information

Move victim to fresh air.
Apply artificial respiration (CPR) if victim is not breathing.
Administer oxygen if breathing is difficult.
Eyes: Flush with water for 15 minutes. Contact physician if irritation persists.
Skin: Remove and isolate contaminated clothing and shoes. Launder clothes before reuse. Wash skin with soap and water.
Inhalation: Remove from exposure and administer CPR and/or oxygen. Contact a physician.
Ingestion: DO NOT induce vomiting. Contact a physician.
Keep victim warm and quiet.
Ensure that medical personnel are aware of the material(s)involved, and take precautions to protect themselves.

5. Fire Fighting Measures

Flash Point	100F
FP Method	ASTM 93
LEL	0.7
UEL	5

Flash Point (Method Used): 100 F to 162 F (ASTM D93).
Flammable or Explosive Limits (% by Volume in Air): Estimated: UEL 5.0, LEL 0.7.
CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient.
Small fires: Dry chemical, CO2, water spray or regular foam.
Large fires: Water spray, fog or regular foam,. Use water spray or fog; do not use straight streams. Move containers from fire area if you can do it without risk.
Fire involving Tanks or Car/Trailer Loads: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

6. Accidental Release Measures

Spill or Leak: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded.

Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustion material and transfer to containers. Use clean non-sparking tools to collect absorbed material.
Large Spills: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor, but may not prevent ignition in closed spaces.
Waste Disposal Method: All materials affected by the spill, to include sorbent materials, earth, snow, etc. should be removed and disposed of in a manner conforming with State and Federal regulations. Use of CCROV recommended.

7. Handling and Storage

Handling: Open container slowly to relieve any pressure. Bond and ground all equipment when transferring from one vessel to another. Can accumulate static charge by flow or agitation. Refer to NFPA-704 and/or API RP-2003 for specific bonding/grounding requirements.
Do not enter confined spaces without following proper entry procedures.
Do not wear contaminated clothing or shoes. Keep contaminated clothing away from sources of ignitions such as sparks or open flames. Use good personal hygiene.
High pressure injection of hydrocarbon fuels, hydraulic oils or greases under the skin may have serious consequences even though no symptoms or injury may be apparent.
"Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. Empty drums should be completely drained, properly bunged and promptly shipped to the supplier or a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.
Before working on or in tanks which contain or have contained this material, refer to OSHA regulations, ANSI Z49.1 and other references pertaining to cleaning, repairing, welding, or other contemplated operations.
Storage: Keep container(s) tightly closed. Use and store this material in cool, dry, well-ventilated areas away from heat, direct sunlight, hot metal surfaces, and all sources of ignition. Post area "No Smoking or Open Flame." Store only in approved containers. Keep away from any incompatible material (See Section 10). Protect container(s) against physical damage. Outdoor or detached storage is preferred. Indoor storage should meet OSHA standards and appropriate fire codes.

8. Exposure Controls and Personal Protection

Engineering Controls: If current ventilation practices are not adequate to maintain airborne concentration below the established exposure limits (see Section 2) additional ventilation or exhaust systems may be required. Where explosive mixtures may be present, electrical systems safe for such locations must be used (see appropriate electrical codes),
Personal Protective Equipment (PPE):
Respiratory: A NIOSH certified air purifying respirator with an organic vapor cartridge may be used under conditions where airborne concentrations are expected to exceed exposure limits (see Section 2): Protection provided by air purifying respirators is limited. A respiratory protection program that meets OSHA's 29 CFR 1920.134 and ANSI Z88.2 requirements must be followed.
Personal Protection shall be used when the recommended exposure limit is exceeded.
NIOSH recommendations for respirator selection is listed below:
100 mg/3 - CCROV/SA

2500 mg/m3 - SA:CF/PAPROV
5000 mg/m3 - CCRF)V/GMFOV/PAPRTOV/SCBA/SAF
Emergency or planned entry into unknown concentrations or IDLH conditions - SCBA:PD,PP:ASCBA
Escape: GMFOV/SCBAE
Skin: The use of gloves impervious to the specific material handles is advised to prevent skin contact, possible irritiation and skin damage. Depending on conditions of use, apron and/or arm covers may be necessary.
Eye/Face: Approved eye protection to safeguard against potential eye contact, irritation or injury is recommended. Depending on conditions of use, a face shield may be necessary.
Other Protective Equipment: A source of clean water should be available i the work area for flushing eyes and skin. Impervious clothing should be worn as needed. An oil -resistant apron to prevent repeated or prolonged contact may be required.

9. Physical and Chemical Properties

Physical State	Liquid
Specific Gravity	0.835
Density lbs/Gal.	5.8
Color/Appearance	Colorless to yellowish, oily liquid
Odor	diesel
Boiling/Cond. Point	347
Melting/Freezing Point	-80
Solubility	Insoluble
Evaporation Rate	0.04
Percent Volatile	100
Vapor Density	5.8
Vapor Pressure	<5MM Hg

Boiling Range: 347F to 617F.
Vapor Pressure (MM Hg): Less than 5 MM Hg @ 100 F.
Vapor Density: (Air@1): 5.8
Solubility in Water: Insoluble
Appearance and Odor: Colorless to yellowish, oily liquid with a strong characteristic odor.
Specific Gravity (H2O=1): 0.835 - 0.850
Percent Volatile by Volume (%): 100
Evaporation Rate (n-Butyl acetate=1): 0.04

10. Stability and Reactivity

Stability: Stable
Incompatibility (Materials to Avoid): Strong oxidizers such as chlorine and concentrated oxygen.
Hazardous Decomposition Products: Products of combustion should be avoided as they are potentially carcinogenic, according to ACGIH (American Conference of Governmental Industrial Hygienists).

11. Toxicological Information

Limited quantitative data exists with regard to skin absorption of gases, vapors, and liquids by workers. The Chemical Substances TLV Committee recommends that the integration of data from acute dermal studies and repeated dose dermal studies in animals and/or humans, along with the ability of the chemical to be absorbed, be used in deciding on the appropriateness of the skin notation. In general, available data which suggest that the potential for absorption via the hands/forearms during the workday could be significant,

especially for chemicals with lower TLVs.
Substances having a skin notation and a low TLV may present special problems for operations involving high airborne concentrations of the material, particularly under conditions where significant areas of the skin are exposed for a long period of time. Under these conditions, special precautions to significantly reduce or preclude skin contact may be required.
Biological monitoring should be considered to determine the relative contribution of exposure via the dermal route to the total dose.
It is believed that air sampling alone is insufficient to accurately quantitate exposure and that measures to prevent significant cutaneous absorption may be required.
Confirmed Animal Carcinogen with Unknown Relevance to Humans: The agent is carcinogenic in experimental animals at relatively high dose, by routes of administration, at sites, of histological types, or by mechanisms that may not be relevant to worker exposure. Available epidemiologic studies do not confirm an increased risk of cancer in exposed humans. Available evidence does not suggest that the agent is likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure. (ACGIH, 2001 TLVs and BEIs).

12. Ecological Information

None listed.

13. Disposal Considerations

All materials affected by the spill, to include sorbent materials, earth, snow, etc., should be removed and disposed of in a manner conforming with State and Federal regulations.

14. Transportation Information

DOT Proper Shipping Name/Technical Name: Fuel, aviation, turbine engine; or Combustible Liquid, UN1863, III*
Hazard Class: III*
UN/NA No: UN 1863*
Packaging Group: III
Non-Bulk Package Label: Flammable or Combustible*
Hazardous Substance/RQ: None
Packaging References: 49 CFR 173.150, 173.203, 173.241
NOTE: *This product may be reclassed as a combustible liquid when shipped domestically or by rail or highway. If reclassed as a combustible liquid, this product is not regulated by DOT when shipped in non-bulk packages.
IATA Shipping Information:
Proper Shipping Name: Fuel, aviation, turbine engine
Hazard Class: 3
UN/NA No: UN 1863
Packaging Group: II

15. Regulatory Information

EPA SARA 311/312 (Title III Hazard Categories):
Acute Health: Yes
Chronic Health: Yes
Fire Hazard: Yes
Pressure Hazard: No

Reactive Hazard: No
This material has not been identified as a carcinogen by NTP, IARC, or OSHA.
EPA (CERCLA) Reportable Quantity: None
Canada Domestic Substances List: Listed
WHMIS Class: B3 Combustible Liquid
D2B-Materials causing other toxic effects - Toxic Material

16. Other Information

4/28/03 Revision: Verified and revised Transportation Information

JET FUELS: JP-5

JPV

CAUTIONARY RESPONSE INFORMATION

Common Synonyms			
Kerosene, heavy	Liquid	Colorless	Fuel oil odor
	Floats on water.		

Keep people away. Avoid contact with liquid.
Shut off ignition sources and call fire department.
Notify local health and pollution control agencies.

Fire

Combustible.
Extinguish with dry chemical, foam, or carbon dioxide.
Water may be ineffective on fire.
Cool exposed containers with water.

Exposure

CALL FOR MEDICAL AID.

LIQUID
Irritating to skin and eyes.
Harmful if swallowed.
Remove contaminated clothing and shoes.
Flush affected areas with plenty of water.
IF IN EYES, hold eyelids open and flush with plenty of water.
IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.
DO NOT INDUCE VOMITING.

Water Pollution

Dangerous to aquatic life in high concentrations.
Fouling to shoreline.
May be dangerous if it enters water intakes.
Notify local health and wildlife officials.
Notify operators of nearby water intakes.

1. CORRECTIVE RESPONSE ACTIONS

Stop discharge
Contain
Collection Systems: Skim
Chemical and Physical Treatment: Burn
Clean shore line
Salvage waterfowl

2. CHEMICAL DESIGNATIONS

2.1 CG Compatibility Group: 33; Miscellaneous Hydrocarbon Mixtures
2.2 Formula: Not pertinent
2.3 IMO/UN Designation: 3.3/2761
2.4 DOT ID No.: 1863
2.5 CAS Registry No.: Currently not available
2.6 NAERG Guide No.: 128
2.7 Standard Industrial Trade Classification: 33412

3. HEALTH HAZARDS

3.1 Personal Protective Equipment: Protective gloves; goggles or face shield.
3.2 Symptoms Following Exposure: Vapor causes slight irritation of eyes and nose. Liquid irritates stomach; if taken into lungs, causes coughing, distress, and rapidly developing pulmonary edema.
3.3 Treatment of Exposure: ASPIRATION: Enforce bed rest; administer oxygen; call a doctor. INGESTION: Do NOT induce vomiting; call a doctor. EYES: Wash with plenty of water. SKIN: wipe off and wash with soap and water.
3.4 TLV-TWA: Not listed.
3.5 TLV-STEL: Not listed.
3.6 TLV-Ceiling: Not listed.
3.7 Toxicity by Ingestion: Grade 2; LD_{50} = 0.5 to 5 g/kg
3.8 Toxicity by Inhalation: Currently not available.
3.9 Chronic Toxicity: Currently not available
3.10 Vapor (Gas) Irritant Characteristics: Vapors cause a slight smarting of the eyes or respiratory system if present in high concentrations. The effect is temporary.
3.11 Liquid or Solid Characteristics: Minimum hazard. If spilled on clothing and allowed to remain, may cause smarting and reddening of the skin.
3.12 Odor Threshold: 1 ppm
3.13 IDLH Value: Not listed.
3.14 OSHA PEL-TWA: Not listed.
3.15 OSHA PEL-STEL: Not listed.
3.16 OSHA PEL-Ceiling: Not listed.
3.17 EPA AEGL: Not listed

4. FIRE HAZARDS

4.1 Flash Point: 140 F (min.)C.C.
4.2 Flammable Limits in Air: 0.6%-4.6%
4.3 Fire Extinguishing Agents: Foam, dry chemical, or carbon dioxide
4.4 Fire Extinguishing Agents Not to Be Used: Water may be ineffective
4.5 Special Hazards of Combustion Products: Not pertinent
4.6 Behavior in Fire: Not pertinent
4.7 Auto Ignition Temperature: 475 F
4.8 Electrical Hazards: Not pertinent
4.9 Burning Rate: 4 mm/min.
4.10 Adiabatic Flame Temperature: Currently not available
4.11 Stoichometric Air to Fuel Ratio: Not pertinent.
4.12 Flame Temperature: Currently not available
4.13 Combustion Molar Ratio (Reactant to Product): Not pertinent.
4.14 Minimum Oxygen Concentration for Combustion (MOCC): Not listed

5. CHEMICAL REACTIVITY

5.1 Reactivity with Water: No reaction
5.2 Reactivity with Common Materials: No reaction
5.3 Stability During Transport: Stable
5.4 Neutralizing Agents for Acids and Caustics: Not pertinent
5.5 Polymerization: Not pertinent
5.6 Inhibitor of Polymerization: Not pertinent

6. WATER POLLUTION

6.1 Aquatic Toxicity: 500 ppm/*/salmon fingerling/lethal/ fresh water
*Time period not specified
6.2 Waterfowl Toxicity: Currently not available
6.3 Biological Oxygen Demand (BOD): 53%, 5 days
6.4 Food Chain Concentration Potential: None
6.5 GESAMP Hazard Profile: Not listed

7. SHIPPING INFORMATION

7.1 Grades of Purity: 100%
7.2 Storage Temperature: Ambient
7.3 Inert Atmosphere: No requirement
7.4 Venting: Open (flame arrester)
7.5 IMO Pollution Category: Currently not available
7.6 Ship Type: Currently not available
7.7 Barge Hull Type: Currently not available

8. HAZARD CLASSIFICATIONS

8.1 49 CFR Category: Flammable liquid
8.2 49 CFR Class: 3
8.3 49 CFR Package Group: III
8.4 Marine Pollutant: No
8.5 NFPA Hazard Classification:

Category	Classification
Health Hazard (Blue)	0
Flammability (Red)	2
Instability (Yellow)	0

8.6 EPA Reportable Quantity: Not listed.
8.7 EPA Pollution Category: Not listed.
8.8 RCRA Waste Number: Not listed
8.9 EPA FWPCA List: Not listed

9. PHYSICAL & CHEMICAL PROPERTIES

9.1 Physical State at 15° C and 1 atm: Liquid
9.2 Molecular Weight: Not pertinent
9.3 Boiling Point at 1 atm: 349-549 F = 176-287 C = 449-560 K
9.4 Freezing Point: <-54 F = <--48 C = <--225 K
9.5 Critical Temperature: Not pertinent
9.6 Critical Pressure: Not pertinent
9.7 Specific Gravity: 0.82 at 15 C (liquid)
9.8 Liquid Surface Tension: (est.) 25 dynes/cm = 0.025 N/m at 20 C
9.9 Liquid Water Interfacial Tension: (est.) 50 dynes/cm = 0.05 N/m at 20 C
9.10 Vapor (Gas) Specific Gravity: Not pertinent
9.11 Ratio of Specific Heats of Vapor (Gas): Not pertinent
9.12 Latent Heat of Vaporization: 140 Btu/lb = 78 cal/g = 3.3 X 10^5 J/kg
9.13 Heat of Combustion: –18,540 Btu/lb = –10,300 cal/g = –431.24 X 10^5 J/kg
9.14 Heat of Decomposition: Not pertinent
9.15 Heat of Solution: Not pertinent
9.16 Heat of Polymerization: Not pertinent
9.17 Heat of Fusion: Currently not available
9.18 Limiting Value: Currently not available
9.19 Reid Vapor Pressure: Currently not available

NOTES

JET FUELS: JP-5

JPV

9.20 SATURATED LIQUID DENSITY

Temperature (degrees F)	Pounds per cubic foot
34	52.370
36	52.300
38	52.230
40	52.160
42	52.090
44	52.020
46	51.950
48	51.880
50	51.810
52	51.740
54	51.670
56	51.600
58	51.530
60	51.460
62	51.390
64	51.330
66	51.260
68	51.190
70	51.120
72	51.050
74	50.980
76	50.910
78	50.840
80	50.770
82	50.700
84	50.630

9.21 LIQUID HEAT CAPACITY

Temperature (degrees F)	British thermal unit per pound-F
0	0.444
10	0.449
20	0.454
30	0.459
40	0.464
50	0.469
60	0.474
70	0.479
80	0.484
90	0.489
100	0.494
110	0.499
120	0.504
130	0.509
140	0.514
150	0.519
160	0.524
170	0.529
180	0.534
190	0.539
200	0.544
210	0.549

9.22 LIQUID THERMAL CONDUCTIVITY

Temperature (degrees F)	British thermal unit inch per hour-square foot-F
0	0.926
10	0.924
20	0.921
30	0.919
40	0.917
50	0.915
60	0.913
70	0.911
80	0.909
90	0.907
100	0.905
110	0.903
120	0.901
130	0.899
140	0.897
150	0.895
160	0.893
170	0.891
180	0.889
190	0.887
200	0.885
210	0.883

9.23 LIQUID VISCOSITY

Temperature (degrees F)	Centipoise
-35	10.600
-30	9.614
-25	8.739
-20	7.960
-15	7.266
-10	6.646
-5	6.090
0	5.592
5	5.144
10	4.740
15	4.376
20	4.046
25	3.747
30	3.476
35	3.229
40	3.004
45	2.799
50	2.612
55	2.440
60	2.282
65	2.138
70	2.005
75	1.883

9.24 SOLUBILITY IN WATER

Temperature (degrees F)	Pounds per 100 pounds of water
	INSOLUBLE

9.25 SATURATED VAPOR PRESSURE

Temperature (degrees F)	Pounds per square inch
130	0.101
140	0.130
150	0.166
160	0.210
170	0.264
180	0.330
190	0.409
200	0.504
210	0.616
220	0.750
230	0.907
240	1.091
250	1.306
260	1.555
270	1.843
280	2.174
290	2.553
300	2.986

9.26 SATURATED VAPOR DENSITY

Temperature (degrees F)	Pounds per cubic foot
	NOT PERTINENT

9.27 IDEAL GAS HEAT CAPACITY

Temperature (degrees F)	British thermal unit per pound-F
	CURRENTLY NOT AVAILABLE

DIETHYLENE GLYCOL MONOMETHYL ETHER

DGM

CAUTIONARY RESPONSE INFORMATION

Common Synonyms
Diethylene glycol methyl ether
Dowanol DM
2-(2-Methoxyethoxy)-ethanol
Methyl carbitol
Poly-solv DM

Liquid Colorless Pleasant odor

Floats and mixes with water.

Call fire department.
Avoid contact with liquid.
Notify local health and pollution control agencies.
Protect water intakes.

Fire

Combustible.
Extinguish with dry chemical, water, or carbon dioxide.
Cool exposed containers with water.

Exposure

CALL FOR MEDICAL AID.

LIQUID
Irritating to eyes.
Harmful if swallowed.
IF IN EYES, hold eyelids open and flush with plenty of water.
IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.

Water Pollution

Effect of low concentrations on aquatic life is unknown.
May be dangerous if it enters water intakes.
Notify local health and wildlife officials.
Notify operators of nearby water intakes.

1. CORRECTIVE RESPONSE ACTIONS

Dilute and disperse
Stop discharge

2. CHEMICAL DESIGNATIONS

2.1 CG Compatibility Group: 40; Glycol ether
2.2 Formula: $CH_3OCH_2CH_2OCH_2CH_2OH$
2.3 IMO/UN Designation: Not listed
2.4 DOT ID No.: Not listed
2.5 CAS Registry No.: 111-77-3
2.6 NAERG Guide No.: Not listed
2.7 Standard Industrial Trade Classification: 51616

3. HEALTH HAZARDS

3.1 Personal Protective Equipment: Safety goggles.
3.2 Symptoms Following Exposure: Liquid may irritate eyes.
3.3 Treatment of Exposure: SKIN OR EYES: Flush with water
3.4 TLV-TWA: Not listed.
3.5 TLV-STEL: Not listed.
3.6 TLV-Ceiling: Not listed.
3.7 Toxicity by Ingestion: Grade 2; LD_{50} = 0.5 to 5 g/kg (guinea pig)
3.8 Toxicity by Inhalation: Currently not available.
3.9 Chronic Toxicity: Currently not available
3.10 Vapor (Gas) Irritant Characteristics: None
3.11 Liquid or Solid Characteristics: None
3.12 Odor Threshold: Currently not available
3.13 IDLH Value: Not listed.
3.14 OSHA PEL-TWA: Not listed.
3.15 OSHA PEL-STEL: Not listed.
3.16 OSHA PEL-Ceiling: Not listed.
3.17 EPA AEGL: Not listed

4. FIRE HAZARDS

4.1 Flash Point: 200 F O.C.
4.2 Flammable Limits in Air: LFL = 1.2%
4.3 Fire Extinguishing Agents: Water, carbon dioxide, or dry chemical
4.4 Fire Extinguishing Agents Not to Be Used: Not pertinent
4.5 Special Hazards of Combustion Products: Not pertinent
4.6 Behavior in Fire: Not pertinent
4.7 Auto Ignition Temperature: Currently not available
4.8 Electrical Hazards: Not pertinent
4.9 Burning Rate: Currently not available
4.10 Adiabatic Flame Temperature: Currently not available
4.11 Stoichometric Air to Fuel Ratio: 30.9 (calc.)
4.12 Flame Temperature: Currently not available
4.13 Combustion Molar Ratio (Reactant to Product): 11.0 (calc.)
4.14 Minimum Oxygen Concentration for Combustion (MOCC): Not listed

5. CHEMICAL REACTIVITY

5.1 Reactivity with Water: No reaction
5.2 Reactivity with Common Materials: No reaction
5.3 Stability During Transport: Stable
5.4 Neutralizing Agents for Acids and Caustics: Not pertinent
5.5 Polymerization: Not pertinent
5.6 Inhibitor of Polymerization: Not pertinent

6. WATER POLLUTION

6.1 Aquatic Toxicity: Currently not available
6.2 Waterfowl Toxicity: Currently not available
6.3 Biological Oxygen Demand (BOD): 34% of theoretical in 5 days
6.4 Food Chain Concentration Potential: None
6.5 GESAMP Hazard Profile:
Bioaccumulation: 0
Damage to living resources: 0
Human Oral hazard: 1
Human Contact hazard: I
Reduction of amenities: X

7. SHIPPING INFORMATION

7.1 Grades of Purity: Commercial
7.2 Storage Temperature: Ambient
7.3 Inert Atmosphere: No requirement
7.4 Venting: Open (flame arrester)
7.5 IMO Pollution Category: D
7.6 Ship Type: Data not avaialable
7.7 Barge Hull Type: Currently not available

8. HAZARD CLASSIFICATIONS

8.1 49 CFR Category: Not listed
8.2 49 CFR Class: Not pertinent
8.3 49 CFR Package Group: Not listed.
8.4 Marine Pollutant: No
8.5 NFPA Hazard Classification:

Category	Classification
Health Hazard (Blue)	1
Flammability (Red)	1
Instability (Yellow)	0

8.6 EPA Reportable Quantity: Not listed.
8.7 EPA Pollution Category: Not listed.
8.8 RCRA Waste Number: Not listed
8.9 EPA FWPCA List: Not listed

9. PHYSICAL & CHEMICAL PROPERTIES

9.1 Physical State at 15° C and 1 atm: Liquid
9.2 Molecular Weight: 120.15
9.3 Boiling Point at 1 atm: 381 F = 194 C = 467 K
9.4 Freezing Point: –120 F = –85 C = 188 K
9.5 Critical Temperature: Not pertinent
9.6 Critical Pressure: Not pertinent
9.7 Specific Gravity: 1.025 at 20 C (liquid)
9.8 Liquid Surface Tension: Not pertinent
9.9 Liquid Water Interfacial Tension: Not pertinent
9.10 Vapor (Gas) Specific Gravity: Not pertinent
9.11 Ratio of Specific Heats of Vapor (Gas): Not pertinent
9.12 Latent Heat of Vaporization: 160 Btu/lb = 90 cal/g = 3.8 X 10^5 J/kg
9.13 Heat of Combustion: –10,830 Btu/lb = –6020 cal/g = –252 X 10^5 J/kg
9.14 Heat of Decomposition: Not pertinent
9.15 Heat of Solution: Not pertinent
9.16 Heat of Polymerization: Not pertinent
9.17 Heat of Fusion: Currently not available
9.18 Limiting Value: Currently not available
9.19 Reid Vapor Pressure: 0.01 psia

NOTES

DIETHYLENE GLYCOL MONOMETHYL ETHER

DGM

9.20 SATURATED LIQUID DENSITY		9.21 LIQUID HEAT CAPACITY		9.22 LIQUID THERMAL CONDUCTIVITY		9.23 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit inch per hour-square foot-F	Temperature (degrees F)	Centipoise
52	64.540	85	0.518		N		N
54	64.469	90	0.521		O		O
56	64.400	95	0.524		T		T
58	64.330	100	0.527				
60	64.259	105	0.529		P		P
62	64.190	110	0.532		E		E
64	64.120	115	0.535		R		R
66	64.049	120	0.538		T		T
68	63.980	125	0.541		I		I
70	63.910	130	0.543		N		N
72	63.840	135	0.546		E		E
74	63.780	140	0.549		N		N
76	63.710	145	0.552		T		T
78	63.640	150	0.554				
80	63.570						
82	63.500						
84	63.430						
86	63.360						

9.24 SOLUBILITY IN WATER		9.25 SATURATED VAPOR PRESSURE		9.26 SATURATED VAPOR DENSITY		9.27 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
	M	60	0.003	60	0.00006		N
	I	80	0.006	80	0.00013		O
	S	100	0.014	100	0.00027		T
	C	120	0.028	120	0.00054		
	I	140	0.055	140	0.00103		P
	B	160	0.103	160	0.00186		E
	L	180	0.186	180	0.00326		R
	E	200	0.324	200	0.00550		T
		220	0.545	220	0.00898		I
		240	0.892	240	0.01426		N
		260	1.418	260	0.02206		E
		280	2.200	280	0.03330		N
		300	3.335	300	0.04914		T
		320	4.949	320	0.07104		
		340	7.199	340	0.10080		
		360	10.280	360	0.14040		
		380	14.440	380	0.19250		

MATHESON TRI•GAS
ask. . .The Gas Professionals™

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MATHESON TRI-GAS, INC.
150 Allen Road Suite 302
Basking Ridge, New Jersey 07920
Information: 1-800-416-2505

Emergency Contact:
CHEMTREC 1-800-424-9300
Calls Originating Outside the US:
703-527-3887 (Collect Calls Accepted)

SUBSTANCE: ETHYLENE GLYCOL MONOMETHYL ETHER

TRADE NAMES/SYNONYMS:
MTG MSDS 218; ETHYLENE GLYCOL METHYL ETHER; GLYCOL METHYL ETHER; METHOXYETHANOL; BETA-METHOXYETHANOL; 2-METHOXYETHANOL; 2-METHOXYETHYL ALCOHOL; METHOXYETHYLENE GLYCOL; METHOXYHYDROXYETHANE; METHYL CELLOSOLVE; METHYL GLYCOL; METHYL OXITOL; MONOMETHYLGLYCOL; UN 1188; C3H8O2; MAT14340; RTECS KL5775000

CHEMICAL FAMILY: glycol ethers

CREATION DATE: Jan 24 1989
REVISION DATE: Dec 11 2008

2. COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT: ETHYLENE GLYCOL MONOMETHYL ETHER
CAS NUMBER: 109-86-4
PERCENTAGE: 100.0

3. HAZARDS IDENTIFICATION

NFPA RATINGS (SCALE 0-4): HEALTH=2 FIRE=2 REACTIVITY=0

EMERGENCY OVERVIEW:
COLOR: colorless
PHYSICAL FORM: liquid
ODOR: pleasant odor
MAJOR HEALTH HAZARDS: central nervous system depression, kidney damage
PHYSICAL HAZARDS: Combustible liquid and vapor.

POTENTIAL HEALTH EFFECTS:

INHALATION:
SHORT TERM EXPOSURE: irritation, headache, drowsiness, dizziness, loss of coordination
LONG TERM EXPOSURE: same as effects reported in short term exposure, nausea, vomiting, diarrhea, loss of appetite, weight loss, headache, fatigue, disorientation, difficulty speaking, emotional disturbances, tremors, hearing loss, visual disturbances, sterility, blood disorders, bone disorders, kidney damage, reproductive effects, brain damage
SKIN CONTACT:
SHORT TERM EXPOSURE: same as effects reported in short term inhalation
LONG TERM EXPOSURE: same as effects reported in long term inhalation
EYE CONTACT:
SHORT TERM EXPOSURE: irritation
LONG TERM EXPOSURE: irritation
INGESTION:
SHORT TERM EXPOSURE: nausea, vomiting, disorientation, internal bleeding, kidney damage, liver damage, effects on the brain, coma
LONG TERM EXPOSURE: kidney damage, reproductive effects

4. FIRST AID MEASURES

INHALATION: If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention.

SKIN CONTACT: Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.

EYE CONTACT: Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

INGESTION: If vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately.

NOTE TO PHYSICIAN: For ingestion, consider gastric lavage. Consider oxygen.

5. FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARDS: Moderate fire hazard. Vapor/air mixtures are explosive above flash point.

EXTINGUISHING MEDIA: alcohol-resistant foam, carbon dioxide, regular dry chemical, water, alcohol-resistant foam

Large fires: Use alcohol-resistant foam or flood with fine water spray.

FIRE FIGHTING: Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For tank, rail car or tank truck: Evacuation radius: 800 meters (1/2 mile).

FLASH POINT: 102 F (39 C) (CC)
LOWER FLAMMABLE LIMIT: 1.8%
UPPER FLAMMABLE LIMIT: 14%
AUTOIGNITION: 545 F (285 C)
FLAMMABILITY CLASS (OSHA): II

6. ACCIDENTAL RELEASE MEASURES

WATER RELEASE:
Subject to California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65). Keep out of water supplies and sewers.

OCCUPATIONAL RELEASE:
Avoid heat, flames, sparks and other sources of ignition. Remove sources of ignition. Stop leak if possible without personal risk. Reduce vapors with water spray. Small spills: Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Large spills: Dike for later disposal. Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas.

7. HANDLING AND STORAGE

STORAGE: Store and handle in accordance with all current regulations and standards. Subject to storage regulations: U.S. OSHA 29 CFR 1910.106. Grounding and bonding required. May form peroxides during prolonged storage. Store in a tightly closed container. Avoid contact with light. Store in a cool, dry place. Check peroxide content before use. Do not evaporate or distill to dryness. Keep separated from incompatible substances.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS:
ETHYLENE GLYCOL MONOMETHYL ETHER:
2-METHOXYETHANOL (EGME):
25 ppm (80 mg/m3) OSHA TWA (skin)
0.1 ppm ACGIH TWA (skin)
0.1 ppm (0.3 mg/m3) NIOSH recommended TWA 10 hour(s) (skin)

VENTILATION: Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

EYE PROTECTION: Wear splash resistant safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

CLOTHING: Wear appropriate chemical resistant clothing.

GLOVES: Wear appropriate chemical resistant gloves.

RESPIRATOR: The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA.
1 ppm
Any supplied-air respirator.
2.5 ppm
Any supplied-air respirator operated in a continuous-flow mode.
5 ppm
Any self-contained breathing apparatus with a full facepiece.
Any supplied-air respirator with a full facepiece.
100 ppm
Any supplied-air respirator operated in a pressure-demand or other positive-pressure mode.
200 ppm
Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode.
Emergency or planned entry into unknown concentrations or IDLH conditions -
Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.
Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.
Escape -
Any air-purifying full-facepiece respirator (gas mask) with a chin-style, front-mounted or back-mounted organic vapor canister.
Any appropriate escape-type, self-contained breathing apparatus.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: liquid
COLOR: colorless
ODOR: pleasant odor
MOLECULAR WEIGHT: 76.10
MOLECULAR FORMULA: H-O-C-H2-C-H2-O-C-H3
BOILING POINT: 255 F (124 C)
FREEZING POINT: -121 F (-85 C)
VAPOR PRESSURE: 9.7 mmHg @ 20 C
VAPOR DENSITY (air=1): 2.6

SPECIFIC GRAVITY (water=1): 0.9647
WATER SOLUBILITY: soluble
PH: Not available
VOLATILITY: Not available
ODOR THRESHOLD: 60 ppm
EVAPORATION RATE: Not available
VISCOSITY: 0.85 cP @ 16 C
COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available
SOLVENT SOLUBILITY:
Soluble: alcohol, ether, acetone, benzene, glycerol, dimethylformamide

10. STABILITY AND REACTIVITY

REACTIVITY: May form explosive peroxides. Avoid prolonged storage or contact with air, light or storage and use above room temperature.

CONDITIONS TO AVOID: Avoid heat, flames, sparks and other sources of ignition. Containers may rupture or explode if exposed to heat.

INCOMPATIBILITIES: bases, oxidizing materials, combustible materials

HAZARDOUS DECOMPOSITION:
Thermal decomposition products: oxides of carbon

POLYMERIZATION: Will not polymerize.

11. TOXICOLOGICAL INFORMATION

ETHYLENE GLYCOL MONOMETHYL ETHER:
IRRITATION DATA: 483 mg/24 hour(s) skin-rabbit mild; 97 mg eyes-rabbit; 500 mg/24 hour(s) eyes-rabbit mild; 10 ug eyes-guinea pig mild
TOXICITY DATA: 1500 ppm/7 hour(s) inhalation-rat LC50; 1280 mg/kg skin-rabbit LD50; 2370 mg/kg oral-rat LD50
ACUTE TOXICITY LEVEL:
Moderately Toxic: inhalation, dermal absorption, ingestion
TARGET ORGANS: central nervous system, kidneys
MUTAGENIC DATA: Available.
REPRODUCTIVE EFFECTS DATA: Available.

12. ECOLOGICAL INFORMATION

ECOTOXICITY DATA:
FISH TOXICITY: 1000000 ug/L 96 hour(s) LC50 (Mortality) Bluegill (Lepomis macrochirus)

INVERTEBRATE TOXICITY: 23440 ug/L 48 hour(s) LC50 (Mortality) Mussel (Lamellidens marginalis)

ALGAL TOXICITY: >4000 ug/L 72 hour(s) EC50 (Growth) Blue-green algae (Anabaena flosaquae)

FATE AND TRANSPORT:
BIOCONCENTRATION: 1692 ug/L 4 hour(s) BCF (Residue) Rainbow trout,donaldson trout (Oncorhynchus mykiss) 4.2 ug/L

ENVIRONMENTAL SUMMARY: Harmful to aquatic life.

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001.

14. TRANSPORT INFORMATION

U.S. DOT 49 CFR 172.101:
PROPER SHIPPING NAME: Ethylene glycol monomethyl ether
ID NUMBER: UN1188
HAZARD CLASS OR DIVISION: 3
PACKING GROUP: III
LABELING REQUIREMENTS: 3

CANADIAN TRANSPORTATION OF DANGEROUS GOODS:
SHIPPING NAME: Ethylene glycol monomethyl ether
UN NUMBER: UN1188
CLASS: 3
PACKING GROUP/CATEGORY: III

15. REGULATORY INFORMATION

U.S. REGULATIONS:
CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4): Not regulated.

SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355 Subpart B): Not regulated.

SARA TITLE III SECTION 304 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355 Subpart C): Not regulated.

SARA TITLE III SARA SECTIONS 311/312 HAZARDOUS CATEGORIES (40 CFR 370 Subparts B

and C):
ACUTE: Yes
CHRONIC: Yes
FIRE: Yes
REACTIVE: No
SUDDEN RELEASE: No

SARA TITLE III SECTION 313 (40 CFR 372.65):
2-METHOXYETHANOL (EGME)

OSHA PROCESS SAFETY (29 CFR 1910.119): Not regulated.

STATE REGULATIONS:
California Proposition 65:
Known to the state of California to cause the following:
2-METHOXYETHANOL (EGME)
Developmental toxicity (Jan 01, 1989)
Male reproductive toxicity (Jan 01, 1989)

CANADIAN REGULATIONS:
WHMIS CLASSIFICATION: Not determined.

NATIONAL INVENTORY STATUS:
U.S. INVENTORY (TSCA): Listed on inventory.

TSCA 12(b) EXPORT NOTIFICATION:
2-METHOXYETHANOL
CAS NUMBER: 109-86-4
SECTION 5

CANADA INVENTORY (DSL/NDSL): Not determined.

16. OTHER INFORMATION

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RESULTING FROM ANY PUBLICATION, USE OR RELIANCE UPON THE INFORMATION HEREIN.

APPENDIX F

TRAINING & DRILL DOCUMENTATION FORMS

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DISCHARGE PREVENTION MEETING
Key West Pipeline Company

Date: _____

Attendees:

Subject/Issues Identified	Required Action	Implementation Date

PERSONNEL TRAINING RECORD

I hereby certify that I have received training in the operation of this facility, including, but not limited to, the operation of emergency equipment and the procedures to follow in the event of an emergency or oil spill.

DATE	TYPE OF TRAINING	SIGNATURE AND TITLE

I hereby certify that I have taken part in an annual review of the SPCC Plan and training required to operate this facility:

DATE	SIGNATURE AND TITLE

PERSONNEL TRAINING
Key West Pipeline Company

Name	Response Training Date and Number of Hours	Prevention Training Date and Number of Hours
Robert S. Jason David Gonzalez David Hahn	Aug 4-5-6,2009 19 hrs	Aug 4, 2009 8 hrs
C.J. Behrans	8 Jun through 11 Jun 2010	8 June – 11June 32hrs
Robert Jason David Gonzalez David Hahn		June 7, 2010 8 hrs June 7, 2010 8 hrs March, 2010 8 hrs

Date of Last Update: May 17, 2010

Drill Documentation Forms

EQUIPMENT DEPLOYMENT DRILL DOCUMENTATION FORM

SECTION I: DRILL INFORMATION

FACILITY NAME: _____ PREPARED BY: _____

DATE OF DRILL: _____ _____TIME DRILL STARTED: _____

TIME DRILL COMPLETED: _____

ANNOUNCED DRILL:_____ UNANNOUNCED DRILL: _____

IS DRILL IN CONJUNCTION WITH OTHER EXERCISE? _____YES / NO

IF YES, WHAT TYPE OF DRILL _____

IS THIS AN EXERCISE OR ACTUAL RESPONSE? _____

ATTACH DRILL SCENARIO IF APPROPRIATE

SECTION II: DRILL OBJECTIVES

CHECK EACH OBJECTIVE DEMONSTRATED DURING THE DRILL:

_____DEMONSTRATE ABILITY OF RESPONSE TEAM TO ORGANIZE IN ACCORDANCE WITH THE RESPONSE PLAN

_____ENSURE EQUIPMENT IS IN PROPER WORKING ORDER

_____DEMONSTRATE ABILITY OF RESPONSE PERSONNEL TO DEPLOY AND OPERATE EQUIPMENT

ATTACH A COMPLETED ICS 201 INITIAL INCIDENT BRIEFING FORM TO DOCUMENT EACH TYPE OF EQUIPMENT DEPLOYED, WHERE IT WAS DEPLOYED AND THE EQUIPMENTS OPERATIONAL STATUS.

NOTE: THE FOLLOWING EQUIPMENT MUST BE DEPLOYED. 1000 FEET OF EACH TYPE OF BOOM IN INVENTORY AND ONE OF EACH TYPE OF SKIMMING SYSTEM.

DESCRIBE EXERCISE OBJECTIVES:

SECTION III: DRILL EVALUATION & RESULTS

THE FOLLOWING QUESTIONS WILL BE COMPLETED BY THE DRILL EVALUATOR (A NO ANSWER REQUIRES A COMMENT)

1. DID RESPONSE TEAM ORGANIZE AND IMPLEMENT THE INCIDENT COMMAND SYSTEM?

YES NO

_____

_____

_____

EQUIPMENT DEPLOYMENT DRILL DOCUMENTATION FORM

2. DID THE RESPONSE TEAM DEMONSTRATE THEIR ABILITY TO DEPLOY AND OPERATE THE EQUIPMENT IN ITS INTENDED OPERATING ENVIRONMENT?

YES NO

3. DID THE EQUIPMENT OPERATE PROPERLY?

YES NO

EVALUATOR'S SUMMARY (PROVIDE COMMENTS RELATIVE TO OBJECTIVES, LESSONS LEARNED, ISSUES REQUIRING RESOLUTION, ETC.)

COMMENTS CAN BE PROVIDED BELOW OR AS AN ATTACHMENT:

SECTION IV: DRILL CERTIFICATION

I CERTIFY THAT THE DRILL WAS COMPLETED, THAT THE RESPONSE PLAN OBJECTIVES AS INDICATED IN SECTION II WERE EXERCISED AND THAT THE DRILL WAS EVALUATED IN ACCORDANCE WITH THE PREP GUIDELINES.

PRINT NAME PRINT TITLE

SIGNATURE DATE

EMERGENCY PROCEDURES EXERCISE DOCUMENTATION FORM

(OPTIONAL)

SECTION I: DRILL INFORMATION

FACILITY NAME: _____ PREPARED BY: _____

DATE OF DRILL: _____ _____TIME DRILL STARTED: _____

TIME DRILL COMPLETED: _____

ANNOUNCED DRILL:_____ UNANNOUNCED DRILL: _____

IS DRILL IN CONJUNCTION WITH OTHER EXERCISE? _____YES / NO

IF YES, WHAT TYPE OF DRILL _____

IS THIS AN EXERCISE OR ACTUAL RESPONSE? _____

ATTACH DRILL SCENARIO IF APPROPRIATE

CHECK TYPE OF EMERGENCY PROCEDURES EXERCISE

_____TRANSFER EQUIPMENT FAILURE (Pumps, Hoses, Valves, Manifold, etc.)
_____TANK OVERFLOW _____TANK FAILURE
_____PIPING RUPTURE _____EXPLOSION OR FIRE
_____OTHER (DESCRIBE): _____

SECTION II: DRILL OBJECTIVES

CHECK EACH OBJECTIVE DEMONSTRATED DURING THE DRILL:

_____EXERCISE FACILITY'S EMERGENCY PROCEDURES TO ONE OR MORE OF THE ABOVE EMERGENCIES TO ENSURE PERSONNEL KNOWLEDGE OF ACTIONS TO BE TAKEN TO MITIGATE A SPILL (DRILL CAN BE A WALK-THROUGH OF EMERGENCY PROCEDURES).

_____EXERCISE SHOULD INVOLVE ONE OR MORE SECTIONS OF EMERGENCY PROCEDURES FOR SPILL MITIGATION

ATTACH A COMPLETED ICS 201 INITIAL INCIDENT BRIEFING FORM IF APPROPRIATE

SECTION III: DRILL EVALUATION & RESULTS

COMPLETE ONLY THE QUESTIONS THAT APPLY. QUESTIONS WILL BE COMPLETED BY THE DRILL EVALUATOR (A NO ANSWER REQUIRES A COMMENT)

1. WERE APPROPRIATE INTERNAL AND EXTERNAL NOTIFICATIONS CONDUCTED?

YES NO _____

2. DID RESPONSE TEAM MOBILIZE TO THE SITE WITHIN A REASONABLE TIME?

YES NO _____

3. DID THE INCIDENT COMMAND SYSTEM FUNCTION SUCCESSFULLY DURING THE RESPONSE?

YES NO _____

EMERGENCY PROCEDURES EXERCISE DOCUMENTATION FORM

(OPTIONAL)

4. HOW DID THE RESPONSE TEAM DEMONSTRATE EMERGENCY SHUTDOWN AND DISCHARGE CONTROL?

YES NO _____

5. WAS A DETAILED ASSESSMENT OF THE DISCHARGE CONDUCTED?

YES NO _____

6. WAS ADEQUATE DISCHARGE CONTAINMENT DEMONSTRATED?

YES NO _____

7. WAS RECOVERY OF SPILLED MATERIAL DEMONSTRATED?

YES NO _____

8. WERE CONTAINMENT BOOMS PROPERLY PLACED TO PROTECT ECONOMICALLY/ENVIRONMENTALLY SENSITIVE AREAS?

YES NO _____

9. WERE EMERGENCY PROCEDURES PROPERLY DEMONSTRATED?

YES NO _____

EVALUATOR'S SUMMARY (PROVIDE COMMENTS RELATIVE TO OBJECTIVES, LESSONS LEARNED, ISSUES REQUIRING RESOLUTION, ETC.) COMMENTS CAN BE PROVIDED BELOW OR AS AN ATTACHMENT.

_____

_____

_____

_____

_____

_____

_____

_____

_____

SECTION IV: DRILL CERTIFICATION

I CERTIFY THAT THE DRILL WAS COMPLETED, THAT THE RESPONSE PLAN OBJECTIVES AS INDICATED IN SECTION II WERE EXERCISED AND THAT THE DRILL WAS EVALUATED IN ACCORDANCE WITH THE PREP GUIDELINES.

_____ _____

PRINT NAME PRINT TITLE

_____ _____

SIGNATURE DATE

OSC/QI NOTIFICATION DRILL DOCUMENTATION FORM

SECTION I: DRILL INFORMATION

FACILITY NAME: _____ PREPARED BY: _____

DATE OF DRILL: _____ _____TIME DRILL STARTED: _____

TIME DRILL COMPLETED: _____

IS DRILL IN CONJUNCTION WITH OTHER EXERCISE? _____YES / NO

IF YES, WHAT TYPE OF DRILL _____

IS THIS AN EXERCISE OR ACTUAL RESPONSE? _____

SECTION II: DRILL OBJECTIVES

CHECK EACH OBJECTIVE DEMONSTRATED DURING THE DRILL.

DEMONSTRATE THE ACCESSIBILITY AND NOTIFICATION CAPABILITY OF THE:

_____ QUALIFIED INDIVIDUAL

_____ MEMBERS OF THE RESPONSE TEAM (OPTIONAL)

LIST PERSONNEL CONTACTED ON THE ATTACHED SHEET (OPTIONAL)

SECTION III: DRILL EVALUATION & RESULTS

THE FOLLOWING QUESTIONS WILL BE COMPLETED BY THE DRILL EVALUATOR (A NO ANSWER REQUIRES A COMMENT)

1. WAS CONTACT MADE WITH THE OSC/QI OR ALTERNATE WITHIN A REASONABLE PERIOD OF TIME? YES NO

_____

_____

_____

2. WAS CONTACT MADE WITH THE MAJORITY OF THE RESPONSE TEAM WITHIN A REASONABLE PERIOD OF TIME (OPTIONAL)? YES NO

_____

_____

_____

OSC/QI NOTIFICATION DRILL DOCUMENTATION FORM

EVALUATOR'S SUMMARY (PROVIDE COMMENTS RELATIVE TO OBJECTIVES, LESSONS LEARNED, ISSUES REQUIRING RESOLUTION, ETC.)

COMMENTS CAN BE PROVIDED BELOW OR AS AN ATTACHMENT:

_____

_____

_____

SECTION IV: DRILL CERTIFICATION

I CERTIFY THAT THE DRILL WAS COMPLETED, THAT THE RESPONSE PLAN OBJECTIVES AS INDICATED IN SECTION II WERE EXERCISED AND THAT THE DRILL WAS EVALUATED IN ACCORDANCE WITH THE PREP GUIDELINES.

_____ _____

PRINT NAME PRINT TITLE

_____ _____

SIGNATURE DATE

NOTIFICATION FORM

ON-SCENE COMMANDER/QUALIFIED INDIVIDUAL

NAME	DATE CONTACTED	TIME CONTACTED	CONTACT METHOD (SEE BELOW)

RESPONSE TEAM MEMBERS (OPTIONAL)

Contact Method:
T - TELEPHONE
R - RADIO
M - MESSAGE-PAGER
F - FACSIMILE
O - LIST METHOD

SPILL MANAGEMENT TEAM TABLETOP EXERCISE DOCUMENTATION FORM

SECTION I: DRILL INFORMATION

FACILITY NAME: _____ PREPARED BY: _____

DATE OF DRILL: _____ _____TIME DRILL STARTED: _____

TIME DRILL COMPLETED: _____

ANNOUNCED DRILL:_____ UNANNOUNCED DRILL: _____

IS DRILL IN CONJUNCTION WITH OTHER EXERCISE? _____YES / NO

IF YES, WHAT TYPE OF DRILL _____

IS THIS AN EXERCISE OR ACTUAL RESPONSE? _____

ATTACH DRILL SCENARIO IF APPROPRIATE

RESPONSE PLAN SCENARIO USED (CHECK ONE):
Note: One tabletop exercise in a triennial cycle must include a worst-case discharge scenario.

_____ AVERAGE MOST PROBABLE DISCHARGE
_____ MAXIMUM MOST PROBABLE DISCHARGE
_____WORST CASE DISCHARGE
SIZE OF (SIMULATED) SPILL _____BBLS/GALS

SECTION II: DRILL OBJECTIVES

CHECK EACH OBJECTIVE DEMONSTRATED DURING THE DRILL

_____TEAM'S KNOWLEDGE OF THE RESPONSE PLAN

_____ CONDUCTING APPROPRIATE INTERNAL AND EXTERNAL NOTIFICATIONS

_____USE OF COMMUNICATIONS SYSTEM IN SUPPORT OF RESPONSE OPERATIONS

_____TEAM'S ABILITY TO ACCESS CONTRACTED OIL SPILL REMOVAL ORGANIZATION

_____TEAM'S ABILITY TO ORGANIZE AND CARRYOUT RESPONSE ACTIONS IN ACCORDANCE WITH THE FACILITY RESPONSE PLAN

_____TRANSITION FROM ONSITE RESPONSE TEAM (ORT) TO SPILL MANAGEMENT TEAM (SMT) AND ABILITY TO WORK WITH STATE/FEDERAL AGENCIES WITHIN THE NATIONAL RESPONSE SYSTEM

_____ ABILITY TO ACCESS SENSITIVE SITE AND RESOURCE INFORMATION IN THE AREA CONTINGENCY PLAN

SECTION III: DRILL EVALUATION & RESULTS

2. CONDUCTING APPROPRIATE INTERNAL AND EXTERNAL NOTIFICATIONS:

_____
_____
_____

SPILL MANAGEMENT TEAM TABLETOP EXERCISE DOCUMENTATION FORM

3. USE OF COMMUNICATIONS SYSTEM IN SUPPORT OF RESPONSE OPERATIONS:

4. TEAM'S ABILITY TO ACCESS CONTRACTED OIL SPILL REMOVAL ORGANIZATION:

5. TEAM'S ABILITY TO ORGANIZE AND CARRYOUT RESPONSE ACTIONS IN ACCORDANCE WITH THE FACILITY RESPONSE PLAN:

6. TRANSITION FROM ONSITE RESPONSE TEAM (ORT) TO SPILL MANAGEMENT TEAM (SMT) AND ABILITY TO WORK WITH STATE/FEDERAL AGENCIES WITHIN THE NATIONAL RESPONSE SYSTEM

7. ABILITY TO ACCESS SENSITIVE SITE AND RESOURCE INFORMATION IN THE AREA CONTINGENCY PLAN:

EVALUATOR'S SUMMARY (PROVIDE COMMENTS RELATIVE TO OBJECTIVES, LESSONS

SPILL MANAGEMENT TEAM TABLETOP EXERCISE
DOCUMENTATION FORM

LEARNED, ISSUES REQUIRING RESOLUTION, ETC.)
COMMENTS CAN BE PROVIDED BELOW OR AS AN ATTACHMENT:

_____
_____
_____
_____
_____
_____
_____
_____

SECTION IV: DRILL CERTIFICATION

I CERTIFY THAT THE DRILL WAS COMPLETED, THAT THE RESPONSE PLAN OBJECTIVES AS INDICATED IN SECTION II WERE EXERCISED AND THAT THE DRILL WAS EVALUATED IN ACCORDANCE WITH THE PREP GUIDELINES.

_____ _____

PRINT NAME PRINT TITLE

_____ _____

SIGNATURE DATE

EXERCISE ENTIRE RESPONSE PLAN DOCUMENTATION FORM

SECTION I: DRILL INFORMATION

FACILITY NAME: _____ PREPARED BY: _____

DATE OF DRILL: _____ _____TIME DRILL STARTED: _____

TIME DRILL COMPLETED: _____

ANNOUNCED DRILL:_____ UNANNOUNCED DRILL: _____

IS DRILL IN CONJUNCTION WITH OTHER EXERCISE? _____YES / NO

IF YES, WHAT TYPE OF DRILL _____

IS THIS AN EXERCISE OR ACTUAL RESPONSE? _____

ATTACH DRILL SCENARIO IF APPROPRIATE

SECTION II: DRILL OBJECTIVES

INDICATE THE DATE EACH OBJECTIVE WAS DEMONSTRATED DURING THE TRIENNIAL PERIOD

PLAN COMPONENTS

_____ CONDUCT NOTIFICATIONS

_____ MOBILIZE RESPONSE TEAM

_____ ABILITY TO OPERATE WITHIN THE RESPONSE MANAGEMENT SYSTEM AS DESCRIBED IN THE FRP

_____ SOURCE CONTROL

_____ DISCHARGE ASSESSMENT

_____ DISCHARGE CONTAINMENT

_____ DISCHARGE RECOVERY & MITIGATION

_____ PROTECTION OF ECONOMICALLY/ ENVIRONMENTALLY SENSITIVE AREAS

_____ DISPOSAL OF RECOVERED PRODUCT & DEBRIS

_____ ESTABLISH INTERNAL/EXTERNAL COMMUNICATION SYSTEMS

_____ DEMONSTRATE MULTI-MODE TRANSPORTATION SUPPORT

_____ DEMONSTRATE ABILITY TO PROVIDE PERSONNEL SUPPORT

_____ DEMONSTRATE ABILITY TO MAINTAIN/SUPPORT ALL EQUIPMENT

_____ DEMONSTRATE PROCUREMENT OF RESOURCES

_____ DOCUMENT OPERATIONAL AND SUPPORT ASPECTS OF RESPONSE

ATTACH COMPLETED ICS FORMS AS APPROPRIATE TO DOCUMENT COMPLETION OF OBJECTIVES

SECTION III: DRILL EVALUATION & RESULTS

THE FOLLOWING QUESTIONS WILL BE COMPLETED BY THE DRILL EVALUATOR (A NO ANSWER REQUIRES A

EXERCISE ENTIRE RESPONSE PLAN DOCUMENTATION FORM

COMMENT)

1. WERE APPROPRIATE INTERNAL AND EXTERNAL NOTIFICATIONS CONDUCTED?
   YES NO

2. DID RESPONSE TEAM MOBILIZE TO THE SITE WITHIN A REASONABLE TIME? YES NO

3. DID THE RESPONSE MANAGEMENT SYSTEM FUNCTION SUCCESSFULLY DURING THE RESPONSE? YES NO

4. HOW DID THE RESPONSE TEAM DEMONSTRATE SOURCE CONTROL?

5. WAS A DETAILED ASSESSMENT OF THE DISCHARGE CONDUCTED? YES NO

6. WAS ADEQUATE DISCHARGE CONTAINMENT DEMONSTRATED? YES NO

7. WAS RECOVERY & MITIGATION OF SPILLED MATERIAL DEMONSTRATED? YES NO

EXERCISE ENTIRE RESPONSE PLAN DOCUMENTATION FORM

8. WERE CONTAINMENT BOOMS PROPERLY PLACED TO PROTECT ECONOMICALLY/ ENVIRONMENTALLY SENSITIVE AREAS? YES NO

9. WAS PROPER DISPOSAL OF RECOVERED PRODUCT DEMONSTRATED? YES NO

10. DID THE COMMUNICATION SYSTEM ADEQUATELY SUPPORT RESPONSE OPERATIONS? YES NO

11. WERE TRANSPORTATION SUPPORT NEEDS MET? YES NO

12. WAS ADEQUATE PERSONNEL PROVIDED TO STAFF THE RESPONSE ORGANIZATION?

YES NO

13. IS EQUIPMENT PROPERLY MAINTAINED? YES NO

14. HOW DID THE TEAM DEMONSTRATE PROCUREMENT OF RESOURCES?

EXERCISE ENTIRE RESPONSE PLAN DOCUMENTATION FORM

15. WAS ADEQUATE DOCUMENTATION OF DRILL EVENTS CONDUCTED?

YES NO

EVALUATOR'S SUMMARY (PROVIDE COMMENTS RELATIVE TO OBJECTIVES, LESSONS LEARNED, ISSUES REQUIRING RESOLUTION, ETC.)

COMMENTS CAN BE PROVIDED BELOW OR AS AN ATTACHMENT:

SECTION IV: DRILL CERTIFICATION

I CERTIFY THAT THE DRILL WAS COMPLETED, THAT THE RESPONSE PLAN OBJECTIVES AS INDICATED IN SECTION II WERE EXERCISED AND THAT THE DRILL WAS EVALUATED IN ACCORDANCE WITH THE PREP GUIDELINES.

PRINT NAME PRINT TITLE

SIGNATURE DATE

APPENDIX G

LIST OF ACRONYMS, DEFINITIONS, AND REFERENCES

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APPENDIX G: LIST OF ACRONYMS AND DEFINITIONS

This glossary contains definitions of terms that will be used frequently during the course of response operations.

ACP. Area Contingency Plan.

Activation. The process of mobilizing personnel and/or equipment within the response organization to engage in response operations.

Activator. An individual in the response organization whose responsibilities include notifying other individuals or groups within the organization to mobilize personnel and/or equipment.

Addspack. Aerial Dispersant.

Agency Representative. Individual assigned to an incident from an agency who has been delegated full authority to make decisions on all matters affecting that agency's participation in response operations.

Allocated Resources. Resources dispatched to an incident that are not yet checked-in and available for an assignment to a Division/Group.

Assigned Tactical Resources. Performing an active assignment in a Division/Group.

Assisting Agency. An agency contributing suppression, rescue, support, or service resources to another agency.

Available Tactical Resources. Ready for assignment. All resources in staging areas are available tactical resources.

Average Most Probable Discharge. A discharge of the lesser of 50 barrels or 1 percent of the volume of the worst-case discharge.

Barrel (bbl). A barrel of oil equals 42 gallons (U.S.) at 60 degrees Fahrenheit.

Bioremediation. An oil spill cleanup technique using nutrients or a mixture of nutrients and bacteria to facilitate the degradation of the oil by microorganisms.

Boom. A piece of equipment or a strategy used to either contain free floating oil to a confined area or protect an uncontaminated area from intrusion by oil.

Briefing Meeting. Held to review Incident Action Plan for next operational period.

Camp. A geographical site, within the general incident area, separate from the base,

equipped and staffed to provide food, water, and sanitary services to incident personnel.

Captain of the Port Zone. A zone specified in 33 CFR Part 3 and the seaward extension of that zone to the outer boundary of the exclusive economic zone.

CERCLA. Comprehensive Environmental Response, Compensation, and Liability Act of 1980.

CFR. Code of Federal Regulations.

Check-in. Location where assigned resources check-in at an incident. The locations are: incident command post (resources unit), incident base, staging areas, aircraft bases, division supervisors (for direct line assignment).

Clear Text. The use of plain English in radio communications transmissions. No ten codes are used when using clear text.

Coastal Waters. All U.S. waters subject to the tide, U.S. waters of the Great Lakes specified ports and harbors on the inland rivers, waters of the contiguous zone (12 n. mi.) or other waters subject to discharges in connection with activities under the Outer Continental Shelf Lands Act or the Deepwater Port Act. These waters include those contained within the Exclusive Economic Zone (200 n. mi.).

Command. The act of controlling manpower and equipment resources by virtue of explicit or delegated authority.

Command Staff. A group comprised of: Incident Commander, Corporate Communication Officer, External Affairs Officer, Safety Officer, Legal Officer, and Deputy Incident Commander.

Command Staff Meeting. Held to determine progress made to date, ensure implementations of current Incident Action Plan, and to establish overall strategic objectives for next operational period.

Containment Boom. Rigid and/or inflatable device of standard length to contain floating oil on water or prevent oil from contaminating specific areas.

COPT. Captain of the Port.

CWA. Clean Water Act.

Decontamination. The process of removing oil contamination from personnel, clothing, and equipment to preclude the occurrence of foreseeable adverse health effects.

Demobilization. The de-activation of equipment, personnel, and other resources involved in response operations.

Detailed Incident Assessment. An analysis process involving the gathering of information on what has occurred and what is being done to control the source and respond to the incident.

Discharge. Any spillage, leaking, pumping, pouring, emitting, emptying, or dumping.

Dispatch. The implementation of a command decision to move a resource or resources from one place to another.

Dispatch Center. A facility in the Command Post from which resources are directly assigned to an incident.

Dispersants. Chemicals that can be applied to an oil spill to aid the natural process in breaking up the oil. There are three types if dispersants: water-based, solvent-based, and concentrates. Use of dispersants is subject to On-Scene Coordinator approval, with approval of the Environmental Protection Agency representative to the Regional Response Team and the concurrence of the state with jurisdiction over the navigable waters polluted by the spill.

DOT PHMSA: US Department of Transportation Pipeline and Hazardous Materials Safety Administration.

Emergency. The phase of response operations where activities are conducted in a "reactive" mode, according to a pre-planned strategy, such as notification, activation, and onsite response.

EPA. U.S. Environmental Protection Agency.

FDEP. Florida Department of Environmental Protection.

Federal On-Scene Coordinator. USCG or EPA representative that provides overall coordination of clean-up activities.

FOSC. Federal On-Scene Coordinator.

General Plan. A schedule that describes the activities to be performed and the major equipment and manpower resources to be utilized to respond to an incident, in a comprehensive and well organized fashion, from the outset through to the completion of operations.

Group. Established to divide response operations into functional areas.

GT-185. Commonly used weir skimmer coupled with an Archimedes style pump.

Harmful Quantity. Discharge that violate applicable water quality standards or causes a film or sheen upon, or discoloration of, the surface of the water or adjoining shorelines or causes a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining surfaces.

Hazardous Substance. Substance designated by the EPA in 40 CFR Section 116.4.

HAZMAT. Hazardous materials or hazardous substances, exposure to which may result in adverse effects on health or safety of employees.

HAZWOPER. Hazardous Waste Operations and Emergency Response Regulations published by OSHA to cover worker safety and health aspects of response operations.

ICS. Incident Command System.

Incident. An occurrence or event, either human-caused or natural phenomena, that requires action by emergency service personnel to prevent or minimize loss of life or damage to property and/or natural resources.

Incident Action Plan. A highly structured document comprised of a series of forms that collectively organize and present information on the manpower, equipment, and support resources that will be needed to implement the General Plan on a daily basis.

Incident Commander. The individual who is vested with the authority for the overall management of response operations.

Incident Command Post (ICP). That location at which all primary command functions are executed.

Incident Command System (ICS). The combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure, with responsibility for the management of assigned resources at an incident.

Initial Briefing Meeting. Held to brief personnel on the contents of the General Plan and Initial Incident Action Plan.

Initial Incident Briefing Meeting. Held to develop a comprehensive, accurate, and up-to-date understanding of the incident, nature of status of control operations, and nature and status of response operations; ensure the adequacy of control and response operations; begin to organize control and response operations; and prepare for interactions with outside world.

Initial Planning Meeting. Held to review and approve general plan and commission development of Initial Incident Action Plan.

Initial Tactical Operations Planning Meeting. Held immediately after General Plan approval meeting. The General Plan is used to identify field activities for next operational period.

Inland Area. The area shoreward of the boundary lines defined in 46 CFR Part 7, except in the Gulf of Mexico. In the Gulf of Mexico, it means the area shoreward of the lines of demarcation (COLREG lines) defined in Sections 80.740 - 80.850 of Title 33 of the CFR.

Jurisdictional Agency. The agency having jurisdiction and responsibility for a specific geographic area and/or resource.

Lightering Vessel. A vessel designated to receive and store oil cargo and/or bunkers from another vessel. The lightering vessel will usually come alongside the vessel to be lightered (the mother vessel) and cargo will be transferred using the mother vessel's pumps or portable lightering pumps.

Management by Objective (MBO). Top-down management so that all involved know and understand the objectives of the operations.

Marine Spill Response Corporation (MSRC). An independent, non-profit corporation dedicated to providing a best-effort response to help clean up large spills of persistent oil in U.S. offshore and tidal waters, including bays, harbors, and mouths of rivers. It will respond to spills further up river when oil has been spilled from ocean going tankers heading up river. MSRC succeeds PIRO.

Marine Transportation-Related Facility (MTR Facility). An onshore facility, including piping and any structure used to transfer oil to or from a vessel, subject to regulation under 33 CFR Part 154 and any deepwater port subject to regulation under 33 CFR Part 150.

Maximum Most Probable Discharge. A discharge of the lesser of 1200 barrels or 10 percent of the volume of a worst case discharge (USCG). The lesser of 36,000 gallons or 10 percent of the volume of the worst case discharge.

Message Center. The message center is part of the communications center and is co-located or placed adjacent to it. It receives, records, and routes information about resources reporting to the incident, resource status, and administration and tactical traffic.

Mobilization Center. An off incident location at which emergency service personnel and equipment are temporarily located pending assignment, release, or reassignment.

MSDS. Material Safety Data Sheet.

Multiagency Coordination System (MACS). The combination of facilities, equipment, personnel, procedures, and communications integrated into a common system with responsibility for coordination of assisting agency resources and support to agency emergency operations.

NCP. National Contingency Plan.

Nearshore Area. The area extending seaward 12 miles from the boundary lines defined in 46 CFR Part 7, except in the Gulf of Mexico. In the Gulf of Mexico, it means the area extending seaward 12 miles from the line of demarcation (COLREG lines) defined in Sections 80.740 - 80.850 of Title 33 of the CFR.

NEPA. National Environmental Policy Act.

NMFS. National Marine Fisheries Service.

NOAA. National Oceanic and Atmospheric Administration.

Non-persistent or Group I Oil. A petroleum-based oil that, at the time of shipment, consists of hydrocarbon fractions; (1) at least 50 percent of which by volume, distill at a temperature of 340 degrees centigrade (645 degrees Fahrenheit); and (2) at least 95% or which by volume, distill at a temperature of 370 degrees centigrade (700 degrees Fahrenheit).

NRC. National Response Center.

NRDA. Natural Resource Damage Assessment.

OPA 90. Oil Pollution Act of 1990.

Oil Spill Response Organization. An exclusive team referring to all internal and external manpower resources involved in response operations and response support activities.

Oil Spill Response Vessels. Vessels fitted with dedicated oil spill response equipment to be used exclusively for those purposes.

Oily Debris. Includes sorbent pads/boom, protective clothing/gear, soil, sand, rocks, logs, kelp, plastics, mousse, oil/water mixture and animal carcasses.

Oily Waste. Oil-contaminated waste resulting from an oil spill or oil spill response operations.

Operational Period. The period of time scheduled for execution of the Incident Action Plan, (usually 24 hours).

Operational Planning Sheet. Provides guidance on the type and status of equipment resources that will be needed to implement (a) tactical operations plan(s).

OSHA. Occupational Safety and Health Administration.

Out-of-Service Resources. Resources assigned to an incident but unable to respond for mechanical, rest, or personnel reasons.

Out-of-Service Tactical Resources. Not ready for assignment.

PIC. Person-In-Charge.

Planning Meetings. Held to finalize tactical operations plans for next operational period and to commission preparation of Incident Action Plan.

Post Emergency. The phase of response operations conducted after the immediate threat of the release has been stabilized, and cleanup operations have begun.

Q.I. Qualified Individual.

Qualified Individual. The designated person serving as the incident commander and who has full authority to: activate response contractors; liaison with the federal on-scene coordinator; and obligate funds to carry out response activities.

RCP. Regional Contingency Plan.

Reclaimed. Reclaimed refers to any process that must be utilized to return the product to its pre-spill state and the process for which it was destined.

Resource Trustees. Governmental agencies, federal and state responsible for managing and protecting sensitive resources.

Response Contractor. Individual, organization, association, or cooperative that provides or intends to provide equipment and/or personnel for oil spill containment, cleanup, and/or removal activities.

Response Priorities. Mechanism used to maximize the effective use of manpower and equipment resources based upon their availability during an operational period.

RRT. Regional Response Team.

Safety and Health Plan. A site-specific plan developed at the time of an incident that addresses:

- safety and health hazard analysis for each operations.
- personal protective equipment to be used.
- training requirements for site workers.
- medical surveillance requirements.
- air monitoring requirements.
- site control measures.
- decontamination procedures.
- emergency response procedures.
- confined space entry procedures.

SARA. Superfund Amendments and Reauthorization Act.

Section. That organizational level having functional responsibility for primary segment or incident operations such as: operations, environmental, planning, logistics, finance.

Sheen. An iridescent appearance on the surface of the water.

Single Resource. Individual piece of equipment plus the required number of individuals to properly utilize it.

Site Characterization. An evaluation of a cleanup site to determine the appropriate safety and health procedures needed to protect employees from identified hazards.

SITREP. Situation Status Report.

Skimmer. Mechanically driven device designed to recover oil floating on water.

Snare Boom. Oil will adhere to the material of which this boom is made of and thus collect it.

Sorbent Boom. The material of which this boom is manufactured will absorb persistent oil and thus collect it.

Source Control. Any number of procedures that may be employed to stop, curtail, and/or inhibit the source of a spill.

Span-of-Control. The supervisory ratio of from three to seven individuals with five being established as a general rule of thumb.

Spill. Unauthorized discharge of oil or hazardous substance, which enters the waters of the state.

Staging Area. That location where incident personnel and equipment are assigned on

a time specific available status.

Strategic Objectives. Short, concise statements that define broad scale objectives to be achieved or addressed during an operational period.

Strike Team. Set number of resources of the same kind and type that can be assembled for a specific mission.

Tactical Operations Planning Meetings. Help to develop the specific tactics that will be used to achieve or address the strategic objectives for the next operational period.

Tactical Operations Plans. Specific response strategies designed to achieve strategic objectives consistent with response priorities.

Task Force. A combination of resources that can be assembled for a specific mission.

Technical Specialists. Personnel with special skills who are activated only when needed.

Tender. Any vessel used for transportation of resources to and from the site of a marine oil spill.

USCG. United States Coast Guard.

Unified Command. A method for agencies who have jurisdictional responsibility, and in some cases those who have functional responsibility at the incident, to contribute to:

- Determining overall objectives for the incident.
- Selection of a strategy to achieve the objectives.

Unified or Coordinated Command Meeting. Held to obtain agreement on strategic objectives and response priorities; review tactical strategies; engage in joint planning; integrate response operations; maximize use of resources; and minimize resolve conflicts.

Unit. That organization element having functional responsibility for a specific incident planning, logistics, or finance activity.

Vessels of Opportunity. Vessels not fitted with any type of oil spill response equipment during normal operation, but with the potential to do so.

Vessel of Opportunity Skimming System (VOSS). A system of one or more vessels of opportunity fitted with one or more skimmers and boom to contain and recover oil on water.

WCD: Worst Case Discharge.
The Worst Case Incident at an onshore marine transportation related facility is defined as the largest foreseeable discharge in adverse weather conditions meeting the following criteria (USCG).

Not less than, where applicable, the loss of the entire capacity of all in-line and breakout storage tank(s) needed for the continuous operation of the pipeline(s) used for the purpose of handling or transporting oil, in bulk, to or from a vessel regardless of the presence of secondary containment; plus the discharge from all piping carrying oil between the marine transfer manifold and the non-transportation related portion of the facility. The discharge from each pipe is calculated as follows: The maximum time to discover the release from the pipe in hours, plus the maximum time to shutdown flow from the pipe in hours (based on historic discharge data or the best estimate in the absence of historic discharge data for the facility), multiplied by the maximum flow rate expressed in barrels per hour (based on the maximum relief valve setting or maximum system pressure when relief valves are not provided, whichever is greater), plus the total line drainage volume expressed in barrels for the pipe between the marine manifold and the non-transportation-related portion of the facility.

A "worst case" incident at a non-transportation related facility can be defined as 100 percent of the volume of the largest tank in secondary containment area (EPA).

The “worst case” discharge at an onshore transportation-related facility (i.e., DOT pipeline facility) is the largest volume, in barrels (cubic meters), of the following:

The pipeline's maximum release time in hours, plus the maximum shutdown response time in hours (based on historic discharge data or in the absence of such historic data, the operator's best estimate), multiplied by the maximum flow rate expressed in barrels per hour (based on the maximum daily capacity of the pipeline), plus the largest line drainage volume after shutdown of the line section(s) in the response zone expressed in barrels (cubic meters); or

The largest foreseeable discharge for the line section(s) within a response zone, expressed in barrels (cubic meters), based on the maximum historic discharge, if one exists, adjusted for any subsequent corrective or preventive action taken; or

If the response zone contains one or more breakout tanks, the capacity of the single largest tank or battery of tanks within a single secondary containment system, adjusted for the capacity or size of the secondary containment system, expressed in barrels (cubic meters).

REFERENCES

1. U.S. Coast Guard regulations in 33 CFR 154

2. U.S. EPA regulations in 40 CFR 112
3. U.S. Department of Transportation regulations in 49 CFR 194
4. National Preparedness for Response Exercise Program (PREP) Guidelines. 2002.
5. Training Reference for Oil Spill Response. August 1994.
6. U.S. Coast Guard Sector Key West: "Florida Keys Area Contingency Plan for Oil and Hazardous Substances.

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APPENDIX H

WORKSHEET FOR DETERMINING DISCHARGE VOLUMES

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H.1. Worst Case Discharge Planning Volume Calculation – Part A Worksheet.

PART A
WORST CASE DISCHARGE PLANNING VOLUME CALCULATION FOR ONSHORE FACILITIES

A.2 SECONDARY CONTAINMENT--MULTIPLE-TANK FACILITIES

Are all aboveground oil storage tanks or groups of aboveground oil storage tanks at the facility without adequate secondary containment?

Secondary containment is defined in 40 CFR 112.7(e)(2). Acceptable methods and structures for containment are also given in 40 CFR 112.7(c)(1).

Answer: No

A.2.1 If the answer is yes, the final worst-case discharge planning volume equals the total aboveground oil storage capacity at the facility.

(1) FINAL WORST CASE VOLUME: _____ GAL
(2) Do not proceed further.

A.2.2 If the answer is no, calculate the total aboveground oil storage capacity of tanks without adequate secondary containment. If all aboveground oil storage tanks or groups of aboveground oil storage tanks at the facility have adequate secondary containment, ENTER A (zero).

Answer: 0 Gallons

A.2.3 Calculate the capacity of the largest single aboveground oil storage tank within an adequate secondary containment area or the combined capacity of a group of aboveground oil storage tanks permanently manifold together, whichever is greater, PLUS THE VOLUME FROM QUESTION A.2.4. (b) (7)(F)

All complexes that are jointly regulated by EPA and the USCG must also calculate the worst-case discharge planning volume for the transportation-related portions of the facility and plan for whichever volume is greater.

(b) (7)(F)

H.2. Methods used to Calculate Worst Case Discharge Volumes for the Facility

A. Volume of Worst Case Discharge for the Coast Guard Regulated Piping

In accordance with 33 CFR 154.1035 (b)(2)(I)(C), the following information details how the worst-

(b) (7)(F) [redacted]

B. Volume of Worst Case Discharge for the EPA Regulated Storage Tank

In accordance with Part A of Appendix D of 40 CFR 112, the following information details how the worst -case discharge volume was derived.

(b) (7)(F) [redacted]

- Secondary containment (sufficiently large to contain the capacity of the tank plus sufficient freeboard).

(b) (7)(F) [redacted]

C. Volume of Worst Case Discharge for the DOT - PHMSA Regulated Pipeline from KWPC to KWNAS

In accordance with 49 CFR 194.105, the following information details how the worst-case discharge volume was derived.

(b) (7)(F) [redacted]

WORKSHEET FOR DETERMINING WORST CASE DISCHARGE VOLUMES FOR THE KEY PIPELINE TERMINAL'S ABOVEGROUND STORAGE TANK CONTAINING JP-5 JET FUEL

Part I Background Information

Step (A) Calculate Worst Case Discharge in barrels: (b) (7)(F) [redacted]

Step (B) Oil Group: 1

Step (C) Operating Area (choose one): X Nearshore/Inland Great Lakes; ☐ or Rivers and Canals

Step (D) Percentages of Oil

Percent Lost to Natural Dissipation	Percent Recovered Floating Oil	Percent Oil Onshore
80 (D1)	20 (D2)	10 (D3)

Step (E1) On-Water Recovery: Step (D2) x Step (A) / 100 — (b) (7)(F) [redacted]

Step (E2) Shoreline Recovery: Step (D3) x Step (A) / 100

Step (F) Emulsification Factor: 1.0 (F)

Step (G) On-Water Oil Recovery Resource Mobilization Factor

Tier 1	Tier 2	Tier 3
0.15 (G1)	0.25 (G2)	0.40 (G3)

Part II On-Water Oil Recovery Capacity (barrels/day)

☐ (b) (7)(F) [redacted]

Part III Shoreline Cleanup Volume (barrels): Step (E2) x Step (F)

Part IV On-Water Response Capacity By Operating Area
(Amount needed to be contracted for in barrels/day)

Tier 1	Tier 2	Tier 3
12,500 (J1)	25,000 (J2)	50,000 (J3)

Part V On-Water Amount Needed to be Identified, but not Contracted for in Advance (Barrels/day)

Tier 1	Tier 2	Tier 3
0 Part II Tier 1 - Step (J1)	0 Part II Tier 2 - Step (J2)	0 Part II Tier 3 - Step (J3)

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