

OPA 90 PLAN for the Philadelphia Energy Solutions Complex



Philadelphia Energy Solutions

OPA 90 PLAN

PHILADELPHIA
PHILADELPHIA COUNTY
PENNSYLVANIA

February 2013

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
PROPRIETARY INFORMATION NOTICE**

PHILADELPHIA ENERGY SOLUTIONS**OPA 90 PLAN****February 2013****Proprietary Information Notice**

This document contains confidential information of Philadelphia Energy Solutions. It is provided to PES employees for use in responding to emergency incidents. No other use, direct or indirect, other than to employees and/or emergency responders who require the same for emergency response purposes, of this document or any information contained herein is authorized.

General Note: For routine personnel changes, please call the Communication Center, 215-339-2286, for the current listing.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

OPA 90 PLAN for PHILADELPHIA ENERGY SOLUTIONS CERTIFICATION**CERTIFICATION**

In accordance with Section 311 (j) (5(F) of the Federal Water Pollution Control Act, as amended by Section 4202 of the Oil Pollution Act of 1990, I Timothy P. Hornig, Director, HSS, do hereby certify that Philadelphia Energy Solutions, located in Philadelphia, PA, has available the response resources enumerated in the attached response plan and has ensured by contract or other approved means the availability of personnel and equipment necessary to respond, to the maximum extent practicable, to a worst case discharge or a substantial threat of such a discharge from the aforementioned facility.



Timothy P. Hornig
Director, HSS
Philadelphia Energy Solutions

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Attachment C-11-Certification of the Substantial Harm Criteria

Facility Name: Philadelphia Energy Solutions

Facility Address: 3144 w Passyunk Ave. Phila, Pa, 19145

1. 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 No

2. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and 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

3. 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 Attachment 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? For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's "Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments" (see Appendix E to this part, section 13, for availability) and the applicable Area Contingency Plan.

Yes No

4. 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 Attachment C-III to this appendix or a comparable formula ¹) such that a discharge from the facility would shut down a public drinking water intake²?

¹ If a comparable formula is used, documentation of the reliability and analytical soundness of the comparable formula must be attached to this form

² For the purpose of 40 CFR part 112, public drinking water intakes are analogous to public water systems as described at 40 CFR 143.2(c).

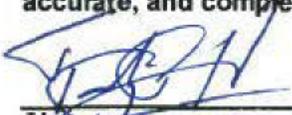
Yes No

5. 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

Certification

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 this information, I believe that the submitted information is true, accurate, and complete.



 Signature

Timothy Hornig

Name (please type or print)

Director HSS/PSM

Title

2/20/13

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
TABLE OF CONTENTS

OPA 90 Plan

Table of Contents

Paper copies are uncontrolled. This copy is valid at time of printing. The controlled version can be found on the company intranet.

Revision Date: 02/01/2013

Next Revision Date: 02/01/2018

Last printed 6/11/2013 12:28 PM

PHILADERLPHIA ENERGY SOLUTIONS OPA 90 PLAN

Page 1 of 2

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
TABLE OF CONTENTS

Proprietary Information	ii
Certification.....	iii
EPA C-II Certification of the Applicability of the Substantial Harm Criteria Form.....	iv
 SECTION 1: Introduction	
1.1 Tank Schedule	
1.2 Philadelphia Facility	
1.3 Record of Changes	
 SECTION 2: Overview & Use of Plan	
How the OPA Plan is Used.....	2A
Plan Review and Update Procedure.....	2B
OPA 90 Plan Assignments.....	2.1
Federal Regulations Cross References.....	2.2
USCG Cross Reference	
USEPA Cross Reference	
DOT Cross Reference	
 SECTION 3: General Response Plan Contents	
Notification Procedure.....	3.1
Spill Mitigation.....	3.2
Facility Response Activities.....	3.3
 Section 4: Sensitive Areas	
 Section 5: Disposal Plan	
 Section 6: Hazard Evaluation	
 Section 7: Procedures	
 Section 8: Training Procedures	
 Section 9: Drill Procedures	
 Section 10: Plan Review and Update	
 Section 11: APPENDICIES	
 A: Facility – Specific Information	
B: Discharge Histories	
C: List of Contacts	
D: Equipment List and Records/OSRO Classifications	
E: Communication Plan	
F: Site Specific Safety & Health Plan	
G: Acronyms and Definitions	
H: Diagrams - Philadelphia	
I: 49 CFR 192-195 Worst Case Pipeline Discharge	

Paper copies are uncontrolled. This copy is valid at time of printing. The controlled version can be found on the company intranet.

Revision Date: 02/01/2013

Next Revision Date: 02/01/2018

Last printed 6/11/2013 12:28 PM

PHILADERLPHIA ENERGY SOLUTIONS OPA 90 PLAN

Page 2 of 2

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 1.0: Introduction

Section 1.1 – Tank Schedule

Philadelphia Energy Solutions Complex

Plant Layout drawings are included on the following pages which identify key buildings, tanks, structures, mooring locations, and processing units located within the refinery.

The tanks that store petroleum products and specific information regarding tank inventories are located in Section 6, pages 13-18. Dock and pipeline specifications, and vessel transfer information is provided in further detail in Appendix A.

South Yard Fire Protection Evacuation and Emergency Response and Resource Plans

North Yard Fire Protection Plans Evacuation and Emergency Response and Resource Plans

Girard Point Evacuation and Emergency Response and Resource

Refinery Process, Sanitary and Storm Sewer

Waster Disposal Process, Storm and Sanitary Sewers

Schuylkill River Tank Farm Firewater Piping Systems

Schuylkill River Tank Farm Evacuation Routes

Tank Schedule

Girard Point / Point Breeze									Containment Type and Capacity of Registered and SPCC Tanks					
Item No.	Tank Number	State Reg No	Tank Status	Regulatory Status	Tank Cleaned	Tank Type	Diameter	Height	(b) (7) (F)	Primary Product	Unit	Tank Field Containment Type	(b) (7)(F)	Tank Field Containment (%)
38	GP R 217	175A	IS	Active	N	IFR	96	30		Benzene	STP	Dike		174
39	GP R 225	007A	IS	Active	N	Cone Roof	117	42		#6 Fuel Oil	STP	Dike		155
40	GP R 227	009A	IS	Active	N	Cone Roof	120	40		Light Cycle Oil	STP	Dike		110
41	GP R 228	(N/A)	IS	(N/A)	N	EFR	117	42		Storm Water	STP	Dike		134
42	GP R 251	031A	IS	Active	N	IFR	120	40		Untreated Distillate	NTP	Dike		112
43	GP R 269		IS	(N/A)	N	Horz, Elev	4	6		LSD	Plant Protection	(None)		0
44	GP R 272	034A	IS	Active	N	IFR	120	40		Recovered Oil	NTP	Dike		131
45	GP R 273	035A	IS	Active	N	Cone Roof	120	40		Residual	NTP	Dike		144
46	GP R 275	038A	IS	Active	N	IFR	120	40		Light Naptha	NTP	Dike		111
47	GP R 281	043A	IS	Active	N	Cone Roof	120	40		Heavy Gas Oil	NTP	Dike		226
48	GP R 282	044A	IS	Active	N	Cone Roof	120	40		Heavy Gas Oil	NTP	Dike		226
49	GP R 284	046A	IS	Active	N	Cone Roof	120	40		Heavy Gas Oil	NTP	Dike		233
50	GP R 285	047A	IS	Active	N	IFR	120	40		Naptha	NTP	Dike		110
51	GP R 286	048A	IS	Active	Y	IFR	120	40		Naptha	NTP	Dike		120
52	GP R 292		IS	(N/A)	N	IFR	60	39		Sour Water w/Oil	NTP	Dike		137
53	GP R 304	176A	IS	Active	N	Vert, Elev	7	9		Methanol	1332	Dike		156
54	GP R 494	064A	IS	Active	N	Cone Roof	85	30		Decanted Oil	NTP	Dike		140
55	GP U 676	130A	OOS	Active	N		0	0		#6 Fuel Oil	#3 BHU			0
56	GP U 767	136A	IS	Active	N	IFR	20	21		Recovered Oil	#2 SEP	Dike		122
57	GP R 791	092A	IS	Active	N	IFR	25	24		Benzene	1700'S	Dike		180
58	GP R 792	093A	IS	Active	N	Cone Roof	25	30		Cumene	1700'S	Dike		144
59	GP R 793	094A	IS	Active	N	Cone Roof	25	30		Cumene	1700'S	Dike		144
60	GP R 794	095A	IS	Active	N	IFR	25	24		Solvent	1700'S	Dike		180
61	GP R 796	096A	IS	Active	N	Cone Roof	14	16		Glycol	1700'S	Dike		900
62	GP R 798	098A	IS	Active	N	IFR	25	24		Benzene	1700'S	Dike		180
63	GP R 799	099A	IS	Active	N	IFR	25	24		Benzene	1700'S	Dike		180
64	GP U 894	129A	IS	Active	N	Open Top	12	10		Caustic, Fresh	433	(None)		0

UPDATED: 12/31/12

Page 1 of 8

Unit: ALL
Cont. Type: ALL

Girard Point / Point Breeze

Containment Type and Capacity of Registered and SPCC Tanks

Item No.	Tank Number	State Reg No	Tank Status	Regulatory Status	Tank Cleaned	Tank Type	Diameter	Height	(b) (7)(F)	Primary Product	Unit	Tank Field Containment Type	(b) (7)(F)	Tank Field Containment (%)
65	GP C2 941	127A	IS	Active	N	Horz. Elev	4	20		Corr Inhib (DC/SA)	231	Dike		309
66	GP R 973	193A	IS	Active	N	Cone Roof	19	25		Caustic, Fresh	1232	Dike		115
67	GP U2 1007		IS	(N/A)	N	IFR	40	22		Recovered Oil	#6 SEP	Dike		130
68	GP R 1039	148A	IS	Active	N	Cone Roof	25	36		ASO STG	137	Dike		110
69	GP R 1047	163A	IS	Active	N	Open Top	30	30		Caustic, Fresh	433	(none)		0
70	GP R 1051		IS	(N/A)	N	EFR	60	43		Potassium Fluoride Brine	433	Dike		104
71	GP R 1056		IS	(N/A)	N	IFR	35	36		Caustic, Spent	WWTP	Dike		123
72	GP R 1057		IS	(N/A)	N	IFR	35	36		Caustic, Spent	WWTP	Dike		123
73	GP R 1058	089A	IS	Active	N	Dome Roof	15	20		Caustic, Fresh	WWTP	Dike		110
74	GP R 1059	121A	IS	Active	N	Cone Roof	10	24		Pour Depress (Infrin R500)	231	Dike		143
75	GP R 1116	075A	IS	Active	N	EFR	60	48		Udex Feed	N7F	Dike		533
76	GP R 1117	075A	OOO	Active	N	EFR	60	48		Udex Feed	N7F	Dike		533
77	GP R 1203	156A	IS	Active	N	Cone Roof	10	6		Caustic, Fresh	1332	Area Drain to Waste		0
78	GP R 1211	087A	IS	Active	N	Cone Roof	45	42		Cumene	5TF	Dike		339
79	GP R 1213	119A	IS	Active	N	Cone Roof	60	42		Cumene	5TF	Dike		177
80	GP R 1214	128A	IS	Active	N	IFR	60	60		Benzene	5TF	Dike		130
81	GP R 1215	170A	IS	Active	N	Cone Roof	90	40		Cumene	5TF	Dike		110
82	GP R 1216	171A	IS	Active	N	IFR	45	42		Cumene	5TF	Dike		420
83	GP R 1217	172A	IS	Active	N	IFR	45	42		Cumene	5TF	Dike		420
84	GP R 1218	158A	IS	Active	N	Cone Roof	60	41		Cumene	5TF	Dike		177
85	GP R 1219	159A	IS	Active	N	Cone Roof	90	40		Cumene	5TF	Dike		110
86	GP R 1220	160A	IS	Active	N	Cone Roof	48	48		Cumene	5TF	Dike		320
87	GP U 1221	196A	IS	Active	N	Horz. Elev	6	12		Add. Sulfuric, Fresh	#2 SEP	Dike		188
88	PS 1234		IS		N	Cone Roof	8	16		Pour Depress (Infrin R500)	859	Double Wall Tank		0
89	GP R 2000	155A	IS	Active	N	Horz. Elev	6	15		Caustic, Fresh	137	Dike		110
90	GP R 2000	192A	IS	Active	N	Cone Roof	10	11		Corr Inhib (EC 1024C)	137	Dike		110
92	GP R 3000		IS	(N/A)	N	Horz. Elev	4	6		Lube Oil	137	Dike		110

UPDATED: 12/31/12

Page 2 of 6

Unit: ALL
Cont. Type: ALL

Girard Point / Point Breeze Containment Type and Capacity of Registered and SPCC Tanks

Item No.	Tank Number	State Reg No	Tank Status	Regulatory Status	Tank Cleaned	Tank Type	Diameter	Height	(b) (7)(F)	Primary Product	Unit	Tank Field Containment Type	(b) (7)(F)	Tank Field Containment (%)
93	QPR 3001		ID	(N/A)	N	Horz, Elev	4	6		Lube Oil	1332	Dike		110
94	QPR 3002		ID	(N/A)	N	Horz, Elev	5	6		Lube Oil	1332	Dike		110
95	QPR 3003	184A	ID	Active	N	Dome Roof	12	10		Caustic	1332	Dike		128
96	QPR 3004		ID	(N/A)	N	Horz, Elev	5	6		Lube Oil	1332	Dike		110
97	QPR 3005		ID	(N/A)	N	Horz, Elev	4	6		Lube Oil	231	Dike		110
98	QPR 3101A	191A	ID	Active	N	Flat Roof	6	10		Sodium Hypochlorite	1332	Dike		131
99	GP 19T 8000	197A	ID	Active	N	Horz, Elev	4	6		Recovered Oil	NTP	Dike		110
100	GP 19T 8004	198A	ID	Active	N	Horz, Elev	4	6		Recovered Oil	NTP	Dike		110
101	PB 9V 2	135A	ID	Active	N	Vert, Elev	10	22		Caustic	859	Area Drain to Waste		0
102	PB 11V 11	184A	ID	Active	N	Horz, Elev	6	30		Pour Depress (Infrum 8530)	855	Dike		113
103	PB 14V 11	211A	ID	Active	N	Horz, Elev	8	8		Amine	210	Dike		112
104	PB 12V 12	215A	ID	Active	N	Vert, Elev	5	10		Lube Oil	866	Dike		112
105	PB 9V 14	145A	ID	Active	N	Horz, Elev	5	18		Methanol	859	Area Drain to Waste		0
106	PB 1V 20	166A	ID	Active	N	Vert, Elev	6	9		Lube Oil	859	Area Drain to Waste		0
107	PB 2V 20	166A	ID	Active	N	Vert, Elev	6	9		Lube Oil	860	Area Drain to Waste		0
108	PB 26	001A	ID	Active	N	IFR	90	51		Ethanol	1 FM	Dike		117
109	PB 27	002A	ID	Active	N	EFR	110	48		Gasoline Components	1 FM	Dike		113
110	PB 28	003A	ID	Active	N	EFR	110	49		Light Cat	1 FM	Dike		110
111	PB 29	004A	ID	Active	N	EFR	102	49		Heavy Reformate	1 FM	Dike		136
112	PB 33	007A	ID	Active	N	EFR	102	49		Gasoline	1 FM	Dike		136
113	PB 34	008A	ID	Active	N	EFR	110	47		Gasoline	1 FM	Dike		170
114	PB 35	009A	ID	Active	N	EFR	110	48		Gasoline	1 FM	Dike		178
115	PB 37	011A	ID	Active	N	IFR	110	48		Gasoline Components	1 FM	Dike		135
116	PB 38	012A	ID	Active	N	EFR	110	48		Gasoline	1 FM	Dike		135
117	PB 39	013A	ID	Active	N	EFR	110	48		Gasoline	1 FM	Dike		135
118	PB 40	014A	ID	Active	N	EFR	140	48		Gasoline	1 FM	Dike		110
119	PB 42	015A	ID	Active	N	Cone Roof	100	48		LSD	1 FM	Dike		137

UPDATED: 12/31/12

Page 3 of 6

Unit: ALL
Cont. Type: ALL

Girard Point / Point Breeze Containment Type and Capacity of Registered and SPCC Tanks

Item No.	Tank Number	State Reg No	Tank Status	Regulatory Status	Tank Cleaned	Tank Type	Diameter	Height	(b) (7)(F)	Primary Product	Unit	Tank Field Containment Type	(b) (7)(F)	Tank Field Containment (%)
120	PB 43	016A	IS	Active	N	Cone Roof	120	40		Jet	1 FM	Dike		114
121	PB V 49		IS	(N/A)	N	Vert. Elev	3	6		Lube Oil	864	Area Drain to Waste		0
122	PB V 50		OOS	(N/A)	N	Vert. Elev	4	5		Lube Oil	864	Area Drain to Waste		0
123	PB 78	198A	IS	Active	N	Vert. Elev	10	20		Corr Inhib (DC/SA)	1 FM	Dike		130
124	PB 83	020A	IS	Active	N	Cone Roof	100	56		Jet	1 FM	Dike		117
125	PB 84	021A	IS	Active	N	Cone Roof	100	56		Jet	1 FM	Dike		117
126	PB 85	022A	IS	Active	N	Cone Roof	80	48		LSD	1 FM	Dike		258
127	PB 8Z 102	212A	IS	Active	N	Holtz. Elev	5	18		Corrosion Inhibitor	858	Area Drain to Waste		0
128	PB WC 106		OOS	(N/A)	N	Vert. Elev	4	5		Lube Oil	BIO	(None)		0
129	PB WC 107		OOS	(N/A)	N	Vert. Elev	4	5		Lube Oil	BIO	(None)		0
130	PB 117		IS	(N/A)	N	EFR	60	48		Recovered Oil	BIO	Dike		110
131	PB 1V 120	155A	IS	Active	N	Cone Roof	12	15		Amine	852	Area Drain to Waste		0
132	PB 121	025A	IS	Active	N	IFR	102	48		Udex Feed	2 FM	Dike		299
133	PB 16V 122	209A	IS	Active	N	Cone Roof	6	9		Lube Oil	869	Double Wall Tank		176
134	PB 126	027A	IS	Active	N	EFR	70	49		Heavy Naptha	2 FM	Dike		158
135	PB 128	028A	IS	Active	N	EFR	140	56		Heavy Naptha	1 FM	Dike		112
136	PB 129	029A	IS	Active	N	EFR	140	55		Reformate	1 FM	Dike		110
137	PB 16V 135	143A	IS	Active	N	Cone Roof	20	18		Acid, Sulfuric, Fresh	869	Dike		139
138	PB 16V 137	144A	IS	Active	N	Cone Roof	20	18		Acid, Sulfuric, Spent	869	Dike		139
139	PB 144	185A	IS	Active	N	Cone Roof	70	48		Main Frac Bottoms	2 FM	Dike		154
140	PB 145	186A	IS	Active	N	Cone Roof	70	48		Main Frac Bottoms	2 FM	Dike		154
141	PB 1V 150		IS	(N/A)	N	Vert. Elev	4	5		Lube Oil	862	Dike		110
142	PB 151	037A	IS	Active	N	EFR	120	48		Heavy Gas Oil	2 FM	Dike		112
143	PB 1V 151		OOS	(N/A)	N	Vert. Elev	4	5		Lube Oil	862	Area Drain to Waste		0
144	PB 152	036A	IS	Active	N	Cone Roof	120	48		Resid Vacuum Bottoms	2 FM	Dike		122
145	PB 1V 152		IS	(N/A)	N	Vert. Elev	4	5		Lube Oil	862	Area Drain to Waste		0
146	PB 172	041A	IS	Active	N	IFR	120	48		Cat Gasoline	2 FM	Dike		112

UPDATED: 12/31/12

Page 4 of 8

Unit: ALL

Cont. Type: ALL

Girard Point / Point Breeze

Containment Type and Capacity of Registered and SPCC Tanks

Item No.	Tank Number	State Reg No	Tank Status	Regulatory Status	Tank Cleaned	Tank Type	Diameter	Height	(b) (7)(F)	Primary Product	Unit	Tank Field Containment Type	(b) (7)(F)	Tank Field Containment (%)
147	PB 178	045A	IS	Active	N	EFR	150	48		Naphtha	2 FM	Dike		124
148	PB 179	045A	IS	Active	N	EFR	128	48		Light Naptha	2 FM	Dike		178
149	PB 191	050A	IS	Active	N	EFR	52	41		Recovered Oil	4 FM	Dike		118
150	PB 204	052A	IS	Active	N	IFR	40	36		Recovered Oil	1 FM	Dike		655
151	PB 8T 204	146A	IS	Active	N	Cone Roof	6	6		Lube Oil	866	Area Drain to Waste		0
152	PB 8T 206		IS	(N/A)	N	Cone Roof	4	6		Lube Oil	866	Area Drain to Waste		0
153	PB 19T 221		IS	(N/A)	N	Horz, Elev	4	7		LSD	Plant Protection	Dike		144
154	PB 19T 222		IS	(N/A)	N	Horz, Elev	4	7		LSD	Plant Protection	Dike		144
155	PB 19T 223		IS	(N/A)	N	Horz, Elev	4	11		LSD	Plant Protection	Dike		192
156	PB 19T 224		IS	(N/A)	N	Horz, Elev	4	11		LSD	Plant Protection	Dike		270
157	PB 253	056A	IS	Active	N	Cone Roof	100	48		Light Cycle Oil	4 FM	Dike		253
158	PB 14V 403	136A	IS	Active	N	Horz, Elev	4	6		Methanol	210	Dike		117
159	PB 666	087A	IS	Active	N	Cone Roof	100	48		Heavy Gas Oil	3 FM	Dike		126
160	PB 668	095A	IS	Active	N	Cone Roof	40	48		Light Cycle Oil	3 FM	Dike		790
161	PB 672	093A	IS	Active	N	Cone Roof	100	48		Heavy Gas Oil	3 FM	Dike		188
162	PB 821	095A	IS	Active	N	IFR	144	48		Light Cycle Oil	4 FM	Dike		162
163	PB 822	095A	IS	Active	N	IFR	144	48		Light Cycle Oil	4 FM	Dike		162
164	PB 823	097A	IS	Active	N	Cone Roof	144	48		LSD	4 FM	Dike		147
165	PB 824	098A	IS	Active	N	Cone Roof	144	48		LSD	4 FM	Dike		141
166	PB 825	099A	IS	Active	N	Cone Roof	120	48		LSD	4 FM	Dike		176
167	PB 826	100A	IS	Active	N	EFR	160	57		Crude	4 FM	Dike		130
168	PB 835	105A	IS	Active	N	IFR	144	48		Distillate, Untreated	5 FM	Dike		112
169	PB 840	106A	IS	Active	N	EFR	140	50		Crude	4 FM	Dike		153
170	PB 841	109A	IS	Active	N	EFR	140	49		Crude	4 FM	Dike		129
171	PB 881	120A	IS	Active	N	EFR	160	56		Crude	4 FM	Dike		144
172	PB 882	121A	IS	Active	N	EFR	160	56		Crude	4 FM	Dike		134
173	PB 883	122A	IS	Active	N	EFR	160	57		Crude	4 FM	Dike		134

UPDATED: 12/31/12

Page 5 of 6

Unit: ALL

Cont. Type: ALL

Girard Point / Point Breeze Containment Type and Capacity of Registered and SPCC Tanks

Item No.	Tank Number	State Reg No	Tank Status	Regulatory Status	Tank Cleaned	Tank Type	Diameter	Height	(b) (7)(F)	Primary Product	Unit	Tank Field Containment Type	(b) (7)(F)	Tank Field Containment (%)
174	PB 884	123A	IS	Active	N	EPR	200	56		Crude	4 FM	Dike		277
175	PB 885	124A	IS	Active	N	EPR	200	56		Crude	4 FM	Dike		270
176	PB 886	125A	IS	Active	N	EPR	200	56		Crude	4 FM	Dike		275
177	PB 8T 1004	207A	IS	Active	N	Horz, Elev	5	6		Methanol	868	Dike		110
178	PB 18T 1010	196A	IS	Active	N	Horz, Elev	4	6		Recovered Oil	4 FM	Dike		110
179	PB 18T 1012	205A	IS	Active	N	Horz, Elev	5	14		Recovered Oil	4 FM	Dike		425
180	PB 3126	192A	IS	Active	N	Horz, Elev	8	12		Light Naphtha	210	Dike		110
181	PB 14T 4000	199A	IS	Active	N	Horz, Elev	4	6		Recovered Oil	210	Dike		110
182	PB 14T 4001	200A	IS	Active	N	Horz, Elev	4	6		Recovered Oil	210	Dike		110
183	PB 14T 4002	201A	IS	Active	N	Horz, Elev	4	6		Recovered Oil	210	Dike		110
184	PB 14T 4003	202A	IS	Active	N	Horz, Elev	4	6		Recovered Oil	210	Dike		110
185	PB 19T 6003	204A	IS	Active	N	Horz, Elev	4	6		Recovered Oil	3 FM	Dike		110

Unit: ALL

Cont. Type: ALL

Schuylkill River Tank Farm

Containment Type and Capacity of Registered and SPCC Tanks

Item No.	Tank Number	State Reg No.	Tank Status	Regulatory Status	Tank Cleaned	Tank Type	Diameter	Height	(b) (7) (F)	Primary Product	Unit	Tank Field Containment Type	(b) (7)(F)	Tank Field Containment (%)
1	OP SR 3	006A	6	Active	N	IFR	120	40		Gasoline	BRTF	Dike		134
2	OP SR 7	007A	6	Active	N	IFR	120	40		Gasoline	BRTF	Dike		133
3	OP SR 8	008A	6	Active	N	IFR	120	40		Gasoline	BRTF	Dike		122
4	OP SR 14	009A	6	Active	N	IFR	120	40		Gasoline	BRTF	Dike		120
5	OP SR 15	010A	6	Active	N	IFR	120	40		Gasoline	BRTF	Dike		119
6	OP SR 16	011A	6	Active	N	IFR	120	40		Gasoline	BRTF	Dike		140
7	OP SR 18	012A	6	Active	N	IFR	120	40		Gasoline	BRTF	Dike		124
8	OP SR 19	014A	6	Active	N	IFR	120	40		Gasoline	BRTF	Dike		114
9	OP SR 20	015A	6	Active	N	IFR	120	40		Gasoline	BRTF	Dike		115
10	OP SR 21	017A	6	Active	N	IFR	120	40		Gasoline	BRTF	Dike		140
11	OP SR 22	018A	6	Active	N	IFR	120	40		Gasoline	BRTF	Dike		121
12	OP SR 25	020A	6	Active	N	IFR	120	40		Gasoline	BRTF	Dike		124
13	OP SR 30	022A	6	Active	N	Cone Roof	140	48		#6 Fuel Oil	BRTF	Dike		172
14	OP SR 32	025A	6	Active	N	Cone Roof	140	48		#6 Fuel Oil	BRTF	Dike		110
15	OP SR 34	026A	6	Active	N	Cone Roof	140	48		#6 Fuel Oil	BRTF	Dike		111
16	OP SR 36	027A	6	Active	N	IFR	140	48		Gasoline Components	BRTF	Dike		115
17	OP SR 38	028A	6	Active	N	IFR	140	48		Gasoline Components	BRTF	Dike		115
18	OP SR 39	029A	6	Active	N	Cone Roof	140	48		#2 Furnace Oil	BRTF	Dike		110
19	OP SR 39	031A	6	Active	N	Cone Roof	140	48		#2 Furnace Oil	BRTF	Dike		110
20	OP SR 40	032A	6	Active	N	Cone Roof	140	48		LSD	BRTF	Dike		110
21	OP SR 41	033A	6	Active	N	Cone Roof	140	48		LSD	BRTF	Dike		110
22	OP SR 42	034A	6	Active	N	Cone Roof	140	48		LSD	BRTF	Dike		110
23	OP SR 46	036A	6	Active	N	EPR	140	48		Heavy Cal Gas	BRTF	Dike		123
24	OP SR 50	041A	6	Active	N	IFR	140	48		Reso Reformate	BRTF	Dike		112
24	OP SR 40	042A	6	Active	N	IFR	140	48		Refinate	BRTF	Dike		112
25	OP SR 51	043A	6	Active	N	Cone Roof	140	48		LSD	BRTF	Dike		115

Updated 12/3/12
Next Review: 5/30/13

Paper copies are uncontrolled. This copy is only valid at time of printing. The controlled version can be found on the company intranet.
Revision Date: 02/01/2013
Next Revision Date: 02/01/2018

PHILADELPHIA ENERGY SOLUTIONS OPA 90 PLAN

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 1.0: Introduction

Unit: ALL

Schuylkill River Tank Farm Containment Type and Capacity of Registered and SPCC Tanks

Unit: ALL

Item No.	Tank Number	Stab Reg No.	Tank status	Regulatory Status	Tank Cleaned	Tank Type	Diameter	Height	Primary Product	Unit	Tank Field Containment Type	Tank Field Containment (N)
27	GP SR 02	064A	IS	Active	N	EFF	140	48	Hydro Refinable	SPFF	ONE	110
28	GP SR 03	067A	IS	Active	N	Conc Roof	140	48	ULSD #2	SPFF	ONE	122
29	GP SR 05	068A	IS	Active	N	Conc Roof	140	47	500MK2	SPFF	ONE	125
30	GP SR 03	073A	IS	Active	N	Vert. Ekv	10	15	Red Oils	SPFF	ONE	98
31	GP SR 101	057A	IS	Active	N	Vert. Ekv	10	21	Surf Inhib (DCEA)	SPFF	ONE	112
32	GP SR 102	058A	IS	Active	N	Vert. Ekv	10	21	Surf Inhib (DCEA)	SPFF	ONE	112
33	GP SR 201	056A	IS	Active	N	Conc Roof	15	24	Recovered Oil	SPFF	Area Drain to Collection	120
34	GP SR 211		IS	N/A	N	Horiz. Ekv	4	8	LSD	SPFF	ONE	123
35	GP SR 212		IS	N/A	N	Horiz. Ekv	4	8	LSD	SPFF	ONE	110
36	GP SR 213	073A	IS	Active	N	Horiz. Ekv	5	14	Foam Concentrate	SPFF	Area Drain to Manhole	0
37	GP SR 214	074A	IS	Active	N	Horiz. Ekv	5	14	Foam Concentrate	SPFF	Area Drain to Manhole	0

OPA 90 PLAN for the Philadelphia Energy Solutions Complex Section 1.0: Introduction

The following are abbreviations that are used in the list above:

EFR – external floating roof (open top, floating roof tank)
IFR – internal floating roof (covered floating roof tank)
CIP – “Closed in Place”

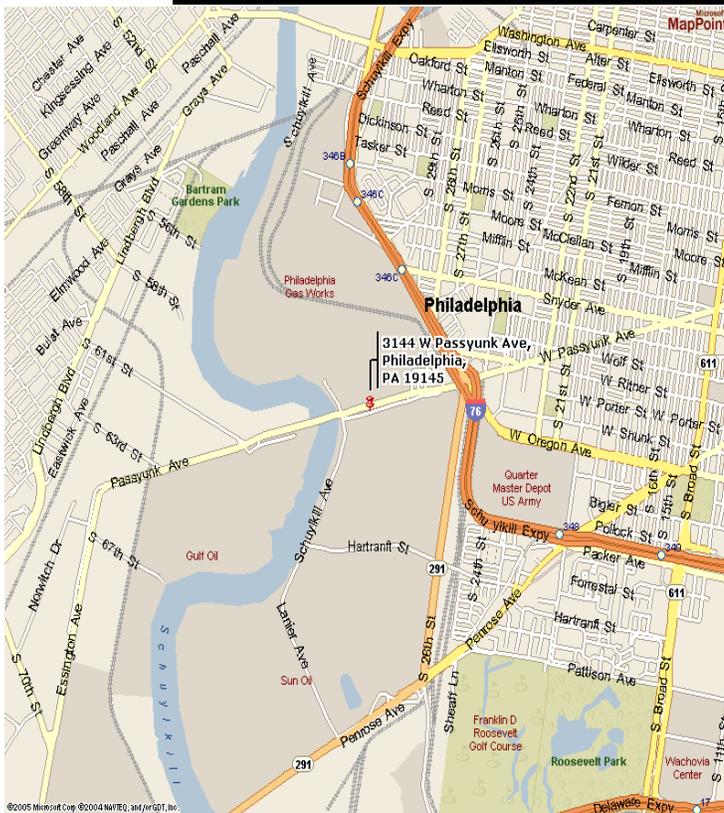
CR – Cone Roof
VER – Vertical Elevated Roof
DEM - Demolished

OPA 90 PLAN for the Philadelphia Energy Solutions Complex Section 1: Introduction

1.2 Facility Identifications 154.1035(a) (1-3)

- Address: 3144 W. Passyunk Avenue
- City: Philadelphia
- State: PA
- County: Philadelphia
- Zip Code: 19145
- Phone Number: 215-339-2000
- Fax Number: 610-859-1058
- Owner: Philadelphia Energy Solutions
1735 Market Street
Philadelphia, PA 19103
- Wellhead Protection: N/A
- Major Expansions: See Page 4.
- SIC Code: 2911
- Dunn & Bradstreet Number: 058974197
- Oil Storage Start Up Date & Date of Start Up: Refinery (Girard Point) 1920s (Point Breeze) 1866; Tank Farm (Schuylkill River) 1953
- Emergency Response Coordinator (24 hours): 215-339-2286.

(b) (7)(F)



Directions from I-95 North:

- Take Exit 11 to Island Avenue.
- Right onto Island Avenue to Bartram Avenue.
- Right onto Bartram Avenue to Essington Avenue.
- Essington Avenue will turn into Passyunk Avenue.
- Cross the Passyunk Avenue Bridge and exit at Frontage Road.
- The main entrance, S-1 Gate, is 200 yards on the left.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 1: Introduction

General Statements

Philadelphia Energy Solutions has three operating areas within the Complex. They are represented in this plan as:

- Point Breeze Process Area
- Girard Point Process Area
- Schuylkill River Tank Farm

The Point Breeze Process Area is located at the juncture of the Schuylkill River and the Passyunk Avenue Bridge in south Philadelphia, approximately 2.75 miles north of the Delaware River. This process area consists of approximately 672 acres.

The Point Breeze Process Area is an integrated fuels refinery with a crude throughput of 125,000 barrel per day. Crude is brought into the facility by pipeline from the Fort Mifflin ship unloading facility and stored in tanks. The facility has approximately 175 large storage tanks with a total storage capacity of approximately 12 million barrels of petroleum products at any one time. Crude oil is processed in the crude distillation units to yield light hydrocarbon gases, reformed stock, kerosene, furnace oil, and gas oils. All processing facilities are located in the South Yard.

The facility loads fuel oil, gasoline, diesel, and kerosene at four barge loading facilities on the Schuylkill River which is open on a 24-hour basis. These loading facilities are equipped for barges up to a (b) (7)(F) [REDACTED]. The Point Breeze Process Area loads liquefied petroleum gases and heavy fuels onto truck and railcars at loading facilities located in the North Yard.

The Point Breeze Process Area covers an approximate total of 672 acres. The active portions of the facility are bordered on the west by the Schuylkill River and on the east by 26th Street. Passyunk Avenue divides the site into two general areas, the North Yard and the South Yard, occupying approximately 372.5 acres and 247 acres, respectively. The South Yard also contains the Belmont Marketing Terminal, a truck loading facility for light and heavy fuels and gasoline.

The West Yard is inactive. This area, occupying approximately 52.5 acres, was used for bulk storage of petroleum products in above ground storage tanks. The tanks have been removed from the West Yard.

The Girard Point Process Area covers approximately 373 acres. It is located at the base of the Platt Bridge (Penrose Avenue). The process area is located on the east bank of the Schuylkill River. The 211-acre tank farm is located on the west bank of the Schuylkill River, directly opposite the Girard Point Process Area. The facility is approximately one mile above the confluence with the Delaware River.

The Girard Point Process Area is a petroleum refinery. It has a rated crude throughput of 200,000 barrels per day. Crude oil is processed into three grades of gasoline, home and industrial heating fuels, kerosene, jet fuel, liquefied petroleum gas (LPG), benzene, toluene, cumene, and sulfur. Processing units in operation include atmospheric and vacuum crude distillation, catalytic reforming, fluid catalytic cracking, distillate desulfurization, alkylation, amine scrubbing, sulfur recovery, petrochemical complex, and gasoline treating and blending.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 1: Introduction

The facility has a refined products terminal with seven berths. The Girard Point Wharf Terminal is located on the north side of the Schuylkill River, approximately a half-mile downstream of the Platt Bridge and adjacent to the Girard Point Process Area.

The Schuylkill River Tank Farm is a petroleum bulk storage facility and a gasoline blending facility that operates 24 hours a day, 365 days a year. Intermediate and finished products are stored in approximately 50 tanks. There are no underground storage tanks and no refining units at the Schuylkill River Tank Farm.

Philadelphia Energy Solutions has developed the OPA 90 Response Plan to describe procedures, outline responsibilities, and to coordinate response efforts in the event of an oil or chemical spill into the Schuylkill River or Delaware River. In addition, the plan details procedures and response strategies for fulfilling PES's Delaware Bay and River Cooperative response commitments.

This plan is further utilized as an information source in efforts to mitigate the effects of an incident, assure quick communications, provide a precise method to mobilize the necessary resources, and to insure compliance with Local, State, and Federal requirements.

Philadelphia Energy Solutions has developed, in addition to its Oil Spill Response Plan, an Emergency Management Plan and Incident Command System. Our approach and strategies during emergency events are structured around the use of our Incident Command System, Delaware Bay River Cooperative Oil Spill Response Plan and Oil Spill Activation Plan. The use of these two manuals combined assist in our overall preparedness and anticipating refinery emergencies, including emergencies impacting waterways.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 1: Introduction

Major Expansions

- 1866 Point Breeze: Began operations.
- 1920 Girard Point: Began operations.
- 1949 Darby Creek Tank Farm: Began operations.
Hog Island Wharf: Began operations.
Point Breeze: Began post World War II process expansion.
- 1952 Darby Creek: Construction of additional tanks.
- 1953 Schuylkill River Tank Farm: Began operations.
- 1970s Point Breeze: Conversion to a fuels-only facility.
- 1982 Darby Creek Tank Farm: All tanks in service.
- 1985 Point Breeze: Sale by ARCO to Atlantic Refining and Marketing.
- 1988 Point Breeze: Sale by Atlantic Refining and Marketing to Sun.
- 1990 Point Breeze: Expansion of catalytic cracker.
Point Breeze: Construction of Sulfuric Acid Alkylation Unit.
- 1992 Hog Island Wharf: Modified Berths #3 and #4 to receive MTBE.
- 1994 Girard Point: Sunoco acquires Chevron USA Philadelphia Refinery.
- 2002 Darby Creek Tank Farm and Hog Island Dock transferred to Sun MLP
- 2005 Low Sulfur Gas
- 2012 Philadelphia Energy Solutions purchased the Philadelphia refining complex from Sunoco.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 2: Overview and Use of Plan

OPA 90 PLAN ASSIGNMENTS

Within the OPA 90 Plan, the policies, procedures, and notification actions refer to job positions not specific personnel. This methodology has been utilized because of the size of the response organization, the 24 hour staffing capability, and amount of resources available at the individual facilities.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 2: Overview and Use of Plan

FEDERAL REGULATIONS CROSS REFERENCES

The cross references for the United States Coast Guard, the Department of Transportation, and the Environmental Protection Agency Facility Response Plan Review Protocols are found below. The cross references contains a reference for each section of the regulation, a brief explanation of the regulation, and the page number within this plan where the information can be located.

DOT Cross Reference

49 CFR Citation	General Response Plan Contents	Plan Page #
194.103 (a)	Standard Response Plan Cover Sheet	OPA Plan iii – ERAP
194.103 (a) 194.103 (c)	Significant and substantial harm; operator's statement	OPA Plan iv
194.105(b)(1)	The worst case discharge for each zone including calculations used to arrive at the volume	APP I
194.107(d)(1)(i)	A core plan consisting of an information summary as required by 194.113.	Sec. 1.2, p. 1-2 Sec. 1.3, p. 1 ERAP
194.113 (a)(1)	The name and address of the operator	Sec. 1.2, p. 1 ERAP
194.113 (a)(2)	For each response zone which contains one or more line sections that meet the criteria for determining significant and substantial harm as described in 194.103, a listing and description of the response zones, including county(s) and state(s)	ERAP, p. 1-23 APP I Sec. 6, p. 1-22
194.107(d)(1)(ii)	Immediate notification procedures	ERAP Sec. 3.1, p. 1-8
194.107(d)(1)(iii)	Spill detection and mitigation procedures	Sec. 3.2, p.1-13
194.107(d)(1)(iv)	The name, address, and telephone number of the oil spill response organization, if appropriate	ERAP Sec. 3.1, p.3-5 APP C, p.3-5
194.107(d)(1)(v)	Response activities and response resources	ERAP Sec. 3.3, p. 1-9 APP D, p. 1-58
194.107(d)(1)(vi)	Names and telephone numbers of Federal, state, and local agencies which the operator expects to have pollution control responsibilities or support	ERAP Sec 3.1, p. 3-5 Sec. 3.2, p. 1 APP C, 3-10
194.107(d)(1)(vii)	Training procedures	Sec. 8, p. 1-3
194.107(d)(1)(viii)	Equipment testing	Sec. 9, p. 2 APP D
194.107(d)(1)(ix)	Drill types, schedules, and procedures	Sec. 9, p. 2-7
194.107(d)(1)(x)	Plan review and update procedures	Sec. 10, p. 1-2
194.107(d)(2)	An appendix for each response zone. Each response zone appendix must include the information required in paragraph (d)(1)(i)-(ix) of this section that is specific to the response zone and the worst case discharge calculations. The information summary for the response zone index must include:	APP A, p. 1-5 Sec. 3.2, p. 1-13 APP I
194.113(b)(1)	The information summary of the core plan.	ERAP APP I

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 2: Overview and Use of Plan

49 CFR Citation	General Response Plan Contents	Plan Page #
194.113(b)(2)	The name and telephone number of the qualified individual available on a 24-hour basis.	ERAP Sec 3.1 p.3 Sec. 3.3, p. 3 APP C, p. 2
194.113(b)(3)	The description of the response zone, including county(s) and state(s), for those zones in which a worst case discharge could cause substantial harm to the environment	Sec. 3.2 APP A, p. 1-5 APP I ERAP
194.113(b)(4)	A list of the line sections for each pipeline contained in the response zone, identified by milepost or survey station number, or other operator designation	Sec. 3.2 APP I
194.113(b)(5)	The basis for the operator's determination of significant and substantial harm	Sec. 6, p.1-2 ERAP
194.113(b)(6)	The type of oil and volume of the worst case discharge.	Sec. 3.2 p. 1-13 APP I
194.117(a)(1)	Conduct training to ensure that all personnel know their responsibilities under the response plan, the name and address of and the procedure for contacting the operator on a 24-hour basis, the name of and the procedures for contacting the QI on a 24-hour basis	Sec. 8 Sec 3.1 p. 3 Sec. 3.2 p. 12 Sec 3.3 p. 1-3 APP C p. 2 ERAP
194.117(a)(2)	Conduct training to ensure that reporting personnel know the content of the information summary of the response plan, the toll-free number of the National Response Center and the notification process	Sec. 8, Sec. 3.3 p. 3 ERAP
194.117(a)(3)	Conduct training to ensure that personnel engaged in response activities know the characteristics and hazards of the oil discharged, the conditions that are likely to worsen emergencies, the steps necessary to control any accidental discharge of oil and to minimize the potential for fire, explosion, toxicity and environmental damage.	Sec. 8.
194.117(a)(3)(iv)	Conduct training to ensure that personnel engaged in response activities know the proper firefighting procedures and use of equipment, fire suits, and breathing apparatus.	Sec. 8.
194.121	Update response plan to address new or different operating conditions or information. Full plan review required at least every 5 years from the date of the last submission or last approval.	Section 10

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 2: Overview and Use of Plan

FEDERAL REGULATIONS CROSS REFERENCES

The cross references for the United States Coast Guard, the Department of Transportation, and the Environmental Protection Agency Facility Response Plan Review Protocols are found below. The cross references contains a reference for each section of the regulation, a brief explanation of the regulation, and the page number within this plan where the information can be located.

USCG Cross Reference

CFR Citation	General Response Plan Contents	Plan Page #
33 CFR 154.1026 (a)	Plan must identify a qualified individual & at least one alternate that meet the requirements of this section	Sec 3.3 p. 1-4 ERAP
33 CFR 154.1026	The qualified individual & alternate must:	
33 CFR 154.1026 (b) (1)	Speak fluent English:	Yes
33 CFR 154.1026 (b) (2)	Be available on a 24 hour basis and be able to arrive at the facility in a reasonable time.	Sec 3.3 p. 1 ERAP
33 CFR 154.1026 (b) (3)	Be familiar with the implementation of the facility response plan.	Sec 3.3, p. 5-26
33 CFR 154.1026 (b) (4)	Be trained in the responsibilities of the qualified individual under the response plan.	Sec 8, ERAP
33 CFR 154.1030 (b)	Plan is divided into the listed sections and formatted in the order specified. (Sections and subsections in boldface on this form.)	Yes
33 CFR 154.1030 (e)	For initial and subsequent submission a plan that does not follow the format specified in paragraph b, must be supplemented with a cross reference section to identify the location of the applicable sections.	Yes
33 CFR 154.1035 (a)	Introduction and plan contents – must include facility and plan information as follows:	
33 CFR 154.1035 (a) (1)	Facility's name;	Sec 1.2 p. 1-3, ERAP
	Street address, city, county, state, and zip code	Sec 1.2 p. 1-3, ERAP
	Telephone number and telefacsimile number if so equipped; and	Sec 1.2 p. 1-3, ERAP
	Mailing address, if different from street address	Sec 1.2 p. 1-3, ERAP
33 CFR 154.1035 (a) (2)	Facility's location described in a manner that could aid both a reviewer and a responder in locating the specific facility	Sec 1.2 p. 1-3, ERAP
33 CFR 154.1035 (a) (3)	Name, address, and procedures for contacting the facility's owner or operator on a 24 hour basis.	Sec 1.2 p. 1-3, ERAP
33 CFR 154.1035 (a) (4)	Table of Contents	Yes
33 CFR 154.1035 (a) (5)	During the period that the submitted plan does not have to conform to the format contained in this subpart, a cross index, if appropriate	
33CFR154.1035 (a)(6)	Record of change(s) to record information on plan updates.	Sec 1.5, ERAP
33CFR154.1035 (b)(1)	Notification Procedures:	
33CFR154.1035(b)(1)(i)	Contains a <u>prioritized</u> list identifying the person(s), including:	
	Name;	Sec 3.3, p. 1-4, ERAP
	Telephone number; and	Sec 3.3, p. 1-4, ERAP
	Their role in plan, to be notified of a discharge or a substantial threat of a discharge of oil. (Telephone number need not be	Sec 3.3 p. 5-11, ERAP

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 2: Overview and Use of Plan

CFR Citation	General Response Plan Contents	Plan Page #
	listed if listed in required list of contacts.) List must include:	

CFR Citation	General Response Plan Contents	Plan Page #
33 CFR 154.1035 (b) (1) (i) (A)	Facility response personnel;	APP C, p. 1-6, ERAP
	Spill management team;	APP C p. 5-6, ERAP
	OSRO's;	APP C p. 2, Sec 3.3 p. 4, ERAP
	Qualified Individual; and	APP C p. 2, Sec 3.3 p. 3, ERAP
	Alternate Qualified Individual;	APP C p. 2, Sec 3.3 p. 3, ERAP
33 CFR 154.1035 (b) (1) (i) (B)	Federal Agencies;	APP C p. 4, Sec 3.3 p. 4, ERAP
	State Agencies;	APP C, p. 7-8, Sec 3.1 p. 6, ERAP
	Local Agencies; as required	APP C, p. 4-5, Sec 3.1 p. 7, ERAP
33 CFR 154.1035 (b) (1) (ii)	Subsection includes a form, such as that depicted in Figure 1, with information to be provided in initial and follow up notifications to Federal, State, and local agencies.	Sec 3.1, p. 7-8, ERAP
	Notification to the National Response Center;	Sec 3.1, p.1, ERAP
	Prominent statement that initial notification must not be delayed pending collection of all information.	Sec 3.1, p.1, ERAP
33 CFR 154.1035 (b) (2)	Facility's spill mitigation procedures:	
33 CFR 154.1035 (b) (2) (i)	Describes the volume(s) of persistent and non-persistent oil groups that would be involved in the:	
33 CFR 154.1035 (b) (2) (i) (A)	Average most probable discharge from the MTR facility;	Sec 3.2, p. 1
33 CFR 154.1035 (b) (2) (i) (B)	Maximum most probable discharge from the MTR facility; and	Sec 3.2, p. 2
33 CFR 154.1035 (b) (2) (i) (C)	Worst Case Discharge from the MTR facility;	Sec 3.2, p. 2-3
33 CFR 154.1035 (b) (2) (i) (D)	Where applicable, the worst case discharge from the non-transportation related facility. This must be the same volume provided in the response plan for the non-transportation related facility.	Sec 3.2, p. 2-3
33 CFR 154.1035 (b) (2) (ii)	Prioritized procedures for facility personnel to mitigate or prevent any discharge or substantial threat of a discharge resulting from operational activities associated with internal or external facility transfers	Sec 3.2, p. 7-13, ERAP
	Includes specific procedures to shut down affected operations	Sec 3.2, p. 7-13
	Facility personnel responsible for performing specified procedures identified by job title.	Sec 3.2, p. 7-13
	Procedures address actions to be taken by facility personnel in the event if a discharge, or emergency involving the following equipment and scenarios:	Sec 3.2, p. 7-13
33 CFR 154.1035 (b) (2) (ii) (A)	Failure of manifold, mechanical loading arm, other transfer equipment, or hoses, as appropriate;	Sec 3.2, p. 10-13, ERAP
33 CFR 154.1035 (b) (2) (ii) (B)	Tank overfill;	Sec 3.2, p.10-13 ERAP

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 2: Overview and Use of Plan

33 CFR 154.1035 (b) (2) (ii) (C)	Tank failure;	Sec 3.2, p.10-13 ERAP
33 CFR 154.1035 (b) (2) (ii) (D)	Piping Rupture;	Sec 3.2, p.10-13
33 CFR 154.1035 (b) (2) (ii) (E)	Piping leak, both under pressure & not under pressure, if applicable;	Sec 3.2, p.10-13
33CFR154.1035(b)(2)(ii) (F)	Explosion or fire; and	Sec 3.2, p.10-13

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 2: Overview and Use of Plan

CFR Citation	General Response Plan Contents	Plan Page #
33 CFR 154.1035 (b) (2) (ii) (G)	Equipment failure (e.g. pumping system, relief valves, etc.)	Sec 3.2, p.10-13
33 CFR 154.1035 (b) (2) (iii)	Contains listing of equipment; and Responsibilities of facility personnel to mitigate an average most probable discharge.	Sec 3.3, p.1-11, ERAP
33 CFR 154.1035 (b) (3)	Facility Response Activities:	
33 CFR 154.1035 (b) (3) (i)	Contains description of the facility personnel's responsibilities to initiate a response and supervise response resources pending the arrival of the qualified individual.	Sec 3.3, p.1-2, ERAP
33 CFR 154.1035 (b) (3) (ii)	Contains description of the responsibilities and authority of the qualified individual and alternate, as required by 154.1026.	Sec 3.3, p.3, ERAP
33 CFR 154.1035 (b) (3) (iii)	Describes the facility or corporate organizational structure that will be used to manage the response actions, including:	Sec 3.3, p.27-59, ERAP
33 CFR 154.1035 (b) (3) (iii)(A)	Command and control;	Sec 3.3, p. 24-57 ERAP
33 CFR 154.1035 (b) (3) (iii)(B)	Public information;	Sec 3.3, p. 24-57 ERAP
33 CFR 154.1035 (b) (3) (iii)(C)	Safety;	Sec 3.3, p. 24-57 ERAP
33 CFR 154.1035 (b) (3) (iii)(D)	Liaison with government agencies;	Sec 3.3, p. 24-57 ERAP
33 CFR 154.1035 (b) (3) (iii)(E)	Spill operations;	Sec 3.3, p. 24-57 ERAP
33 CFR 154.1035 (b) (3) (iii)(F)	Planning;	Sec 3.3, p. 24-57 ERAP
33 CFR 154.1035 (b) (3) (iii)(G)	Logistics support; and	Sec 3.3, p. 24-57 ERAP
33 CFR 154.1035 (b) (3) (iii)(H)	Finance.	Sec 3.3, p. 24-57 ERAP
33 CFR 154.1035 (b) (3) (iv)	Identifies OSRO(s) and spill management team available, by contract or other approved means. The OSRO and spill management team must:	Sec 3.3, p. 24-57 ERAP
33 CFR 154.1035 (b)(3)(iv)(A)	Be capable of responding to the following spill scenarios:	
33 CFR 154.1035 (b)(3)(iv)(A)(1)	Average most probable discharge;	Sec 3.2, ERAP
33 CFR 154.1035 (b)(3)(iv)(A)(2)	Maximum most probable discharge; and	Sec 3.2, ERAP
33 CFR 154.1035 (b)(3)(iv)(A)(3)	Worst case discharge to the maximum extent practicable; and	Sec 3.2, ERAP
33 CFR 154.1035 (b)(3)(iv)(B)	Be capable of providing the following equipment:	
33 CFR 154.1035 (b)(3)(iv)(B)(1)	Equipment and supplies to meet the requirements of 154.1045, 154.1047, or 154.1049, as appropriate; and	APP D, ERAP
33 CFR 154.1035 (b)(3)(iv)(B)(2)	Trained personnel necessary to continue operations of the equipment and staff of the OSRO & spill management team for first 7 days of response.	Sec 3.1, p. 1-7; APP C, p. 1-5, ERAP
33 CFR 154.1035 (b)(3)(v)	For mobile facilities that operate in more than one COTP zone, the plan must identify the OSRO and spill management team in the applicable geographic-specific appendix.	N/A
33 CFR 154.1035	The OSRO(s) and spill management team discussed in (b) (3)	N/A

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 2: Overview and Use of Plan

(b)(3)(v)	(iv) (A) of this section must be included for each COTP zone in which the facility will handle, store, or transport oil in bulk.	
-----------	--	--

CFR Citation	General Response Plan Contents	Plan Page #
33 CFR 154.1035 (b) (4)	Sensitive Areas:	
33 CFR 154.1035 (b) (4) (i)	Identifies areas of economic importance and environmental sensitivity as identified in the ACP which are potentially impacted by a worst case discharge.	Sec 4 p.1-41
	Additions or deletions in the areas of economic importance and environmental sensitivity contained in the ACP, when available, included in the annual update of the response plan.	N/A
33 CFR 154.1035 (b) (4) (ii)	For a worst case discharge, this section of the response plan must:	
33 CFR 154.1035 (b) (4) (ii)(A)	List all areas of economic importance & environmental sensitivity as identified in ACP which are potentially impacted by a worst case discharge of persistent oils, non-persistent oils, or non-petroleum oils.	Sec 4, p.1-13 ERAP
33 CFR 154.1035 (b) (4) (ii)(B)	Describe all response actions that facility anticipates taking to protect these economically important & environmentally sensitive areas;	Sec 4 p. 28
33 CFR 154.1035 (b) (4) (ii)(C)	Contain map or chart showing location of areas of economic importance & environmental sensitivity which are potentially impacted.	APP H, Sec 4 p.16-20, ERAP
	The map or chart shall depict each response action that facility anticipates taking to protect these areas.	APP H, I, J Sec. 4 p. 18-41 ERAP
33 CFR 154.1035 (b) (4) (iii)	For a worst case discharge, this section of the response plan must:	
33 CFR 154.1035 (b)(4)(iii)(A)	Identify the appropriate equipment and required personnel to protect all areas of economic importance & environmental sensitivity in the ACP for the distance the persistent oils, non-persistent oils, or non-petroleum oils are likely to travel in the noted geographic area(s) and number of days listed in Table 2 of Appendix C of this part;	Sec 3.2, p. 1-13, ERAP
33 CFR 154.1035 (b)(4)(iii)(B)	Identify appropriate equipment & required personnel available, by contract or other approved means, to protect areas of environmental sensitivity & economic importance as follows:	APP D, ERAP
33 CFR 154.1035 (b)(4)(iii)(B)	For persistent & non-petroleum oils discharged into tidal waters, 15 miles from facility down current during ebb tide & to point of maximum tidal influence or 15 miles, whichever is less, during flood tide;	Sec 4, p. 3
33 CFR 154.1035 (b)(4)(iii)(B)(3)	For non-persistent oils discharged into non-tidal waters, the distance from facility reached in 24 hours at maximum current;	Sec 4, p. 3
33 CFR 154.1035 (b)(4)(iii)(B)(4)	For non-persistent oils discharged into tidal waters, 5 miles from facility down current during ebb tide and to point of maximum tidal influence or 5 miles, whichever is less, during flood tide;	Sec 4, p. 3

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 2: Overview and Use of Plan

CFR Citation	General Response Plan Contents	Plan Page #
33 CFR 154.1035 (b)(4)(iii)(B)(5)	For persistent oils, non-persistent oils, or non-petroleum oils a spill trajectory or model may be substituted for the distances listed in non-tidal and tidal waters.	Sec 4 p. 3
33 CFR 154.1035 (b)(4)(iii)(B)(5)	Additional areas of economic importance or environmental sensitivity to be protected, if required by COTP, based on historical information or a spill trajectory or model.	
33 CFR 154.1035 (b)(5)	Disposal Plan: Describes any actions to be taken or procedures to be used to ensure that all recovered oil and oil-contaminated debris produced as a result of any discharge or disposed according to Federal, State, or Local requirements.	Sec 5
33 CFR 154.1035 (c)	Hazard Evaluation. [Reserved]	
33 CFR 154.1035 (d)	Discussion of Spill Scenarios. [Reserved]	
33 CFR 154.1035 (e)	Training and Drills [Must be divided into the two following subsections:]	
33 CFR 154.1035 (e)(1)	Training Procedures:	
	Describes the training procedures and programs of the facility owner or operator to meet the requirements of 154.1050.	Sec 8,
33 CFR 154.1035 (e)(1)	Drill Procedures:	
	Describes the program to be carried out by the facility owner or operator to meet the requirements of 154.1055.	Sec 9, ERAP
33 CFR 154.1035 (f)	Plan Review and Update Procedures:	
	Addresses the procedures to be followed by the facility owner or operator to meet the requirements of 154.1065; and	Sec 10
	The procedures to be followed for any post-discharge review of the plan to evaluate & validate its effectiveness.	Sec 10
33 CFR 154.1035 (g)	Appendices - must include:	
33 CFR 154.1035(g)(1)	Facility-Specific Information: Contains a description of the facility's principal characteristics.	Sec 6, p. 2
33 CFR 154.1035 (g)(1)(i)	A physical description of the facility including a plan of the facility showing:	APP A
	Mooring areas;	APP H, ERAP
	Transfer locations;	APP H, ERAP
	Control Stations;	APP H, ERAP
	Locations of safety equipment;	APP H, ERAP
	Location & capacity of all piping; and	APP H, ERAP
	Location & capacity of all storage tanks.	APP H, I, J; Sec 6, ERAP
33 CFR 154.1035 (g)(1)(ii)	Identifies sizes, types & numbers of vessels that the facility can transfer oil to or from simultaneously.	APP A,
33 CFR 154.1035 (g)(1)(iii)	Identifies the first valve(s) on facility piping separating the transportation-related portion of the facility from the non-transportation-related portion of the facility, if any.	APP H, ERAP
	For piping leading to a manifold located on a dock serving tank vessels, the valve is the first valve inside the secondary containment required by 40 CFR 112.	APP H, ERAP

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 2: Overview and Use of Plan

CFR Citation	General Response Plan Contents	Plan Page #
33 CFR 154.1035 (g)(1)(iv)	Contains information on the oil(s) and hazardous material handled, stored, or transported at the facility in bulk. An MSDS meeting requirements of 29 CFR 1910.120, 33 CFR 154.310 (a) (5) or an equivalent will meet this requirement. This information can be maintained separately providing it is readily available and appendix identifies location. This information must include:	APP A, p.5
33 CFR 154.1035 (g)(1)(iv)(A)	The generic or chemical name;	APP A
33 CFR 154.1035 (g)(1)(iv)(B)	A description of the appearance and odor;	APP A
33 CFR 154.1035 (g)(1)(iv)(C)	The physical and chemical characteristics;	APP A
33 CFR 154.1035 (g)(1)(iv)(D)	The hazards involved in handling the oil(s) and hazardous materials, including hazards likely to be encountered if the oil(s) & hazardous materials come in contact as a result of a discharge; and	APP A
33 CFR 154.1035 (g)(1)(iv)(E)	A list of firefighting procedures & extinguishing agents effective with fires involving the oil(s) and hazardous materials.	Sec. 7; APP D, p. 46, ERAP
33 CFR 154.1035 (g)(2)	List of Contacts: Includes information on 24 hour contact of key individuals and organizations. If more appropriate, this information may be specified in a geographic-specific appendix. This list must include:	Sec 3.3, p. 1-4 APP C
33 CFR 154.1035 (g)(2)(i)	The primary and alternate qualified individual(s) for the facility;	Sec 3.3, p. 3 APP C, ERAP
33 CFR 154.1035 (g)(2)(ii)	The contact(s) identified under paragraph (b)(3)(iv) of this section for activation of response resources; and	Sec 3.3, p. 1-4, APP C, ERAP
33 CFR 154.1035 (g)(2)(iii)	Appropriate Federal, State, and Local Officials.	APP C, p. 6-8, ERAP
33 CFR 154.1035 (g)(3)	Equipment List and Records must include:	
33 CFR 154.1035 (g)(3)(i)	A list of equipment and facility personnel required to respond to an average most probable discharge and the location of the equipment.	Sec 3.2
33 CFR 154.1035 (g)(3)(ii)	A detailed listing of all major equipment identified in the plan as belonging to an OSRO that is available, by contract or other approved means, to respond to a worst case discharge. The listing may be located in a separate document referenced by the plan.	APP D, p. 1-45, ERAP
	Either the appendix or the separate document must provide the location of the equipment.	APP D, ERAP
33 CFR 154.1035 (g)(3)(iii)	It is not necessary to list equipment from an OSRO if classified by the USCG and their capacity has been determined to equal or exceed the response capability needed by the facility.	
	For OSRO(s) classified by the USCG, the classification must be noted.	
	The list must include for each piece of equipment:	
33 CFR 154.1035 (g)(3)(iii)(A)	The type, make, model & year of manufacture listed on the nameplate of the equipment;	APP D, ERAP
33 CFR 154.1035 (g)(3)(iii)(B)	For oil recovery devices, the effective daily recovery rate, as determined using Section 6 of Appendix C;	APP D, ERAP
33 CFR 154.1035 (g)(3)(iii)(C)	For containment boom, the overall boom height (draft & freeboard) and type of end connectors;	APP D, ERAP

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 2: Overview and Use of Plan

CFR Citation	General Response Plan Contents	Plan Page #
33 CFR 154.1035 (g)(3)(iii)(D)	The spill scenario in which the equipment will be used or for which it is contracted;	Sec 3.2
33 CFR 154.1035 (g)(3)(iii)(E)	The total daily capacity for storage and disposal of recovered oil;	APP D
33 CFR 154.1035 (g)(3)(iii)(F)	For communication equipment, type & amount of equipment intended for use during response activities.	APP E
	Where applicable, the primary and secondary radio frequencies;	APP E
33 CFR 154.1035 (g)(3)(iii)(G)	Location of the equipment;	APP E
33 CFR 154.1035 (g)(3)(iii)(H)	The date of the last inspection by the OSRO(s)	Sec 3.2
33 CFR 154.1035 (g)(4)	Communications Plan:	
	Describes the primary and alternate method of communication during discharges; including:	APP E
	Communications at facility & remote locations within area covered by response plan. It may refer to additional communications packages provided by the OSRO and may reference another existing plan or document.	APP E
33 CFR 154.1035 (g)(5)	Site-Specific Safety and Health Plan	
	Describes the safety & health plan to be implemented for any response location(s) & must provide as much information as is practicable in advance of an actual discharge. (This appendix may reference another plan required under 29 CFR 1910.120.)	APP F
33 CFR 154.1035 (g)(6)	List of Acronyms and Definitions:	
	Lists all acronyms used in the response plan including any terms or acronyms used by Federal, State, or Local governments & any operational terms commonly used at the facility.	APP G
	Includes all definitions that are critical to understanding the plan.	APP G
33 CFR 154.1045 (a)	The owner or operator of a facility that handles, stores, or transports Group I through Group IV petroleum oils shall use the criteria in this section to evaluate response resources identified in the response plan for the specified operating environment.	APP D Section 3.3 p. 5, ERAP
33 CFR 154.1045 (b)	(b) Response equipment must-(1) Meet or exceed the operating criteria listed in Table 1 of appendix C of this part; (2) Function in the applicable operating environment; and (3) Be appropriate for the petroleum oil carried.	APP D, ERAP
33 CFR 154.1045 (c)	The response plan for a facility that handles, stores, or transports Group I through Group IV petroleum oils must identify response resources that are available, by contract or other approved means as described in Sec. 154.1028(a)(1)(4), to respond to the facility's average most probable discharge.	Sec. 3.2 p. 1,7,13 APP D, ERAP
33 CFR 154.1045 (d)	The response plan for a facility that handles, stores, or transports Group I through Group IV petroleum oils must identify response resources that are available, by contract or other approved means as described in Sec. 154.1028(a)(1)(4), to respond to a discharge up to the facility's maximum most probable discharge volume.	Sec. 3.2 p.2-18 Sec 3.3 p. 4 APP D, ERAP
		Sec. 3.2 p. 1-13

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 2: Overview and Use of Plan

33 CFR 154.1045 (e)	The response plan for a facility that handles, stores, or transports Group I through Group IV petroleum oils must identify the response resources that are available, by contract or other approved means as described in Sec. 154.1028(a)(1)(4), to respond to the worst case discharge volume of petroleum oil to the maximum extent practicable.	Sec 3.3 p. 9 APP D, ERAP
33 CFR 154.1045 (f)	Response equipment identified in a response plan for a facility that handles, stores, or transports Group I through Group IV petroleum oils must be capable of arriving on scene within the times specified in this paragraph for the applicable response tier in a higher volume port area, Great Lakes, and in other areas.	Sec 3.2 1-18 APP D, ERAP
33 CFR 154.1045 (g)	For the purposes of arranging for response resources for a facility that handles, stores, or transports Group I through Group IV petroleum oils, by contract or other approved means as described in Sec. 154.1028(a) (1)-(4), response equipment identified for Tier 1 plan credit must be capable of being mobilized and en route to the scene of a discharge within 2 hours of notification. The notification procedures identified in the plan must provide for notification and authorization of mobilization of identified Tier 1 response resources	Sec 3.2 1-13 APP D, ERAP
33 CFR 154.1045 (h)	Response resources identified for Tier 2 and Tier 3 plan credit must be capable of arriving on scene within the time specified for the applicable tier.	Sec. 3.2 p.1-13, APP D, ERAP
33 CFR 154.1045 (i)	The response plan for a facility that is located in any environment with year-round pre-approval for use of dispersants and that handles, stores, or transports Group II or III persistent petroleum oils may request a credit for up to 25 percent of the on-water recovery capability set forth by this part. To receive this credit, the facility owner or operator must identify in the plan and ensure, by contract or other approved means as described in Sec. 154.1028(a) (1)-(4), the availability of specified resources to apply the dispersants and to monitor their effectiveness. The extent of the credit will be based on the volumes of the dispersant available to sustain operations at the manufacturers' recommend dosage rates. Resources identified for plan credit should be capable of being on scene within 12 hours of a discovery of a discharge. Identification of these resources does not imply that they will be authorized for use. Actual authorization for use during a spill response will be governed by the provisions of the NCP and the applicable ACP.	Sec 3.2 1-13 Sec 3.3 p. 9 APP D, ERAP
33 CFR 154.1045 (j)	A response plan for a facility that handles, stores, or transports Group I through Group IV petroleum oils must identify response resources with firefighting capability. The owner or operator of a facility that does not have adequate firefighting resources located at the facility or that can not rely on sufficient local firefighting resources must identify and ensure, by contract or other approved means as described in Sec. 154.1028(a) (1)-(4), the availability of adequate firefighting resources. The response plan must also identify an individual located at the facility to work with the fire department for petroleum oil fires. This individual shall also verify that sufficient well-trained firefighting resources are available within a reasonable time to respond to a worst case discharge. The	Sec. 3.2 Sec. 8 App D

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 2: Overview and Use of Plan

	individual may be the qualified individual as defined in Sec. 154.1020 and identified in the response plan or another appropriate individual located at the facility.	
33 CFR 154.1045 (k)	The response plan for a facility that handles, stores, or transports Groups I through IV petroleum oils must identify equipment and required personnel available, by contract or other approved means as described in Sec. 154.1028(a) (1)-(4), to protect fish and wildlife and sensitive environments.	Sec 3.2 Sec 4 Sec 3.3 APP D, ERAP
33 CFR 154.1045 (l)	The response plan for a facility that handles, stores, or transports Groups I through IV petroleum oils must identify an oil spill removal organization(s) with response resources that are available, by contract or other approved means as described in Sec. 154.1028(a) (1)-(4), to effect a shoreline cleanup operation commensurate with the quantity of emulsified petroleum oil to be planned for in shoreline cleanup operations.	Sec 3.3 APP D, ERAP

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 2: Overview and Use of Plan

FEDERAL REGULATIONS CROSS REFERENCES

The cross references for the United States Coast Guard, the Department of Transportation, and the Environmental Protection Agency Facility Response Plan Review Protocols are found below. The cross references contains a reference for each section of the regulation, a brief explanation of the regulation, and the page number within this plan where the information can be located.

EPA Cross Reference

CFR Citation	Plan Contents	Plan Page #
40 CFR 112, Appendix F, Section 2.0	Proprietary Information Sheet	OPA Plan ii, ERAP
40 CFR 112, Appendix F, Section 2.0	Standard Response Certification	OPA Plan iii, ERAP
40 CFR 112, Appendix F, Section 2.0	C-11 EPA C-II - Certification of the Applicability of the Substantial Harm Criteria Forms	OPA Plan iv, ERAP
40 CFR 112Appendix F, Section 1.0	Table of Contents	OPA Plan i
40 CFR 112Appendix F, Section 1.1	Emergency Response Action Plan (ERAP)	ERAP
40 CFR 112, Appendix F, Section 1.1.1 (Sec. 1.2)	Emergency Response Coordinator Information	Sec 3.3, ERAP
40 CFR 112Appendix F, Section 1.1.2 (Section 1.3.1)	Emergency Notification Phone List	Sec 3.1 p. 1; Sec 3.3, p. 3-4, ERAP
40 CFR 112, Appendix F, Section 1.1.3 (Sec. 1.3.1)	Spill Response Notification Form	Sec 3-1, p. 7-8 ERAP
40 CFR 112, Appendix F, Section 1.1.4 (Sec. 1.3.2)	Equipment List and Location	APPENDIX D, ERAP
40 CFR 112, Appendix F, Section 1.1.5 (Sec. 1.3.4)	Facility Response Team List	APPENDIX C, p. 1-2; Sec. 3.1, p. 1; Sec. 3.3, p.1, ERAP
40 CFR 112, Appendix F, Section 1.1.6 (Sec. 1.3.5)	Facility Evacuation Plan	Sec 3.3, p. 16-23, ERAP
40 CFR 112, Appendix F, Section 1.1.7 (Sec. 1.7.1.2A)	Immediate Actions	Sec 3.2 p. 7-13, ERAP
40 CFR 112, Appendix F, Section 1.1.8 (Sec. 1.9)	Facility Diagrams	APPENDICES H, J, ERAP
40 CFR 112, Appendix F, Section 1.2	Facility Information	(Section 1)Sec 1.2 p.1-3, Sec ERAP
	Facility Name	(Section 1)Sec 1.2 p.1-3, Sec ERAP
	Exact Street Address	(Section 1)Sec 1.2 p.1-3, Sec ERAP
	City, State, Zip	(Section 1)Sec 1.2 p.1-3, Sec ERAP
	County	((Section 1)Sec 1.2 p.1-3, Sec ERAP
	Phone Number	(Section 1)Sec 1.2 p.1-3, Sec ERAP
	Lat/Long Information (Degrees, minutes, and seconds)	(Section 1)Sec 1.2 p.1-3, Sec ERAP
	Wellhead protection Area (as defined by the Safe	(Section 1)Sec 1.2 p.1-

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 2: Overview and Use of Plan

CFR Citation	Plan Contents	Plan Page #
	Water Drinking Act of 1986)	3, Sec ERAP
	Owner/Operator Information (if different from facility address)	(Section 1)Sec 1.2 p.1-3, Sec ERAP
	Street Address	(Section 1)Sec 1.2 p.1-3, Sec ERAP
	City, State, Zip	(Section 1)Sec 1.2 p.1-2, Sec 1.3 p. 1-4, Sec 1.4 p. 1-3, ERAP
	County	(Section 1)Sec 1.2 p.1-3, Sec ERAP
	Phone Number	(Section 1)Sec 1.2 p.1-3, Sec ERAP
	Emergency Response Coordinator Information (Name of ERC for entire facility. If more than one is listed, all must have authority to implement plan.)	Sec 3.3, p. 1-4, ERAP
	Oil Storage Start Up Date	(Section 1)Sec 1.2 p. 1, , APP. I, ERAP
	Facility Current Operations Description	(Section 1)Sec 1.2 p. 2-3, Sec 1.3 p. 1, ERAP
	SIC Code - in cover sheet	(Section 1)Sec 1.2 p. 1, Sec 1.3 p. 1, ERAP
	Dates and Types of Substantial Expansion	(Section 1)Sec 1.2 p. 3-4, Sec 1.3 p. 4, ERAP

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 2: Overview and Use of Plan

CFR Citation	General Response Plan Contents	Plan Page #
40 CFR 112, Appendix F, Section 1.3.1	Emergency Response Information	
	Emergency Notification Phone List:	Communications Center
	NRC Phone Number	Sec 3.1, p.4, ERAP
	Facility Response Coordinator Day & Evening Phone Numbers	Sec 3.1, p. 1, 4-5; Sec 3.3, p. 1-4, ERAP
	Company Response Team Day & Evening Phone Numbers	Sec 3.1, p. 1-4; Sec 3.3, p. 1-4, ERAP
	OSRO Day and Evening Phone Numbers	Sec. 3.1, p. 4; Sec 3.3 p. 4, ERAP
	Local Response Team Phone Number (i.e. fire department/cooperatives)	Sec 3.3, p. 5
	Qualified Individuals Day & Evening Phone Numbers	APP C, p.5-6, Sec 3.1 p. 1-4, ERAP
	State Emergency Response Commission (SERC) Day & Evening Phone Numbers	APP C, p. 2, Sec 3.1 p. 3, ERAP
	State Police	APP C, p. 2, Sec 3.1 p. 3, ERAP
	Local Emergency Planning Committee (LEPC) Phone Number(s)	APP C, p. 4 Sec 3.1 p. 5-7, ERAP
	Local Water Supply System Day & Evening Phone Numbers	APP C, p. 7, Sec 3.1 p. 5-7, ERAP
	Weather Report Phone Number	APP C, p. 7, Sec 3.1 p. 5-7, ERAP
	Local TV/Radio Phone Number(s) for Evacuation Notification	APP C, p. 7, Sec 3.1 p. 5-7, ERAP
Hospital(s) Phone Numbers	APP C, p. 7, Sec 3.1 p. 5-7, ERAP	
Spill Response Notification Form	Sec. 3.1, p. 7-8, ERAP	
40 CFR 112, Appendix F, Section 1.3.2	Equipment:	
	List and Description of Equipment at Facility	APP D, p.15-29, ERAP
	Location of Equipment	APP D, p.15-29, ERAP
	Operational Status of Equipment	APP D, p.15-29, ERAP
	Last Equipment Test or Inspection Date	Sec 9, p. 7
Effective Daily Recovery Rate (if applicable)	APP D p. 5-10, ERAP	
40 CFR 112, Appendix F, Section 1.3.3	Personnel:	
	Facility Response Team Information	APP C, p. 1-6, ERAP
	Emergency Response Contractor Information	APP D, p. 1-14, APP C-6, ERAP
	Evidence of Contractual Agreements (Response contractors that ensure availability of personnel & equipment)	APP D, p. 1-14, ERAP
40 CFR 112, Appendix F, Section 1.3.5	Evacuation Plans:	
	Facility Evacuation Plan and Diagram	Sec 3.3, p.16-23, ERAP
	Community Evacuation Plan & Diagram (If high risk to community)	Sec 3.3, p.14-15, ERAP
	Coordinator's Duties	Sec 3.3, p.6-11, ERAP
	Description of Responsibilities of the Emergency Response Coordinator (consistent with minimum requirement in the rule)	Sec 3.3, p. 1-2, ERAP
	Evidence of Ability of Coordinator to Implement the Plan	Sec 3.3, p. 1-2, ERAP
CFR Citation	General Response Plan Contents	Plan Page #

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 2: Overview and Use of Plan

40 CFR 112, Appendix F, Section 1.4	Hazard Evaluation	Sec 6
40 CFR 112, Appendix F, Section 1.4.1.3	Tank and Surface Impoundment Lists (with applicable information)	Sec 6, p.13-22, APP H, ERAP
40 CFR 112, Appendix F, Section 1.4.1.4	Labeled Schematic Drawing	APPENDIX H
40 CFR 112, Appendix F, Section 1.4.1.5.A	Description of Loading & Unloading of Vehicles (trucks, railcars, vessels)	Sec 6, p. 7, 20, 38
40 CFR 112, Appendix F, Section 1.4.1.5.B	Description of Day to Day Operations (that present a risk of releasing oil)	Sec 6
40 CFR 112, Appendix F, Section 1.4.1.5.C	Secondary Containment Volume (capacities should be listed for each unit as well as a facility total)	Sec 6, p. 4, 24-25, 35-37
40 CFR 112, Appendix F, Section 1.4.1.5.D	Normal Daily Throughput	(Section 1)Sec 1.2 p.2, Sec 1.3 p.3, Sec 1.4 p.2
40 CFR 112, Appendix F, Section 1.4.2	Vulnerability Analysis:	
	Description of Downstream Area(s) that could be affected	Sec 6, p. 19-22
	Description of Sensitive Environments	Sec 4, p.1-7
	Description of Drinking Water Intakes	Sec 4, p.8-13
40 CFR 112, Appendix F, Section 1.4.3	Analysis of the Potential for a Spill:	Sec 3.2, p. 1-13
	Analysis of Probability of a Spill	Sec 3.2, p. 1-3
	Description of Information to Develop Discharge Scenarios	Sec 3.2, p. 1-3
40 CFR 112, Appendix F, Section 1.4.4	Spill History Information:	APP B, ERAP
DISCHARGE SCENARIOS		
	Small & medium discharge scenarios:	
40 CFR 112, Appendix F, Section 1.5	Small & Medium Discharges:	Sec 3.2, p. 1-13
	Volumes for Small and Medium Discharge Scenarios	Sec 3.2, p. 1-13
DISCHARGE DETECTION SYSTEMS		
40 CFR 112, Appendix F, Section 1.6	Discharge Detection by Personnel:	
40 CFR 112, Appendix F, Section 1.6.1	Discussion of Discharge Detection by Personnel	Sec 3.2, p.23-25
40 CFR 112, Appendix F, Section 1.6.1	Discussion of Facility Inspections by Personnel	Sec 7, p. 42-45
40 CFR 112, Appendix F, Section 1.6.2	Automated Discharge Detection:	
	Description of Automated Spill Detection Equipment	Sec 6, p. 4-11
	Worst Case Discharge	Sec 3.2, p. 2-6
	Completed Worksheet – Correct Worst Case Discharge Calculation	Sec 3.2, p. 2-6
	Description of Worst Case Discharge Scenario	Sec 3.2, p. 2-6
PLAN IMPLEMENTATION		
40 CFR 112, Appendix F, Section 1.7.1	Response Resources:	Sec 3.2
	Discussion Personnel & Equipment (Small & Medium Discharge)	Sec 3.2, p.2-4,
	Discussion Personnel & Equipment (required for Worst Case Discharge)	Sec 3.2, p.4
	Worksheet or Response Resources for Worst Case Discharge	Sec 3.2, p. 4
	Identified Adequate Storage for Recovered Oily Material	APP D, ERAP

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 2: Overview and Use of Plan

	Disposal Plans:	Sec 5
	Description of Disposal Plans (i.e. permits)	Sec 5
40 CFR 112, Appendix F, Section 1.7.3	Containment & Drainage Planning:	
	Description of Containment and Drainage Plans	Sec 6

CFR Citation	General Response Plan Contents	Plan Page #
SELF-INSPECTION, TRAINING & MEETING LOGS		
	Facility Self-Inspection:	
40 CFR 112, Appendix F, Section 1.8.1	Tank & Surface Impoundment Inspection Log (Inspector, Tank(s) #, Date & Comments)	Sec 7, p.51-52
	Response Equipment Inspection Log (Inspection, Date & Comment)	ERAP
	Secondary Containment Checklist	Sec 7, p.49-50
	Mock Alert Drills	Sec 9
40 CFR 112, Appendix F, Section 1.8.2	Mock Alert Drill Logs	Sec 9
40 CFR 112, Appendix F, Section 1.8.3	Training and Meeting Logs:	Sec 8
	Personnel Training Logs	Sec 8
	Discharge Prevention Meeting Logs (Date & Attendees)	Sec 8
40 CFR 112, Appendix F, Section 1.9	Diagrams	ERAP & APPENDIX H
40 CFR 112, Appendix F, Section 1.9.1	Site Plan Diagram	ERAP & APPENDIX H
40 CFR 112, Appendix F, Section 1.9.2	Response Personnel, Equipment and Resources	ERAP & APPENDIX D
40 CFR 112, Appendix F, Section 1.9.2	Site Drainage Plan Diagram	ERAP & APPENDIX H
40 CFR 112, Appendix F, Section 1.9.2	Site Spill Flow Directions - Storm Water Flow / Process & Sanitary Sewer	ERAP & APPENDIX H
40 CFR 112, Appendix F, Section 1.9.3	Site Evacuation Plan Diagram	Sec. 3.3, p.5-22, ERAP
40 CFR 112, Appendix F, Section 1.10	Site Security	Sec 6, p.3-4,
	Description of Facility Security	Sec 6, p.3-4,

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 2A: Overview and Use of Plan

HOW THE OPA PLAN IS USED

Philadelphia Energy Solutions has developed the OPA 90 Response Plan to describe procedures, outline responsibilities, and to coordinate response efforts in the event of an oil or chemical spill into the waterways that could be impacted, i.e., the Delaware River, the Schuylkill River or their tributaries. The plan is consistent with the response strategies of the Delaware Bay River Cooperative Oil Spill Response Plan, Oil Spill Activation Plan and USCG Sector Delaware Bay Electronic Area Contingency Plan which is consistent with the National Oil and Hazardous Substance Pollution Contingency Plan pursuant to section 311(j)(4) of the Clean Water Act. In addition, the plan details procedures and response strategies for fulfilling Philadelphia Energy Solutions' Delaware Bay and River Cooperative response commitments.

The plan can be further utilized as an information source to the user in efforts to mitigate the effects of a spill or release incident, assure quick communications, provide a precise method to mobilize the necessary resources, and to insure compliance with Local, State, and Federal requirements.

Philadelphia Energy Solutions has developed, in addition to its Oil Spill Response Plan, two supporting manuals: (1) an Emergency Management Plan and (2) an Incident Command System. Our approach and strategies during emergency events are structured around the use of the Incident Command System. Together the OPA 90 Plan, the Emergency Management Plan and the Incident Command System assist in our overall preparedness and response to refinery emergencies, including waterway impact emergencies.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 2B: Overview and Use of Plan

PLAN REVIEW AND UPDATE PROCEDURE

The Plan review and updating process consist of three procedures:

1. The Plan will be reviewed and updated on an annual basis by the ~~Fire,~~ Emergency Services ~~Supervisor~~Manager.
2. The Plan will be updated after any post-discharge review of the response and plan has been conducted to evaluate and validate its effectiveness. The plan will be amended to incorporate all identified updates or changes.
3. The plan will be updated after each drill or exercise if deficiencies are uncovered during exercise process.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 3.1: Notification Procedures [154.1035 (b) (1) (i) (A and B)]

WHEN AN EMERGENCY OCCURS. . .

- *Environmental Spill/Release*
- *Transportation Accident*
- *Product Contamination*
- *Fire/Explosion*
- *Security Response*
- *Medical Response*

NOTIFY THE COMMUNICATIONS CENTER AT:

In-plant extension: 5400
All Other Phones: 215-339-5400
Non-Emergency: 215-339-2286

Be prepared to provide the following information:

- Your Name, location, and the phone number you are calling from
- The facility/asset involved
- The type of incident (transportation accident, security, fire/explosion, environmental, medical, product contamination)
- Status of emergency
- Resources required

Notice: Initial notification to refinery dispatchers and all Federal, State, and Local agencies **must not be delayed** pending collection of all emergency information (National Response Center 800-424-8802).

Environmental Spills/Releases and Tank Overfills

Level I Emergency

- Small spills/releases
- Little, if any, clean-up
- Source eliminated

Level II Emergency

- Minor to significant tank overfills
- Significant spills/releases
- Source isolated
- Simple clean up (days)
- Small environmental impact

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 3.1: Notification Procedures [154.1035 (b) (1) (i) (A and B)]

Level III Emergency

- Major spills/releases
- Source contained
- Extensive clean up (days/weeks)
- Serious environmental impact (i.e. spills to water)

Level IV Emergency

- Catastrophic spills/releases
- Source not contained
- Major clean up (weeks/months)
- Major environmental impact (i.e. wildlife)

For further information see Section 7, Emergency Procedures.

ER016 – Calling for Emergency Assistance

ER015 – Guidelines for Incident Commanders to Summon Additional Resources

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 3.1: Notification Procedures [154.1035 (b) (1) (i) (A and B)]

FACILITY RESPONSE PERSONNEL - Qualified Individuals

The following personnel within each Refinery Incident Command System have authority to act as Qualified Individuals (QI's) for the refinery:

Qualified Individual	Refinery	Address	Title	Contact Number Day & Evening
Ankrum, William Bennett, Robert Dunbar, Richard Durbano, David Johnson, Jeff	Philadelphia	3144 Passyunk Avenue Philadelphia, PA	Emergency Services Shift Supervisor	215-339-2286
Tucker, Robert	Philadelphia	3144 Passyunk Avenue Philadelphia, PA	Emergency Services Manager	215-339-2286
James Keeler Thaver, Nithia	Philadelphia	3144 Passyunk Avenue Philadelphia, PA	General Manager, VP	215-339-2286
Alternate QI's				
Connolly, John Geisheimer, Bob Kohn, Edward Kuhlman, Paul Finocchio, Thomas Colman, Gerald Lehman, Allen Houston, Willis	Philadelphia	3144 Passyunk Avenue Philadelphia, PA	Facility Shift Superintendents	215-339-2286

Contact Information

24 Hour Contacts: Communications Center:

- 215-339-5400 (Emergency)
- 215-339-2286 (Non-Emergency)

Oil Spill Response Organizations (OSRO)

CONTRACTOR	RESPONSIBILITY	RESPONSE TIME (hour)	PHONE OR PAGER NUMBER (DAY/EVENING)
Clean Venture, Inc. ¹ 600 Cenco Blvd. Clayton, NJ 08312 Class MM-W3:R/C Class MM:Inland Sun Contract # 114412	Oil spill mitigation, cleanup and disposal	1	(856) 863-8778
Delaware Bay and River Cooperative (DBRC) 700 Pilottown Road Lewes, DE Primary Contact: Richard Gaudiosi Class MM-W3:R/C; Class	Oil spill cleanup	1	(302) 645-7861

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 3.1: Notification Procedures [154.1035 (b) (1) (i) (A and B)]

CONTRACTOR	RESPONSIBILITY	RESPONSE TIME (hour)	PHONE OR PAGER NUMBER (DAY/EVENING)
MM:Inland			

¹ *Include evidence of contracts/agreements with response contractors to ensure the availability of personnel and response equipment.*

NOTE: Philadelphia Energy Solutions is an active member of the DBRC. The phone numbers listed for the emergency response contractors will be answered 24 hours.

KEY ORGANIZATIONS

- | | | |
|----|---|------------------------------|
| 1. | National Response Center | 800-424-8802 |
| 2. | United States Coast Guard - Local | 215-271-4800 |
| 3. | PA Department of Environmental Protection | 484-250-5900 |
| 4. | NJ Department of Environmental Protection | 877-927-6337 |
| 5. | Delaware Natural Resources and Environmental Conservation | 800-662-8802 or 302-739-9401 |
| 6. | Department of Transportation (DOT) | 800-424-8802 NRC |

CALL LIST

Home telephone numbers are listed with the Communications Center, (Extension 5400), who will place all calls as procedures require.

- For **ALL SPILLS**, contact the Plant Protection Shift Supervisor, and the Operations Shift Superintendent **IMMEDIATELY** through the NER Communications Center.
- Additional contacts will be made according to the PES Notification Matrix (See Appendix B). If assistance is required in contacting those listed below, call the Communications Center and they will place the calls as required.

Federal, State, and Local Agencies

Federal Agencies

- | | Phone Number |
|--|--|
| 1. National Response Center | 800-424-8802 |
| 2. United States Coast Guard - Local | 215-271-4800/4881 |
| 3. Environmental Protection Agency-Region 3-Office | 215-814-9016 or
215-814.2900(admin) |
| 4. Environmental Protection Agency-Region 2-Office | 800-424-8802
732-321-4370 |

State Agencies

- | | Phone Number |
|--|---------------------------------|
| 1. Delaware Natural Resources & Environmental Conservation | 800-662-8802 or
302-739-9401 |

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 3.1: Notification Procedures [154.1035 (b) (1) (i) (A and B)]

- | | | |
|----|---|--------------|
| 2. | New Jersey Department of Environmental Protection | 877-927-6337 |
| 3. | Delaware Emergency Management Association | 302-659-3362 |
| 4. | Delaware Fish & Wildlife | 800-523-3336 |

Local Agencies**Phone Number***Pennsylvania:*

- | | | |
|----|---|--------------------|
| 1. | Delaware County Fire Board-610-892-8404 (Non-Emergency) | Direct line or 911 |
| 2. | Delaware County Police Radio-610-565-6500 (Non-Emergency) | Direct line or 911 |
| 3. | Philadelphia Fire and Police | Direct line or 911 |

Delaware

- | | | |
|----|---|---------------------------------|
| 3. | New Castle County Fire Board | 302-571-7331 |
| 4. | New Castle County Police
(Non-Emergency) | 302-573-2800 or
302-656-1352 |

New Jersey

- | | | |
|-----|---|------------------------------------|
| 5. | Gloucester Fire & EMS | Direct line or 911
856-589-0911 |
| 6. | Salem County Fire & EMS | 856-769-1955 |
| 7. | N.J. State Police (Gloucester County) | 856-933-0662 |
| 8. | N.J. State Police (Salem) | 856-769-0775 |
| 9. | Pennsville (Salem County) Police Department | 856-678-7777 |
| 10. | Gibbstown (Gloucester) Police Department | 856-423-1900 |
| 11. | Paulsboro (Gloucester) Police Department | 856-423-1100 |

Local Emergency Planning Committee (LEPC)

- | | | |
|----|-----------------------|--------------|
| 1. | Philadelphia Facility | 215-686-1141 |
|----|-----------------------|--------------|

Other Agencies/Organizations

- | | | |
|-----|-------------------------------------|---------------------------------------|
| 1. | Delaware Bay & River | 302-645-7861 |
| 2. | Delaware River Basin Commission | 609-883-9500 |
| 3. | Channel 3 - CBS | 215-977-5333 |
| 4. | Channel 6 - WPVI
(24 hours) line | 215-878-9700 (M-F) or
215-581-4573 |
| 5. | Channel 10 – NBC 10 | 610-668-5510 |
| 6. | KWY News Radio | 215-238-4991 |
| 7. | Weather Service | 800-523-4129 |
| 8. | PGW | 215-787-4857
215-235-1212 |
| 9. | PPL Interstate Energy | 800-747-3375 |
| 10. | Federal Aviation Administration | 215-492-4123 |

Hospitals

- | | | |
|----|--------------------------------|--------------|
| 1. | Albert Einstein Medical Center | 215-456-7890 |
|----|--------------------------------|--------------|

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 3.1: Notification Procedures [154.1035 (b) (1) (i) (A and B)]

2.	Methodist Hospital	215-952-9128
3.	Wills Eye Hospital	215-928-3000
4.	Children's Hospital of Philadelphia	215-590-1000
5.	Presbyterian Medical Center	215-662-8215
6.	Hospital of the University of Pennsylvania	215-662-3920
7.	Misericordia Division, Mercy Catholic Medical Center	215-748-9400
8.	Crozer Chester Medical Center	610-447-2000
9.	Crozer Chester Medical Center-Burn Unit	610-447-2800
10.	Fitzgerald Mercy Hospital	610-237-4700
11.	Underwood Hospital	856-845-0100

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 3.1: Notification Procedures [154.1035 (b) (1) (i) (A and B)]

INFORMATION ON DISCHARGE (154.1035 (1) (B) (ii))

Involved Parties			
(A) Reporting Party		(B) Suspected Responsible Party	
Name		Name	
Facility Name		Facility Name	
Facility Location		Facility Location	
Owner Name	Philadelphia Energy Solutions	Owner Name	
Phone		Phone	
Position		Organization Type	
Address		Private Citizen	
		Private Enterprise	
		Public Utility	
		Local Gov't	
		State Gov't	
		Federal Gov't	
City		City	
State		State	
Zip		Zip	
Were materials discharged?			
Type of material released?			
Calling Responsible Party?			
Incident Description			
Location and Source of incident:			
Date			
Time			
Cause			
Incident address/location:			
Nearest city:		Waterway impact	
Distance from city:		Storage Tank Container Type	
		Aboveground?	
		Below ground?	
		Unknown	
Facility Capacity		Tank capacity	
Latitude degrees			
Longitude degrees		Mile Post or River mile	
Materials			
Discharged Qty		Unit of measure	
		In Water (Qty)	
Response Action			
Action taken to correct or			

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 3.1: Notification Procedures [154.1035 (b) (1) (i) (A and B)]

mitigate incident:			
Number of injuries:		Number of fatalities:	
Were there evacuations?	Y N U	Number evacuated:	
Was there damage?	Y N U	Damage in \$:	

Additional Information (not recorded elsewhere in this report)			

NRC	USCG	EPA	STATE	OTHER
-----	------	-----	-------	-------

**It is not necessary to wait for all information before calling the National Response Center
 1-800-424-8802**

Agency Notified	Date	Time	Person Notified

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 3.2: Spill Mitigation 154.1035 (b) (2)

3.2.1 Spill Mitigation

In order to adequately anticipate the resource requirements for each of the three spill scenarios, it is critical to identify the probable sources for each type of spill. This is particularly significant because the location of the spill is just as important as the size of the discharge in terms of manpower and equipment selection. These estimates are based on calculations for both **persistent** and **non-persistent** oil groups.

The following factors that affect response efforts by each facility were also considered in the planning for small and medium discharge scenarios. These items are routinely addressed during each spill event.

- a. Size of the spill
- b. Proximity of down gradient wells, waterways, and drinking water intakes
- c. Proximity to fish and wildlife and sensitive areas
- d. Likelihood that a spill will travel offsite
- e. Location of material spilled
- f. Material discharged
- g. Weather or aquatic conditions
- h. Available remediation equipment
- i. Probability of a chain reaction of failures
- j. Direction of spill pathway

3.2.4 Philadelphia Refinery

DISCUSSION OF ESTIMATES

Average Most Probable

Marine: 2 Barrels

A review of spills reported to the Coast Guard through 2012, shows the most common quantity reported to be 1 and 2 barrels. The range of quantities varies from sheen to 100 gallons, with 1 reported at 100 gallons. Consider the most probable average, therefore, to be 2 barrels (85 gallons).

Initial Response: P.E.S. (One 21' Sea Ark, and 1000' of River Boom with 8-10 P.E.S. personnel with capability of deployment within one hour).
 Additional response equipment is capable of being deployed within 2 hours of spill.

Secondary Response: Clean Venture (Certified OSRO contractor. See Contractual Agreements for Equipment List.)

Facility: 5 Barrels

A review of facility spills reported to the Coast Guard through 2010 showed a range of 1 gallon to 15 barrels, one spill was reported as 350 barrels. Without the one large spill, the average would be 5 barrels (210 gallons), considered the most probable average.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 3.2: Spill Mitigation 154.1035 (b) (2)

Initial Response: P.E.S. (One Vacuum Truck, One Backhoe, Sand or Other Absorbent Materials with 8-10 P.E.S. personnel)

Secondary Response: Clean Venture (Certified OSRO contractor. See Contractual Agreements for Equipment List)

Most Probable Maximum

Marine: 1,200 Barrels

Utilizing the defined 1,200 barrels as the Most Probable Maximum discharge (the lesser of 1,200 barrels or 10% of the worst case scenario -154.1020).

Initial Response: P.E.S. (One 26' Sea Ark, One 24' Sea Ark, One 16' Jon Boat, and 1500'-3500' of River Boom with 50-75 P.E.S. personnel) Additional response resource equipment will arrive within 6 hours of incident.

Secondary Response: Clean Venture and DBRC. (Two Certified OSRO contractors. See Contractual Agreements for Equipment List)

Facility: 40 Barrels

A review of facility spills reported to the Coast Guard through 2004 showed varying amounts ranging from 5 to 40 barrels. Most of the refinery facilities are held within secondary containment. Based on the facility's previous spill history and to address the multi level planning requirements in planning discharge scenarios the following were considered:

- a. Loading and Unloading of Surface Transportation
- b. Facility Maintenance
- c. Facility Piping
- d. Pumping Stations and Sumps
- e. Oil Storage Tanks
- f. Vehicle Refueling
- g. Age and Condition of Facility and Components

Since the two 40 barrel spills were due to piping and associated gaskets and flanges, the same scenario could have at other locations, therefore, consider the most probable maximum spill in the facility to be 40 barrels.

Initial Response: P.E.S. (One Vacuum Truck, One Backhoe, One Dump Truck, Sand or Other Absorbent Materials with 10-25 P.E.S. personnel)

Secondary Response: Clean Venture and DBRC (if necessary). (Two Certified OSRO contractors. See Contractual Agreements for Equipment List)

Worse Case Discharge Scenarios

The Philadelphia Energy Solutions complex is equipped with an on-site company fire department that responds to emergency response incidents (flamable, liquid or combustible gas, and pipeline fires, vapor releases, explosions, spill incidents on land or water, confined space rescue, or hazardous material emergencies). A list of facility fire equipment can be referenced in Section D 46-54.

The Fire, Security and Emergency Response Manager oversees the fire department operations, capital and special projects relating to fire protection infrastructure and acts

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 3.2: Spill Mitigation 154.1035 (b) (2)

as the liaison with outside fire or mutual aid organizations. The Fire and Emergency Response Shift Supervisor oversees the day to day fire department operations for the complex. The Emergency Response Technician responds to emergencies both on and off shifts during a 24/7 365 schedule and are responsible for the tactical efforts during emergency incidents.

The complex has a specially trained Emergency Response Teams (ERT) comprised of company volunteers who can be dispatched to respond in the event of an emergency. Mutual aid agreements with outside agencies are also in place in the event of a large scale event requiring additional resources.

Non-Transportation-Related Facility WCD

The worst case discharge (WCD) planning volumes for a facility (or non-transportation-related facility) have been calculated for both piping and tanks. The WCD for tanks is 110% of the capacity of the largest single above ground storage tank within a secondary containment or 110% of the combined capacity of a group of above ground storage tanks permanently manifolded together, whichever is greater.

Non-Transportation-Related Facility WCD	
<i>Facility</i>	<i>WCD Volume</i>
Girard Point	(b) (7)(F)
Point Breeze	(b) (7)(F)

Marine Transportation-Related Facility WCD

The WCD planning volumes for a marine transportation-related facility (MTR) have been calculated as follows:

(b) (7)(F)

Where:

- A = maximum time to discover the release from the pipe, in hours
- B = maximum time to shutdown the flow from the pipe, in hours (based on historic discharge data or best estimated in absence of historic data)
- C = maximum flow rate, barrel per hour (based on maximum relief valve setting or maximum system pressure)
- D = total line drainage volume for the pipes between the marine manifold and the non-transportation-related portion of the facility, barrels

	A (hr)	B (hr)	C (bbl/hr)	D (bbl)	WCD (bbl)
Girard Point Process Area	(b) (7)(F)				
Schuylkill River Tank Farm	(b) (7)(F)				
Point Breeze Process Area	(b) (7)(F)				

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 3.2: Spill Mitigation 154.1035 (b) (2)

Planning Volumes

For planning purposes, the materials handled at the facilities are classified into five oil groups.

- Group I (Non-Persistent Oils)
Naphtha, butane, gasoline, jet fuel, MTBE
- Group II (Persistent Oils)
Crude oil Escravos, Palanca, Pennington, Qua Iboe
- Group III (Persistent Oils)
Crude oil Forcados, Rabi, Takula, Zaive, Cat Charge Stock, recovered oil, light cycle oil
- Group IV (Persistent Oils)
No. 6 fuel oil, plant fuel
- Group V (Persistent Oils)
Decanted oil

The average most probable discharge, or small spill, at the P.E.S., Inc. facilities is determined to not exceed 50 barrels.

The maximum most probable discharge, or medium spill, at the P.E.S., Inc. facilities is determined to not exceed 1,200 barrels.

WORKSHEET TO PLAN VOLUME OF RESPONSE RESOURCES FOR WORST CASE DISCHARGE

Girard Point

Part I - Background Information

- Step (A) WCD: (b) (7)(F)
- Step (B) Oil Group: 3
- Step (C) Operating Area: Nearshore/Inland, Rivers
- Step (D) Percentages of Oil:
- | | |
|-------------------------------------|------------------------------------|
| (D1) % Lost to Natural Dissipation: | 30% Nearshore/Inland
20% Rivers |
| (D2) % Recovered Floating Oil: | 50% Nearshore/Inland
15% Rivers |
| (D3) % Oil Onshore: | 50% Nearshore/Inland
65% Rivers |
- Step (E1) On-water Oil Recovery: (b) (7)(F)
[D2 x A / 100]
- Step (E2) Shoreline Recovery: (b) (7)(F)
[D3 x A / 100]
- Step (F) Emulsification Factor: 2.0
- Step (G) On-water Oil Recovery Resource Mobilization Factor

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 3.2: Spill Mitigation 154.1035 (b) (2)

(G1) Tier 1:	0.15 Nearshore/Inland 0.30 Rivers
(G2) Tier 2:	0.25 Nearshore/Inland 0.40 Rivers
(G3) Tier 3:	0.40 Nearshore/Inland 0.60 Rivers

Part II - On-water Oil Recovery Capacity (bbl/day)

Tier 1:	(b) (7)(F)
(E1 x F x G1)	
Tier 2:	
(E1 x F x G2)	
Tier 3:	
(E1 x F x G3)	

Part III - Shoreline Cleanup Volume (bbl)
(E2 x F)

(b) (7)(F)

Part IV - On-water Oil Response Capacity b

Amount needed to be contracted for in bbl/day

Tier 1:	12,500 Nearshore/Inland 1,875 Rivers
Tier 2:	25,000 Nearshore/Inland 3,750 Rivers
Tier 3:	50,000 Nearshore/Inland 7,500 Rivers

Part V - On-water Amount needed to be identified, but not contracted for in Advance (bbl/day)

Tier 1:	25,600 Nearshore/Inland 20,985 Rivers
Tier 2:	38,500 Nearshore/Inland 26,730 Rivers
Tier 3:	51,600 Nearshore/Inland 38,220 Rivers

Point Breeze

Part I - Background Information

Step (A) WCD:	(b) (7)(F)
Step (B) Oil Group:	4
Step (C) Operating Area:	Nearshore/Inland, Rivers
Step (D) Percentages of Oil:	
(D1) % Lost to Natural Dissipation:	10% Nearshore/Inland 5% Rivers
(D2) % Recovered Floating Oil:	50% Nearshore/Inland 20% Rivers
(D3) % Oil Onshore:	70% Nearshore/Inland 75% Rivers

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 3.2: Spill Mitigation 154.1035 (b) (2)

Step (E1) On-water Oil Recovery:
 [D2 x A / 100]

(b) (7)(F)

Step (E2) Shoreline Recovery:
 [D3 x A / 100]

Step (F) Emulsification Factor:

1.4

Step (G) On-water Oil Recovery Resource Mobilization Factor

(G1) Tier 1: 0.15 Nearshore/Inland
 0.30 Rivers

(G2) Tier 2: 0.25 Nearshore/Inland
 0.40 Rivers

(G3) Tier 3: 0.40 Nearshore/Inland
 0.60 Rivers

Part II - On-water Oil Recovery Capacity (bbl/day)

Tier 1:

(E1 x F x G1)

(b) (7)(F)

Tier 2:

(E1 x F x G2)

Tier 3:

(E1 x F x G3)

Part III - Shoreline Cleanup Volume (bbl)

(E2 x F)

(b) (7)(F)

Part IV - On-water Oil Response Capacity b

Amount needed to be contracted for in bbl/day

Tier 1:

12,500 Nearshore/Inland
 1,875 Rivers

Tier 2:

25,000 Nearshore/Inland
 3,750 Rivers

Tier 3:

50,000 Nearshore/Inland
 7,500 Rivers

Part V - On-water Amount needed to be identified, but not contracted for in Advance (bbl/day)

Tier 1:

2,119 Nearshore/Inland
 9,820 Rivers

Tier 2:

0 Nearshore/Inland
 11,843 Rivers

Tier 3:

0 Nearshore/Inland
 15,890 Rivers

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 3.2: Spill Mitigation 154.1035 (b) (2)

Preliminary Assessment & Initiation of Action for Refinery

The complex has unit specific operating procedures which guide operating personnel in initiating response actions to equipment malfunctions, emergency shutdowns or routine operating protocols. These procedures are accessible through the refinery computer network or in the operating shelters.

The refinery also has emergency response procedures for initiating action with regard to refinery emergency events. Some of the procedures pertaining to this plan can be found in Section 7.

Material Safety Data Sheets (MSDSs) are accessible by the company intranet web site under the Chemical Hazard Information Program (CHIP) or via MSDS diskettes that are available by the Occupational Safety & Industrial Hygiene department.

SPILLS: Release of any petroleum product caused by an overload, ruptured hose, pipeline, or a failed gasket.

1. Stop the Flow of Product

- a. If loading, close off the dock riser, pipeline valving or tank dike valving and notify the appropriate operations personnel of the emergency shutdown.
- b. If discharging, get the vessel shut down as quickly as possible. When the vessel is shut down, have vessel personnel close their riser valves and instruct operations to close refinery dock riser valves.

2. Report

- a. Use the in-plant radio to alert operations and others in the area to the fact that you are having a problem and just what the problem is.
- b. Alert the Plant Protection Shift Supervisor and the Facility Shift Supervisor and request they come to the scene to assess the situation, and notify the appropriate personnel. This can be completed by notification of the Communications Center.

3. Shut off

- a. Ignition Sources (If applicable to areas)

4. Contain

- a. Initial containment should be started immediately.
- b. As help arrives on the scene, we will follow the spill response plan.

SPILL RESPONSE (WATERWAYS)

Delaware River, Schuylkill River and associated tributaries:

1. Shut down transfer operations at the site of the spill until spill is cleaned up.
2. Stop the leak or spill at the source.
3. Erect temporary barriers as necessary to prevent discharge into river.
4. Deploy spill boom manually or by boat.
As necessary, the Plant Protection Shift Supervisor will request the Emergency Response Team.
5. Use absorbent pads or vacuum truck to remove oil.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 3.2: Spill Mitigation 154.1035 (b) (2)

6. If the spill can not be handled by the refinery, contact the Delaware Bay and River Cooperative (302) 645-7861 for assistance along with other spill contractors.
Note: An Incident Report must be filed with Environmental for all spills to the waterways or land.

Responsibility to Report

The Comprehensive Environmental Response, Compensation and Liability Act of 1980 (SUPERFUND) requires that releases of hazardous substances into the environment be reported to the National Response Center (800-424-8802) and that they be promptly contained and cleaned up. Initiate notifications to the appropriate personnel with responsibilities for contacting state and local officials.

SPILL RESPONSE BASICS

- A.** The first question that is generally asked is: What do you do in the event of a spill?
Answer: *Stop the flow! Report! Contain! Report ALL spills/leaks to Com Center.*

The emergency response team will be called by pager and the type of event outlined. Upon arrival they will help with the containment of the spill. They will need to:

- a. Know where to report. The area will be designated on pager.
- b. Know what to wear: Nomex coveralls, hard hat, work shoes (hard soles), safety glasses, floatation jackets, vests, rubber clothing, etc.
- c. Know what containment materials are available and where they are located.
- d. Utilize the Incident Command System.
- e. Be familiar with boom deployment points.
- f. Be familiar with operations of the small John Boat and Sea Ark/Whaler.
- g. Be familiar with boom deployment. Conditions will warrant how spill boom is to be deployed.
- h. Be aware of areas of responsibility, i.e. geographical areas.
- i. Understand the NER communication system.

B. Terminology

1. *Absorbent Pads:* White absorbent pads used for soaking up oil spots or puddles floating within the containment area.
2. *Sausage Boom:* Absorbent boom 3 to 4 lengths to a package, linked together like sausages.
3. *Oil Dry:* Absorbent material resembling sawdust, never to be used within dock containment area or on the water. This material is to be used on ground spills or a deck spill aboard a vessel.
4. *Spill Boom:* Containment Boom:
5. *DBRC Trailer:* Mobile trailer containing spill boom anchors, line, stakes, shovels, mallets, rubber boots.
6. *Boom Trailer:* Mobile trailer containing spill boom.
7. *Spill Boom Rails:* Steel beams placed in strategic spots and upon which one end of our spill boom is attached to anchor it in position.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 3.2: Spill Mitigation 154.1035 (b) (2)

8. *Rollers*: Permanently installed fixtures used to help in movement of spill boom from trailer to water.
9. *Anchors*: Heavy objects tied to spill boom to hold it in position during containment.
10. *Contractor*: Pollution personnel used for containment and clean up work (e.g., Clean Ventures).
11. *Mark II Spill Boom*: Small boom used for initial containment.

C. Chain of Command: The Incident Commander is responsible for coordination of the overall response. The ICS procedure will be followed in all responses.

D. Boom Deployment

Spill boom is deployed from the boom trailer located throughout the refinery. Line (usually 3/8") is tied to the end plate of the first and last sections of boom. The first section of boom with line attached is manually dragged to rollers. It is then thrown to a person in the response vessel; line is tied to tow bit, then the vessel is used to pull spill boom across rollers and into water as boom in the trailer is feed out. Radio communications must be kept between both teams (boat and shore). When boom has been placed in water, personnel who were working on the boom trailer will report to Staging for their next assignment. When boom is brought into spill area it should be connected to permanently fixed spill rails (this will create a sealed barrier using the boom and dock or caisson area). The vessel will then proceed to the other end of boom, pick up tow line, which is tied to end plate and proceed to encircle the spill area. The end of the boom will then be attached to another spill rail, closing and containing the spill.

A major point to remember is that work must be done with the tide. If the tide is coming in (flood tide), the up river end of the vessel or spill area must be boomed off first. If the tide is going out (ebb tide), the down river end of the vessel or spill area must be boomed off first.

If anchors are to be used to keep the configuration of the boom to some semblance of the circle, the following formula should be followed: Anchor line should be approximately 3 X the depth of the water you are in (Buoys should be attached to anchors. This is the line used to pull anchor up.)

E. General Materials Available:

1. Absorbent pads (diapers)
2. Absorbent boom (sausages)
3. Oil Dry
4. Regulation Spill Boom
5. Line (3/8") for tying off spill boom
6. Anchors and end rollers (used for positioning spill boom)

Both P.E.S. & DBRC boom

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 3.2: Spill Mitigation 154.1035 (b) (2)

- a. Dock Boom: kept at each dock in boom trailer. May be put into water from various points or transported where needed.
- b. DBRC Boom is kept at each dock in DBRC trailers. This spill boom belongs to DBRC but can be used in an emergency situation.

GENERAL SPILL PROCEDURES

Shipboard Spills

1. Spills caused by overloading of ship's cargo tanks, leaking gasket at ship's riser, leak in ship pipeline or cargo hose on board ship.
 - a. If loading cargo, transfer must be shut down on shore (Shut shore riser valve and notify pumping operations.)
 - b. If discharging cargo, transfer must be shut down on ship. (Stop pumping and close both ship first and shore risers second.)
 - c. Notify the Dock Supervision and the Communications Center of the situation.
 - d. Scupper plugs being in place, the product will be contained within the confines of the deck.
 - e. Depending on the amount of product spilled, it could be bailed into buckets and dumped back into a slack tank on board the ship.
 - f. Oil Dry would be used to contain the product to as small an area as possible, then more Oil Dry would be spread over the polluted area, absorbing the product. The contaminated Oil Dry would then have to be swept up and shoveled into drums and disposed of ashore.
 - g. If the spill has been contained aboard the vessel, ask if assistance is needed, e.g., pollution clean up materials or manpower. **NOTE:** If materials are required by the vessel, we may supply them, but, keep a record of all materials supplied (Oil Dry, absorbent pads, etc.). If manpower is required, have the person in charge of the vessel contact a pollution contractor of his choice.
 - h. If spill has the potential of impacting the river, start to deploy spill boom for containment of the spill.

Cargo Hose Bursting

1. If ship is discharging, the flow of product must be stopped by the vessel. The vessel pumps must be shut down and the vessel riser valves must be closed. When this has been done, close the dock riser valves to keep the product in the loading lines from running back and creating more pollution.
2. If the vessel is loading, immediately shut down on the dock loading valve and then notify the field of the emergency shut down. When the valve is shut down, request that the vessel close their riser valves thus eliminating the possibility of further pollution from product drifting back from the vessel's lines.
3. If the cargo being transferred was a light product, i.e., gasoline, MTBE, benzene, etc., containment could present other safety issues. In the case of these types of products, activate the fire line and using a fine spray, try to keep the material from gathering under the docks or in large pockets between the vessel and the dock. This will assist in dispersing and dissipating the product, eliminating a potentially dangerous situation.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 3.2: Spill Mitigation 154.1035 (b) (2)

Leaking Vessel

1. If, during a transfer operation, it is observed that the vessel has a leak, the Facility Shift Supervisor and Plant Protection Shift Supervisor must be notified.
 - a. If the vessel is loading, the transfer should stop. If the vessel has slack tanks, it might be possible to transfer the product from the leaking compartment into another compartment on board the vessel to stop further pollution.
 - b. If the vessel is discharging and the leak is found, it might be possible to discharge from that specific compartment and stop further pollution.
2. Spill boom must be deployed to contain the product which has been leaked out.

Breakaway Vessel

1. If, during transfer operations, the vessel being loaded or discharged should start to run (ship starts moving either down river or up river creating undue strain on the mooring lines to the extent that some lines break):
 - a. Contact ship and make sure they are aware of the situation.
 - b. Cease transfer operation immediately.
 - c. Using radio communication, request assistance.
 - d. If the gangway has not been damaged and the cargo hoses are still intact, place the proper wing boom over the gangway and if the situation is not too hazardous, have ship's personnel hook gangway to the boom - lift gangway clear of vessel. Then proceed to center booms (hose support booms) and slack down on the hose connections. (Movement of the ship could cause the gangway to strike the dock superstructure and also stretch the cargo hose to the breaking point.)
 - e. Riser valves, both vessel and dock, should be closed.
 - f. Proceed to caisson area to take lines in the event ship's personnel have to put new lines in place.

In-house ground spills

1. *Underground Leak:* First identify the line and try to identify the product. Check on lines being used for transfer of product. If products being transferred relate to product leaking, call the appropriate areas and have the transfer shut down.
 - a. Report the problem to the Facility Shift Supervisor, who in turn will arrange for an excavation crew to expose the line so that it may be repaired.
 - b. If the leak is on a roadway or in an area where the product could flow to any waterway or the sewer system, create a dam to contain the spill.
 - c. Depending on the size and location of the spill, laborers would have to be called in and sand brought in to form additional containment.
 - d. Clean up can be accomplished with both vacuum trucks and by spreading sand to absorb the product, then shoveling the contaminated sand into drums for proper disposal.

Leaks on transfer systems

1. *Crude Oil System:* Should a leak be discovered in the crude oil system between the vessel and the field area:

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 3.2: Spill Mitigation 154.1035 (b) (2)

- a. Contact the vessel and stop transfer immediately. Make sure the field closes valves on the system so the product will not drift back to the leak.
 - b. Contact the Communications Center by radio and alert them of the situation. The Facility Shift Supervisor or the Plant Protection Shift Supervisor will contact the necessary personnel.
2. *Loading or discharge lines within the dock area (gasoline, bunker, 2 fuel, gas oil, xylene, petrochemical, MTBE):*
- a. Shut down transfer.
 - b. If leak in pipeline is within the confines of the dock area, close the header valve on the appropriate line.
 - c. Open the riser valve at the end of the dock. Make sure bleeder is open, thus depressurizing the line to the dock pan and eliminating further pollution.
 - d. Contact Facility Shift Supervisor and the Plant Protection Shift Supervisor and inform him/her of situation.

Tank Overfill

The facility operator on duty is responsible for monitoring all tank levels. The facility is provided with direct vision gauge levels at the individual tanks. Operating procedures require the facility operator to obtain and record, during all movements, tank levels during the first hour, and every hour thereafter and to maintain a log on the tank levels during intra-plant transfers and vessel receipts. In the event of a tank overfill the following procedures will be initiated:

- a. The person discovering the over fill will immediately contact the facility operator by voice or radio.
- b. The person discovering overfill will report to the facility operator the identity of the tank and product.
- c. The facility operator will immediately contact the vessel transferring product to the receiving tank and demand that the vessel cease pumping operations.
- d. The facility operator will ensure that tank dike valves are secured to prevent the possibility of oil in the affected tank field from reaching the waterway through the dike drain valve system.
- e. The facility operator will secure all valves leading to and exiting from the cargo lines associates with the affected tank.

DOT- Regulated Pipelines

For a detailed procedure on initiating a response to emergencies involving a DOT-regulated pipeline, refer to emergency procedures ER-008 Fire Explosion, Vapor Release, ER-012 Spill on Land, ER-013 Spill on Water and ER-27 Emergency Response to DOT Pipeline.

When notified of a release or potential release from a DOT-regulated pipeline, the following steps will be taken:

1. Notify the Communication Center at x 5400.
2. Initiate ER-27 Emergency Response to DOT Pipeline procedure.
3. Shutdown operations of the affected pipeline(s).

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 3.2: Spill Mitigation 154.1035 (b) (2)

4. Appropriately isolate the problem, (i.e. secure the line, vent, drain, etc.).
5. Obtain the necessary resources to help mitigate and contain the problem (Maintenance personnel, clean-up contractors, Environmental and Safety Engineering Department and Emergency Response personnel, Pipeline Safety personnel).
6. Make all necessary notifications to the D.O.T. through the National Response Center 800-424-8802
7. Manage the overall response and repair upon arrival at the scene.
8. Coordinate all valve openings with the Operations Shift Superintendent when the affected line is ready to return to service.
9. Complete the D.O.T. 7000-1 accident report and submit it to the D.O.T. Retain a copy of the report in the files.

Note: In the event of an incident involving the Inter-Refinery Pipelines (IRPL), Sunoco Pipeline, and L.P. will manage the overall response and repair upon arrival at the scene. The Pipeline Center Supervisor's phone number is 800-786-7440. Plant Protection Shift Supervisor will be notified of potential for an off site response.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities

Facility Response Personnel: Qualified Individual [154.1035(b) (3) (i-ii)]

The Emergency Services Shift Supervisor and Facility Shift Supervisor (who are both designated as Qualified Individuals or Alternate Qualified Individuals) are always on-site and are available 24 hours a day, seven days a week. The following Refinery personnel have authority under PES'S Incident Command System to act as Qualified Individuals of the facility:

Job Titles

Emergency Services Shift Supervisor	(215) 339-2286
Facility Shift Superintendant	(215) 339-2286
Emergency Services Manager	(215) 339-2286
Facility Manager, VP	(215) 339-2286

QUALIFIED INDIVIDUALS (QIs)

The refinery conducts continuous operations, running 24-hours-a-day, 365-days-a-year. An emergency coordinator or Qualified Individual (QI) will be at each refinery around the clock.

To contact the Emergency Services Shift Supervisor call (215) 339-5400.

PES'S Communications Center has an active and updated list of refinery personnel designated as emergency coordinators or Qualified Individuals (QIs) as required by the Oil Pollution Act of 1990 (OPA 90).

All Qualified Individual's have received Incident Command training, Qualified Individual Training, OSHA 1910.120, and Spill Prevention training. Personnel with QI responsibilities receive annual training in emergency notification and basic spill response protocols.

These training records are maintained within the PES Emergency Services Department. They are available for review 24 hours a day.

Qualified Individuals can be contacted 24-hours a day by calling the PES Communications Center at 215-339-2286.

The Philadelphia facility runs on a 24/7 365 schedule. There are least two Qualified Individuals on the facility's premises each shift. The duties and responsibilities for Qualified Individuals can be referenced in Section 3.3-1. Training requirements for Qualified Individuals can be referenced in Section 8 Training Procedures.

Duties and Responsibilities of the Qualified Individuals (Emergency Coordinators)

All Qualified Individuals (QI's) or alternates meet the qualifications, roles and responsibilities outlined in OPA'90. They are available on a 24-hour basis and are either in the refinery 24/7 or able to arrive at the facility in reasonable time; they are located in

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities

the United States; speak fluent English; are familiar with the implementation of the ICP; and have been trained in the responsibilities of the QI under the ICP. All QI's and alternates can activate internal alarms and hazard communication systems to notify all facility personnel; they are capable of identifying the character, exact source, amount, and extent of the release, as well as the other items needed for notification **federal, state and local authorities**. In addition, they can assess the interaction of the spilled substance with water and/or other substances stored at the facility and notify response personnel at the scene of that assessment including the possible hazards to human health and the environment due to the release.

They are capable of assessing and implementing prompt removal actions to contain and remove the substance released; coordinate rescue and response actions as previously arranged with all response personnel; direct cleanup activities until properly relieved of this responsibility.

The PES QI will have full authority to:

1. Activate and engage in contracting with oil spill removal organizations(s);
2. Act as a liaison with the pre-designated Federal-On-Scene-Coordinator (FOSC);
3. Obligate funds required to carry out response activities.
4. Notify Federal, State and Local Authorities.

For further information see Section 7, PES Emergency Procedures

ER008 - PES Fire, Explosion and Vapor Release Procedure

ER012 – Spills to Land

ER013 – Spills to Water

ER015 – Guidelines for Incident Commanders to Summon Additional Resources

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 3.3: Facility Response Activities

FACILITY RESPONSE PERSONNEL - Qualified Individuals

The following personnel within each Refinery Incident Command System have authority to act as Qualified Individuals (QI's) for the refinery:

Qualified Individual	Refinery	Address	Title	Contact Number Day & Evening
Ankrum, William Bennett, Robert Dunbar, Richard Durbano, David Johnson, Jeff	Philadelphia	3144 Passyunk Avenue Philadelphia, PA	Emergency Services Shift Supervisor	215-339-2286
Tucker, Robert	Philadelphia	3144 Passyunk Avenue Philadelphia, PA	Emergency Services Manager	215-339-2286
James Keeler Thaver, Nithia	Philadelphia	3144 Passyunk Avenue Philadelphia, PA	General Manager, VP	215-339-2286
Alternate QI's				
Connolly, John Geisheimer, Bob Kohn, Edward Kuhlman, Paul Finocchio, Thomas Colman, Gerald Lehman, Allen Houston, Willis	Philadelphia	3144 Passyunk Avenue Philadelphia, PA	Facility Shift Superintendents	215-339-2286

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 3.3: Facility Response Activities

Oil Spill Removal Organizations (OSROs) and Spill Management Team

[154.1035 (b)(3)(iv)] [154.1045 (a-l)]

Capable of responding to the following spill scenarios and providing response resources, equipment and supplies for the PES:

- Maximum most probable discharge
- Worst case discharge
- Ice, debris, temperature, weather, environmental conditions and response to environmental sensitive situations.

Delaware Bay and River Cooperative

700 Pilottown Road

Lewes, Delaware 19958-0624

Class MM--W1-3, Rivers/Canals; Class MM: Inland Waters

Primary Contact – Richard Gaudiosi

(302) 645-7861 (24-hours)

(215) 563-8142

Response Time: 60-120 minutes

Clean Venture/Cycle Chem

600 Cenco Blvd.

Clayton, NJ 08312

Primary Contact: Patrick McGovern

856-863-8778

PES Contract #11412

Response Time: 45-60 minutes

Spill Management Team - trained personnel to continue operation for first seven (7) days of the response.

1. ICS System with Refinery Management Team will manage spill response
2. Emergency Response Organization for initial response and containment
3. Spill Containment - Delaware Bay and River Cooperative and Clean Venture

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 3.3: Facility Response Activities

Initial Spill Response [154.1035 (b)(3)(iv)(2)(A)]

Spills may occur at any time of the day. As a result, initial response will be coordinated by those positions that are manned at the refinery around the clock. Others will assist and assume roles depending on their availability. In order to reduce confusion during the response, others will not assume roles until they have been released or assigned to them by the Incident Commander or their designee.

Upon discovery of a spill, the initial responders will be:

- Communication Center Dispatcher
- Operations Supervision
- Operations personnel
- Emergency Services Shift Supervisor
- Facility Shift Superintendant
- Emergency Services Manager
- Emergency Response Technician

Initial Response Roles will be as follows:

ROLE	ASSIGNMENT
Incident Commander	Emergency Services Shift Supervisor
Production Commander	Facility Shift Superintendant
Operations Officer	Emergency Response Technician
Emergency Response Team	Operations personnel and/or any other available responders; Operations Supervisors
Recording Officer	Dispatcher

*For additional details, refer to Incident Command System.

Response Time: Initial is real time (on site 24 hours a day). Call in response members:
10 - 25 minutes.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities

Level- I Emergency

- Small Spills/Release
- Little, if any, clean up
- Source eliminated

The response for a Level I spill will be the same as the initial response described above with a few possible additions as listed below. The Incident commander will determine what additional support is needed.

ROLE	ASSIGNMENT
Incident Commander	Emergency Services Shift Supervisor
Production Commander	Facility Shift Superintendant
Operations Officer	Emergency Services Shift Supervisor, Emergency Response Technician
Emergency Response Team	Operations personnel and/or any other available responders, Operations Supervisors (Emergency Response Team if required)
Recording Officer	Dispatcher
Information Officer	Manager, Public Affairs

Additional Support Possible Needed for Minor Spills:

- Logistics Officer
- Medical Officer
- Environmental Officer
- Industrial Hygiene

If assessment requires, Emergency Response Teams may be activated

Response Time: Initial is real time (on site 24 hours a day). Call in response members 10 - 25 minutes.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 3.3: Facility Response Activities

Level II Emergency

- Minor to Significant Tank Overfills
- Significant spills/releases
- Source Isolated
- Simple clean up (days)
- Small Environmental Impact

Initial Response Roles will be as follows:

ROLE	ASSIGNMENT
Incident Commander	Emergency Services Shift Supervisor, Emergency Services Manager
Production Commander	Facility Shift Superintendent
Operations Officer	Emergency Services Shift Supervisor, Emergency Response Technician
Emergency Response Team	Operations personnel and/or any other available responders, Operations Supervisors (Emergency Response Team if required)
Recording Officer	Dispatcher

**For additional detail - Refer to PES Incident Command System.*

Response Time Initial is real time (on site 24 hours a day). Call in response members
10 - 25 minutes.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 3.3: Facility Response Activities

Level III Emergency

- Major Spills/Releases
- Source Contained
- Extensive Clean up (Days/Weeks)
- Serious Environmental Impact (i.e. spills to water)

For Level III Spills, the PES Incident Command System will be implemented. The Incident Commander and/or On-Scene Commander will activate the Incident Command System.

ICS - Oil Spill Response

ROLE	ASSIGNMENT
Incident Commander	Emergency Services Manager
Production Commander	Facility Shift Superintendent
Operations Officer	Emergency Services Shift Supervisor
Emergency Response Team	Emergency Response Technician
Command Post	Process Safety Coordinator, Emergency Services Shift Supervisor, Dispatcher
Safety Officer	Safety Specialist
Environmental Officer	Environmental Manager
Finance Officer	Financial Manager
Logistics Officer	Maintenance Field Superintendent
Planning Officer	Emergency Services Shift Supervisor
Industrial Hygiene	Industrial Hygiene Specialist

Response Time: Initial is real time (on site 24 hours a day). Call in response members 10 - 25 minutes.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 3.3: Facility Response Activities

Level IV Emergency

- Catastrophic Spills/Releases
- Source Not Contained
- Major Clean up (weeks/months)
- Major Environmental Impact (i.e. spills to water)

ICS - Oil Spill Response

ROLE	ASSIGNMENT
Incident Commander	Emergency Services Manager
Production Commander	Facility Shift Supervisor
Operations Officer	Emergency Services Shift Supervisor
Emergency Response Team	Fire Marshal/Emergency Response Technician
Command Post	Process Safety Coordinator, Emergency Services Shift Supervisor, Dispatcher
Safety Officer	Safety Specialist
Environmental Officer	Environmental Manager
Finance Officer	Financial Manager
Logistics Officer	Maintenance Field Superintendent
Planning Officer	Emergency Services Shift Supervisor
Industrial Hygiene	Industrial Hygiene Specialist

Response Time: Initial is real time (on site 24 hours a day). Call in response members 10 - 25 minutes.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 3.3: Facility Response Activities

Job Descriptions – Spill Management Team [154.1035 (b)(3)(iv)(2)(B)]

Emergency Services Manager	Primary emergency response positions with assigned responsibilities for initiating response and managing the efforts of the ERT
Facility Shift Superintendent	Primary responsibilities involve the operation of the refinery. 24/7 position. Acts as the primary contact for refinery production issues associated with the response
Emergency Services Shift Supervisor	24/7 position which acts as the lead emergency response coordinator or QI in the event of a spill. Coordinates response efforts until relieved by the Fire, Security and Emergency Response Manager.
Emergency Response Technician	Operations Officer relative to the field efforts of the Emergency Response Team. Directs the tactical field operations relative to the spill.
Emergency Response Team	Trained group of responders capable of implementing initial and continual response activities such as boom deployment, spill containment and control, boat operations, safety and site control and decontamination.
Process Safety Coordinator	A member of the SMT knowledgeable in refinery process and production. Acts as the liaison for refinery and outside agencies relative to the process and production activities, process impacts and potential response and area impacts.
Safety Specialist Industrial Hygiene Specialist	A safety and health professional assigned as the Safety Officer or field safety responsibilities relative to potential hazards posed by the spill.
Environmental Manager	A member of the SMT responsible for environmental issues and for coordinating environmental concerns with the IC.
Financial Manager	A member of the SMT responsible for all financial issues relating to the spill including equipment purchase, manpower requirements and expenses, contractor accounting and overall accounting for the incident.
Maintenance Field Superintendent	A member of the response charged with supporting the response with equipment and assets and trained mechanical personnel
Dispatcher	An individual with specific skills in the operation of the PES Communications system.

Paper copies are uncontrolled. This copy is valid at time of printing. The controlled version can be found on
C:\Users\abraham.todd\Documents\FRP\Plans\122301 - Philadelphia Energy Solutions\Plan\Section 3 General Response Plan
Contents CED\PES Section 3.3 Facility Response Activities.doc

Revision Date: 02/01/2013

Revision Date: 02/01/2018

Last printed 5/9/2013 10:58 AM

PHILADELPHIA ENERGY SOLUTIONS OPA 90 PLAN

Section 3.3 - 10

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities

Initial Assessment and Site Control

In the event of a spill or release of oil or a hazardous material an initial site assessment will be conducted to determine the presence of hazardous or potentially hazardous conditions including oil type. Major concerns are the real or potential dangers from fire, explosion, and airborne contaminants as well as personnel exposure and immediately dangerous conditions such as oxygen deficiency.

The initial assessment will be conducted by the first on-scene emergency response personnel, in conjunction with operations and safety and health personnel.

A site assessment (or “size up”) is conducted to identify potential hazards, establish site or incident procedures or work practices, minimize potential personnel exposure, protect the public or surrounding portion of the community, facilitate site work activities, and establish secure access for safe and efficient mitigation activities.

Based on the initial assessment, a Safety Plan for the event is developed to outline for response personnel the known and potential hazards and the procedures that have been established for the emergency phase of the event. The Safety Plan is located in APPENDIX F.

Establishing Control Zones

Based on the initial assessment, Control Zones are established and plotted on a site safety map. Under PES ICS, the On-scene Commander is responsible for establishing these zones and reassessing conditions as the event proceeds so the zones can be appropriately modified as needed. Control Zones are established to limit personnel access to contaminated areas and to prevent the spread of contamination.

No person should enter a site without reading and subscribing to the approved Safety plan. No person should be allowed to enter a site without adequate training in hazardous waste operations appropriate to their work assignment and applicable hazardous conditions.

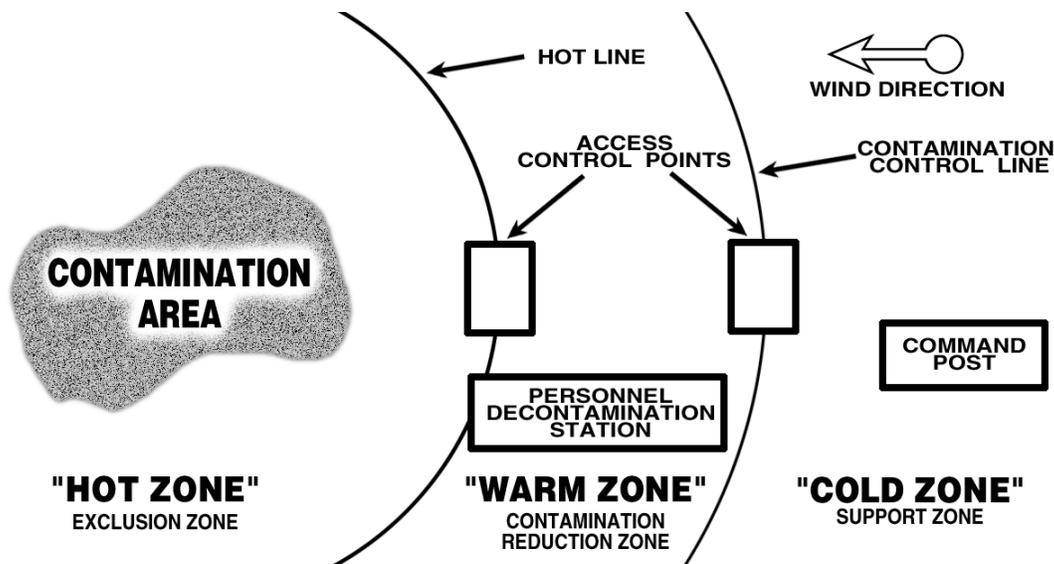
Hot Zone (Exclusion Zone): Hot Zones should extend far enough to prevent adverse effects to unprotected personnel outside of the zone. This is an area where contamination or product hazards are expected.

Warm Zone (Contaminant Reduction Zone): These are zones where decontamination of personnel and equipment take place. It is a transition area between the Hot Zone and the Cold Zone.

Cold Zone (Support Zone): These are minimal exposure areas maintained as uncontaminated locations for support functions, such as Command posts, food service areas, and new equipment storage and staging areas. It is an area adjacent to the Warm Zone.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities



Distances and Evacuation

The PES Evacuation Procedure 19, *Emergency Personnel Evacuation*, and the Emergency Response Team Emergency Evacuation procedures constitute the framework for providing for a safe and orderly evacuation of all personnel and provides for emergency alerting, evacuation routes, and safe places of refuge/muster.

In general, The On-Scene/Incident Commander determines the need to evacuate and orders the evacuation, as necessary. Once notified, the Communications Specialist will announcement the evacuation. The specialist will provide information to personnel where to evacuate (designated area) for roll call.

Levels of Evacuation:

- **Local Evacuation:** Pertains to evacuation of non-essential personnel from specific operating areas or buildings, etc. One or more assembly points have been established for each area that may require an evacuation.
- **Regional Evacuation:** Pertains to evacuation of non-essential personnel in situations where the emergency condition may impact multiple areas, requiring a larger scale evacuation of operating units and/or administrative areas. Site specific regional assembly locations are referenced on facility Point of Work Card.
- **General Evacuation:** Evacuation under emergency conditions would require a total facility evacuation of all non-essential personnel including contract employees.
- **General location assembly points** are specified on Point of Work Card.

Paper copies are uncontrolled. This copy is valid at time of printing. The controlled version can be found on
 C:\Users\abraham.todd\Documents\FRP\Plans\122301 - Philadelphia Energy Solutions\Plan\Section 3 General Response Plan
 Contents CED\PES Section 3.3 Facility Response Activities.doc

Revision Date: 02/01/2013

Revision Date: 02/01/2018

Last printed 5/9/2013 10:58 AM

PHILADELPHIA ENERGY SOLUTIONS OPA 90 PLAN

Section 3.3 - 12

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities

Personnel Accountability:

Supervisors/ Managers are responsible to account for all employees who work within their department or area.

Supervisors/Managers will respond to the designated Assembly Point and account for their personnel. Personnel unaccounted for should be relayed by the area supervision to the Communications Center.

The Communications Center will verify access control gate log information and notify Incident Command Personnel.

Emergency Evacuation Routes:

Safe routes of travel: Primary and Secondary evacuation routes are established for all facility areas including administrative, operations, and mechanical areas. Upon notification of an evacuation, affected personnel shall use these routes in order of priority, maintaining a clear and safe egress from the area.

Operating facilities utilize an "Point of Work Card" which contains area specific emergency Information specifying evacuation procedures. Point of Work Cards will contain the following:

- Description of evacuation alarm signal
- Assembly point location
- Evacuation procedures for selecting a primary and secondary evacuation route
- Facility communication methods
- A map depicting evacuation routes
- Other safety related information pertaining to the operating area

Emergency Alerting of an Evacuation:

Operating areas, when initiating an evacuation, will utilize an Emergency Alert System indicating that non-essential personnel are required to evacuate the area, assembling at the local point.

The Communications Center will conduct a radio broadcast simulcast on all facility frequencies activating secondary emergency communication equipment announcing the order to evacuate the area and providing any additional instructions.

Once the area is deemed safe, the Incident Commander will authorize the activation of the "All Clear" signal.

The Communications Center will conduct a radio broadcast simulcast on all facility frequencies along with activating secondary emergency communication equipment to announce the "All Clear" order.

Evacuation of Essential Personnel:

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities

The evacuation of essential personnel will be decided on a case-by-case basis by the Incident Manager and the Incident Management Team based upon the progression of the incident.

No personnel are allowed to reenter an evacuated area until the On Scene/Incident Commander has instructed the "All Clear" to be sounded.

Community Response and Evacuation

If a Refinery spill, release or other emergency has the potential to present a possible danger or hazard to the surrounding community, the Plant Protection Shift Supervisor or at his/her direction the PES Communications Center will contact local emergency services of the City of Philadelphia. The Communications Center will utilize the Initial Contact Form (attached) and give a brief description of the emergency and any specific instructions necessary.

General practice dictates that local emergency services or 911 centers contact local officials however, as necessary the PES Communications Center will also contact local officials.

Municipal officials have been advised that, if they feel the refinery is the source of a possible impact to the community; they may contact the Refinery at 215-339-2286 during normal working hours. The Plant Protection Shift Supervisor is available 24 hour/day at 215-339-2286.

If a community evacuation is to be considered or is possible; refinery Incident Command personnel will work with local officials to decide on the need for an evacuation or shelter-in-place action, the extent of potential impact, the duration of impact, the means available to effect an evacuation or the method of notifying residents of the need to shelter-in-place and the evacuation routes and shelter area as outlined in the community plan.

Refinery emergency services personnel have agreements with local emergency responders for response and from the refinery. In the event local emergency response is required locations at each refinery have been designated as response and staging areas for personnel and equipment.

Complex	Primary Response Location	Secondary Location
Refinery	Gate S-3 Frontage Road	Gate S-1 Point Breeze Entrance at Frontage Road Gate S-19 Girard Point Entrance at Lanier Avenue

Municipal officials may request refinery equipment or personnel to aid them in a non-refinery related emergency. It is refinery policy to assist them, if possible. An example

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 3.3: Facility Response Activities

would be the refinery assisting with a supply of spill booms, trucks, traffic cones, and persons to direct traffic.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities

Point of Work Cards

Point of Work Cards are utilized in each refinery in conjunction with the Process Safety Management (PSM) Program. These cards outline the chemicals and other materials in each area of the refinery. The Point of Work card also indicates the primary and secondary evacuation points and the mustering sites. Each refinery also outlines primary and secondary evacuation routes from the facility through the community. These routes are coordinated with local officials and law enforcement. An example is below:

Map of local refinery operating area and evacuation routes

(b) (7)(F)



OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 3.3: Facility Response Activities

Paper copies are uncontrolled. This copy is valid at time of printing. The controlled version can be found on
C:\Users\abraham.todd\Documents\FRP\Plans\122301 - Philadelphia Energy Solutions\Plan\Section 3 General Response Plan
Contents CED\PES Section 3.3 Facility Response Activities.doc

Revision Date: 02/01/2013

Revision Date: 02/01/2018

Last printed 5/9/2013 10:58 AM

PHILADELPHIA ENERGY SOLUTIONS OPA 90 PLAN

Section 3.3 - 17

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities



Document Name: PES Evacuation Procedure

Document Number: ER 019

Control Tier:

3 – Northeast Refining Complex

Issuing Dept:

Plant Protection

Revision Date:

06/2007

Next Review Date:

06/2012

Document Authorizer:

*PES Plant Protection & Public Affairs
Manager*

Document Reviewer:

Facility Emergency Response Supervisor

Document Author:

PES Fire, Emergency Service Supervisor

Document Administrator:

Document Control Coordinator

1.0 Purpose/Scope

The purpose of this procedure is to provide guidelines to provide a framework for a safe and orderly evacuation of personnel and provides emergency alerting, evacuation routes, and safe places of refuge/muster (assembly points). In general, The On-Scene/Incident Commander determines the need to evacuate and orders the evacuation; however local evacuations may be initiated by employees that become aware of emergencies. All employees should be alert to detect unusual signs which may indicate an actual emergency. Some emergency needs could include fire, vapor release, spills or other environmental situations, medical, rescue and security. Once notified, the PES Communications Center will announce the evacuation. There are established assembly points and the Center can provide more information if the situation dictates.

ER 016 Procedure Calling for Assistance

2.0 Definitions

- 2.1 **Assembly Point** – pre-determined identified reporting areas for accountability.
- 2.2 **Communications Coordinator**- An individual assigned to either the Communications Center or Incident Command Post responsible for the organized transmission of incident information.
- 2.3 **Essential Personnel** – Personnel who remain to operate critical plant operations
- 2.4 **Incident (Emergency)** - An occurrence or event, either human caused or natural phenomena, that requires action by emergency personnel to prevent or minimize loss of life or damage to property/or natural resources.
- 2.5 **On Scene Incident Commander** – The individual responsible for insuring that on scene activities are coordinated and that impact to facility personnel and operations is minimized.
- 2.6 **Local Evacuation** – The evacuation of non-essential personnel from specific operating areas or buildings to an identified assembly point.
- 2.7 **Non Essential Personnel** – Personnel who would not be required to remain and operate critical refinery operations

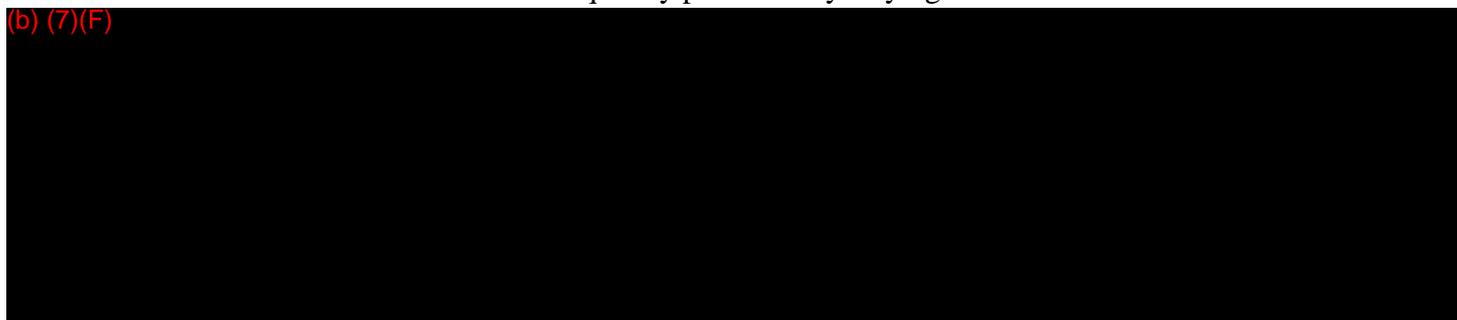
Paper copies are uncontrolled. This copy is valid at time of printing. The controlled version can be found on
 C:\Users\abraham.todd\Documents\FRP\Plans\122301 - Philadelphia Energy Solutions\Plan\Section 3 General Response Plan
 Contents CED\PES Section 3.3 Facility Response Activities.doc
 Revision Date: 02/01/2013 Revision Date: 02/01/2018 Last printed 5/9/2013 10:58 AM

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities

- 2.8 **Regional Intermediate Evacuation** – The evacuation of non-essential personnel in situations where the emergency condition may impact multiple areas, requiring a larger scale evacuation of operating units and/or administrative areas. Site specific regional assembly locations are referenced on facility Point of Work Card.
- 2.9 **General Evacuation** – Evacuation under emergency conditions would require a total facility evacuation of all non-essential personnel including contract employees.
- 2.10 **Shelter In Place** – Non evacuation of an area but remaining in a safe location. In place sheltering is considered when:
- The hazardous material has been identified as having a low or moderate level of health risk.
 - The material has been released from its container and is now dissipating.
 - Leaks can be controlled rapidly and before evacuation can be completed.
 - Exposure to the product is expected to be short-term and of low health risk.
 - Individuals can be adequately protected by staying indoors

(b) (7)(F)



- 2.12 **Wardens, (Captains in PH)** - Responsible for accounting of the individuals at their assigned assembly point and reporting information of status.

3.0 General Requirements

- 3.1 Plant Protection and Emergency Response personnel shall be trained in the procedure.
- 3.2 Line Organization personnel shall be trained in the procedure.

4.0 Key Responsibilities

- 4.1 Line Organization personnel shall notify the PES Communications Center.
- 4.2 The PES Communications Coordinator shall ascertain all pertinent information as to the type and location of the emergency incident.
- 4.3 The PES Communications Coordinator shall make clear and concise transmissions of information and verify the response of the appropriate Plant Protection Group.
- 4.4 Plant Protection will respond to the scene and take the necessary steps to mitigate the emergency. This will include establishing On Scene Command.
- 4.5 All employees, contractors and visitors should be familiar with the “Point of Work” cards for the unit they are working or visiting. If a building does not have a point of work card, employees, contractors and visitors should examine posted egress / assembly points.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities

- Additionally, if in doubt they should question a resident employee of the building as to the evacuation route and designated assembly area.
- 4.6 Wardens – Group (Captain in PH) are responsible for maintaining accountability of personnel in their group or immediate area of a building and reporting the status of their area to the Area Warden.
- 4.7 Wardens – Area (Captain in PH) are responsible for maintaining accountability of personnel in their group or immediate area of a building, receiving reports from Group captains for that specific area or building and reporting the accountability status of the entire area or building to the Emergency Operations Center.

5.0 Procedure

- 5.1 Local Evacuations Involving Occupied Buildings.
In the event of an emergency within a building, the fire or building evacuation alarm in the building should be sounded and the building evacuated. Any person discovering an emergency within a building has the responsibility for notifying other occupants. This can be accomplished by sounding an alarm utilizing a fire alarm pull station in the building, if available. After sounding the alarm, immediately call for help utilizing in plant phones or radio.

When the fire alarm sounds in a building:

All persons in the building will immediately evacuate by using the closest unobstructed exit and proceed to the building's assembly area. (See table below).

Visitors shall be escorted from the building to the assembly area by the host employee. Persons evacuated shall report to their warden (captain in PH) in the assembly area for accountability purposes.

The warden (captain in PH) shall report any missing persons to the Communications Center. Plant Protection shall initiate an organized search of the building for any missing persons. NOTE; All personnel should become familiar with Primary and Secondary routes of evacuation.

Designated Assembly Areas for PES Facility Buildings

Philadelphia Facility

<u>Building</u>	<u>Assembly Area</u>
PB Main Office	Roadway east of Quality Control Lab
PB Main Office Annex	Parking lot south of building
PB Quality Control Lab	Parking lot east of building
PB Maintenance Shops	Roadway north of building
PB Change Building	Roadway south of building
PB #14 Service Building	Parking lot north of building

Paper copies are uncontrolled. This copy is valid at time of printing. The controlled version can be found on
 C:\Users\abraham.todd\Documents\FRP\Plans\122301 - Philadelphia Energy Solutions\Plan\Section 3 General Response Plan
 Contents CED\PES Section 3.3 Facility Response Activities.doc
 Revision Date: 02/01/2013 Revision Date: 02/01/2018 Last printed 5/9/2013 10:58 AM

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities

PB Central Warehouse	Parking lot west of building
GP Main Office	South of building under Platt Bridge
GP Training Building	South of building under Platt Bridge
GP Plant Lab	Gravel area northwest of building
GP Maintenance Building	Parking lot west of building
GP E&I Shop – 450 Building	On lot east of building at smoking stand
GP Light Oil Office	Parking lot west of Maintenance building
GP Maintenance 3rd St. Office	On roadway east of building
GP #2 Warehouse	On roadway north of building
GP Blending & Shipping Office	Parking lot west of building
GP 24 Gate locker house/Canteen	Roadway south of building
GP 24 Gate Ops. Office and Trailer	Parking lot east of building

5.2 External Emergencies Impacting Occupied Buildings

Man made or natural disasters originating outside of buildings can cause an impact on occupants inside facility buildings.

When an emergency occurs outside of a building that does or could potentially impact any refinery building, the On Scene Commander, in conjunction with the EOC Commander, shall rapidly size up and evaluate what buildings are or could be affected by the incident. Based on this evaluation, Plant Protection shall issue direction to the building occupants via phone, radio, (plectron / notifier where available) or messenger with instructions to:

Shelter in place away from windows, shut down HVAC systems and close the building's windows or

Evacuate the buildings to a designated area.

Evacuated personnel shall report to their wardens (captains in PH) in the assembly area for accountability purposes. The warden (captain in PH) shall report any missing persons to the Communications Center. Plant Protection shall initiate a search for missing persons.

5.3.1 Local Evacuations Involving Process Operating Areas (Non Essential)

Emergencies in operating areas may include, but are not limited to fires, releases, spills, process upsets, and security or other emergencies.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities

If a gas alarm sounds on a unit or the operators activate the unit evacuation alarm or the communications center announces via radio or plectron / notifier, all non-essential personnel shall evacuate the unit immediately, **gather at the local assembly point and await further instructions**. Non-essential personnel would include: maintenance, administrative, technical, contractor, and other visitors.

Immediately after sounding the evacuation alarm, the operators shall notify the PES Communications Center to advise them of the location and nature of the emergency.

Upon hearing a unit evacuation alarm, gas alarm, radio broadcast, or plectron / notifier, the non-essential personnel shall evacuate the process area and monitor facility radios for any special instructions. Prior to evacuation, maintenance or contract personnel will, when possible, shut down any equipment they were using such as welding machines, pumps, cranes, etc.

Persons evacuating an operating area should take a route to the upwind side of the operating area a safe distance from the incident to an assembly area. When evacuating, personnel should use refinery roads where possible and avoid going through other operating units.

Once the non-essential personnel have evacuated the unit, they shall then go to their respective staging areas and report to their warden (captain in PH) for accountability purposes. The status of the accountability shall be reported to the on scene emergency response organization.

5.4 Local Evacuations Involving Process Operating Areas (Essential)

In the unusual event that would require essential personnel to evacuate an Operating area, operations personnel when possible will take whatever steps are possible to secure the process following their operating procedures before evacuation.

The On Scene Command or EOC Commander can order a total unit(s) evacuation.

All operating personnel shall proceed to the on scene command post or designated staging area for accountability purposes by their supervisor.

Plant Protection shall initiate a search for any missing personnel.

The Incident On Scene Commander shall decide when it is safe for the operating personnel to go back in to an evacuated operating area.

5.5 Regional Intermediate Evacuations

Regional Intermediate Evacuations can involve larger number of personnel and/or affects a larger area. Regional Intermediate Evacuations would be considered when more than one

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities

operating unit is impacted and needs to be evacuated. It is expected that evacuation completion times will be somewhat longer than a local evacuation, but generally rapid. People may remain out of the area for several hours.

All essential and non essential personnel should follow the procedure steps outlined in the local evacuation procedure

Designated Assembly Areas for PES Regional Intermediate Evacuations

Point Breeze Region

Point Breeze Employee Parking Lot

Girard Point Region

Girard Point Employee Parking Lot (Under Platt Bridge)

5.6 General Evacuations

General evacuations could involve the need to evacuate large portions or the entire facility. General evacuations can involve larger number of personnel and/or affects a larger area.

The Incident On Scene Commander shall size up and determine what areas and what personnel are to be evacuated.

The PES Communications Center shall announce on all radio channels to advise the need for evacuation. The Plectron / Notifier System (Marcus Hook & Eagle Point) should be utilized to advise all employees, contractors and visitors the need to evacuate.

Upon hearing the announcement, all persons shall remain calm, inform co-workers, and shall stand by for further PES Communications Center announcement.

The On Scene Incident Commander shall instruct the Communications Center on what message to broadcast over the plant radio channels. The message will include:

- What areas are to be evacuated
- What groups of people shall evacuate
- Where they shall evacuate to
- What route to take

Employee's who do not have their own transportation, should use the "buddy system" and

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities

share transportation when necessary with co-workers.

Evacuated persons shall go to the designated area and report to their supervisor for accountability purposes.

The supervisors of both employee and contractor shall notify the PES Communications Center on the status of accountability.

Plant Protection shall initiate a search for any missing personnel.

Designated Assembly Areas for General Evacuations

<u>Philadelphia Facility</u>	<u>Assembly Area</u>
GP side of refinery	Shopping Center (61 st & Passyunk)
PB side of refinery	Shopping Center (61 st & Passyunk)
Contractors	Process Center Lot

5.7 Evacuation Duration

The evacuations should be sustained as long as the risk continues in the evacuated area. Caution should be taken when deciding to allow occupants to return to ensure that the situation is truly under control. Re-evacuating is difficult to complete and can cause confusion.

The Incident On Scene Commander shall decide when it is safe for individuals to go back in to an evacuated operating area.

6.0 Self Assessment

- 6.1 Drills and exercises
- 6.2 PES Critique Procedure

7.0 Key Documents/Tools/References

- 7.1 PES Incident Command Procedure (ER 001)
[ER 001 Incident Command Procedure](#)
- 7.2 PES Employee Role and Responsibility (ER 017)
[ER 017 Roles and Responsibilities Procedure](#)
- 7.3 PES Point of Work Card
[PES POW CARD](#)
- 7.4 Facility list of Wardens / Captains (PH)
[PH Evacuation Captains](#)

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 3.3: Facility Response Activities

Revision Log

<i>Revision Date</i>	<i>Document Authorizer</i>	<i>Document Reviewer</i>	<i>Document Author</i>	<i>Revision Details</i>
05/05	Donald Zoladkiewicz	William Ankrum, John Austin, Robert Jones	William Kelly	Intial Version
03/06	Donald Zoladkiewicz	William Ankrum, John Austin, Robert Jones	William Kelly	Marcus Hook Pilot Plan
07/06	Donald Zoladkiewicz	William Ankrum, John Austin, Robert Jones	William Kelly	Addition of Eagle Point steam whistle for process unit evacuations
06/2007	Donald Zoladkiewicz	William Ankrum, John Austin	William Kelly	Add 2.11 for emergency alerting devices. Add 7.4 Wardens

Paper copies are uncontrolled. This copy is valid at time of printing. The controlled version can be found on
 C:\Users\abraham.todd\Documents\FRP\Plans\122301 - Philadelphia Energy Solutions\Plan\Section 3 General Response Plan
 Contents CED\PES Section 3.3 Facility Response Activities.doc

Revision Date: 02/01/2013

Revision Date: 02/01/2018

Last printed 5/9/2013 10:58 AM

PHILADELPHIA ENERGY SOLUTIONS OPA 90 PLAN

Section 3.3 - 25

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities



Document Name: PES Emergency Incident Command Policy

Document Number: ER 001

Control Tier:

3 – Northeast Refining

Document Authorizer:

PES Plant Protection & Public Affairs Manager

Issuing Dept: Plant Protection

Document Reviewer:

Facility Emergency Response Supervisor

Revision Date:

05/2007

Document Author:

PES Fire, Emergency Service Supervisor

Next Review Date:

05/2012

Document Administrator:

Document Control Coordinator

1.0 Purpose/Scope

The purpose is to describe the PES Incident Command System to ensure effective communications, accountability and a well defined command structure during an emergency incident at the facility.

2.0 Definitions

- 2.1 Environmental Officer** – The individual responsible for monitoring the environmental impact of the incident and determining what type of compliance action needs to be undertaken.
- 2.2 Facility Command** - The individual responsible for the overall management of the Facility during emergency incident operations.
- 2.3 Human Resource Officer** – The individual responsible for tracking the status of injured employees contractors and visitors. Initiates notifications to injured employee's families, contract companies and visitor contacts.
- 2.3 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.
- 2.4 Incident Command Post** – That location at which the primary command functions are executed.
- 2.5 Incident Commander** – The individual responsible for the overall management of the emergency incident operations.
- 2.6 Incident Command System** – The combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure with responsibility for the management of assigned resources to effectively accomplish stated objectives pertaining to an incident.
- 2.7 Industrial Hygiene (IH) Officer** – The individual responsible for monitoring, sampling and assessing potential health hazards for the duration of the incident.
- 2.8 Information Officer** – The individual responsible for the formulation and release of information about the incident to the news media and other appropriate agencies and organizations.
- 2.9 Liaison Officer** – The individual responsible to fulfill requests from the Incident Commander by providing coordination and appropriation management of all facility resources.

Paper copies are uncontrolled. This copy is valid at time of printing. The controlled version can be found on
 C:\Users\abraham.todd\Documents\FRP\Plans\122301 - Philadelphia Energy Solutions\Plan\Section 3 General Response Plan
 Contents CED\PES Section 3.3 Facility Response Activities.doc
 Revision Date: 02/01/2013 Revision Date: 02/01/2018 Last printed 5/9/2013 10:58 AM

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities

- 2.10 Logistics Officer** – The individual responsible for providing facilities, services, and material in support of the incident.
- 2.11 Medical Officer** – The individual responsible for the treatment and care of employees and emergency responders for the duration of the incident.
- 2.12 On-Scene Commander (Incident Commander)**– The individual responsible for insuring that on scene activities are coordinated and that impact to the facility personnel and operations is minimized.
- 2.13 Operations Officer (On Scene)** – The individual responsible for assisting the On Scene Commander in development of strategic and tactical plans, and management of all on scene activities.
- 2.14 Operations (Production Command)** – The individual responsible for oversight of all production operations directly applicable to unit emergency and auxiliary operations.
- 2.15 Operations Technical Support** - The individual responsible to provide administrative assistance to Incident Command with technical assistance and coordinate facility needs with business planning.
- 2.16 Planning Officer** – The individual responsible to perform operational planning and develop alternate strategies.
- 2.17 Recording Officer** – The individual responsible for maintaining accurate and complete incident files.
- 2.18 Safety Officer** – The individual responsible for monitoring and assessing potential hazardous and unsafe conditions and developing measures for assuring personnel safety.
- 2.19 Security Officer** – The individual responsible for maintaining site security and coordinating access of resources within restricted areas.

3.0 General Requirements

- 3.1** Plant Protection and Emergency Response personnel shall be trained in the procedure.
- 3.2** Plant Protection Department shall implement the Incident Command Procedure.
- 3.3** Management notifications shall be made by the Communications Center personnel utilizing the Incident Command Structure.

4.0 Key Responsibilities

- 4.1 Line Organization** – Shall notify the Communications Center when an incident occurs that has an impact on PES facilities.
- 4.2 Communications Center** – Shall initiate the appropriate procedure and at the request of the On Scene Commander Initiate the Incident Command Procedure.
- 4.3 Plant Protection Department** – Shall respond to the incident location and secure affected areas.
- 4.4 Facility EOC Team** – Shall respond to the Emergency Operations Center upon request of the Incident Commander or facility manager.

5.0 Procedure

Any personnel involved in, or have witnessed an incident at a PES facility shall report the incident by phone or radio to the Communications Center.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities

- 5.1 The Communications Center shall activate the appropriate procedure.
- 5.2 The Plant Protection Shift Supervisor and E. R. Technician shall respond and assess the incident.
- 5.3 Upon designation of a "Working Incident" the Plant Protection Shift Supervisor shall initiate the Incident Command System. Assume and announce on radio designation "Command" will be used along with the geographical location of the incident (i.e. 137 Command), and establish an effective operating position (Command Post).
- 5.4 Rapidly evaluate the situation (size up).
- 5.5 Establish exclusion isolation areas if required and secure area
- 5.6 Initiate, maintain, and control the communications process.
- 5.7 Identify the overall strategy, develop an incident management plan, and assign personnel consistent with plans and standard operating procedures.
- 5.8 Develop an effective Incident Command organization.
- 5.9 Review, evaluate, and revise (as needed) the Incident Management plan.
- 5.10 Provide for the continuity, transfer and termination of Command.

6.0 Self Assessment

- 6.1 PES Critique Procedure
- 6.2 Drills and Exercises

7.0 Key Documents/Tools/References

7.1 PES Incident Command Policy, Structure, and Responsibilities

The PES utilizes an Incident Command System for all emergency activity. The purpose of the command system is to help ensure effective communications, accountability and a well-defined command structure.

Terminology is based on the National Fire Academy Model for command, control and coordination.

The system is designed as a solid foundation as a tool used by single or multiple agencies to help limit and minimize the confusion or chaos associated with emergency or unforeseen occurrences.

A. Single Command

- Incident involves one agency
- Single Jurisdiction
- Agency must have pre determined Incident Commander in the Emergency Response Plan

B. Unified Command

- All Agencies with functional responsibility contribute to process
- Determine Strategic Goals
- Determine Overall Incident Objectives
- Plan Jointly for Tactical Objectives
- Maximize Use of All Assigned Resources

It is an all risk system designed for fire and non-fire emergencies.

The system is designed around business management philosophy that pertains to planning, directing, organizing, coordinating, communicating, delegating and evaluating situations.

A basic premise of the command system is the organizing of an on scene command structure and the utilization of an off scene emergency control center.

C. ICS On-Scene and Emergency Operations Center (EOC) Interface

Paper copies are uncontrolled. This copy is valid at time of printing. The controlled version can be found on
 C:\Users\abraham.todd\Documents\FRP\Plans\122301 - Philadelphia Energy Solutions\Plan\Section 3 General Response Plan
 Contents CED\PES Section 3.3 Facility Response Activities.doc

Revision Date: 02/01/2013

Revision Date: 02/01/2018 Last printed 5/9/2013 10:58 AM

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities

Serves to Relieve On Scene Command with Administrative Duties, Not Command or Responsibility
The EOC becomes active when certain triggering mechanisms dictate.

Triggering factors include:

- Incident of Long Term Duration
- Extraordinary Threat to Life or the Environment
- Need for Major Policy Decisions and Proclamations
- Need for Extensive Coordination and Logistics Support
- Loss of Life or Severe Injury

Commonly the request for activating the EOC comes from the IC at the scene. This person is normally in the most advantageous position to recognize when the criteria for activation are met. The EOC can also be activated by Refinery Staff absent a request by the on scene structure.

Administrative functions belong to the EOC staff and the On Scene Incident Command retains on-scene authority. The EOC manages the entire Refinery during the incident, and the On Scene manages the actual incident. These functions may sometimes overlap and conflicts may develop. In these situations, the EOC, which has responsibility for the entire Refinery, will prevail.

Another perspective on this is to view the EOC as support for the on scene activities coordinated at the Incident Command Post. While the EOC staff is officially "in charge", the staff is also there to support the activities at the scene of the incident. These activities fall into three broad areas of support: information, personnel, and material.

There are many kinds of information associated with an incident response, but three of the most critical are technical, legal, and policy types. Personnel support can also be provided by the EOC if the personnel at the scene get stretched to thin. Finally, the same logic holds true of needed material resources the On Scene Incident Command does not have currently available or the On Scene Commander anticipates will shortly become scarce.

The EOC will not dictate actions at the scene but may influence changes in the action plan or goals if resources can not be provided. The IC or On Scene Command must then develop a plan of action which the available resources can be acquired or implemented.

EOC's do not develop action plans, but must know of them. Possible conflicts and potential problems should surface during the planning and exercise phases, before an actual incident. But unavoidably, even the best planning can not anticipate all eventualities. The On Scene Command needs to keep the EOC staff well informed of what is happening on the scene.

The interaction between the EOC and the On Scene Command or Command Post is a two-way coordination process critical to a well-run operation. Both parties have needs that only the other can provide. It is important to remember that, the EOC is a function, not just a building.

The Command System is designed to automatically initiate by a report of an emergency to the communications center. In order to be flexible and allow growth from a minor emergency to a major event, there are three available alarm status situations.

D. The Challenge for On-Scene / Incident Command

The Incident Commander is responsible for safely handling multiple technological incidents including fire, rescue, EMS, hazardous materials, spill, natural disaster etc. The IC should be aware of and examine

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities

each incident to determine if there is a possible crime scene, terrorism, security breach or a combination of all. Incident Commanders must establish command.

Incident Commanders should follow the “see” principle.

Safe.....No one gets hurt

Effective.....Everyone works toward stated objectives

Efficient.....All resources are used to a maximum benefit

On Scene Incident Management is based on three components.

- Establishing and upgrading priorities
 - Life safety – Accountability
 - Incident Stabilization
 - Property Conservation
 - Environmental Conservation
- Continual size-up on all available information
 - Present Situation
 - Predicted behavior
- Establish and updating incident tasks
 - Strategic Goals (what needs to be done)
 - Tactical Objectives (how it will be done)
 - Task Operations (who and when)

On Scene Incident Management pre arrival responsibilities.

- Commanders must arrive alive to effectively manage the incident. All due caution and care must be exercise when responding.
- Gather information through daily tours with conducting windshield surveys.
- Evaluate the dispatch information and consider time of day or day of week impact on the emergency you are responding to.
- Ascertain wind speed and direction. Utilize steam clouds or wind socks.
- Pick an appropriate direction of travel. Be up hill and up wind.
- Determine who is in the area (maintenance, contractors, visitors).

On Scene Incident Management arrival and on scene responsibilities.

- Establish and announce command (geographic location). Commanders need to stay visible and in one location.
- Control the communication process. Stay calm and think the situation through. If you become frazzled, so will your troops.
- Consider the need for a formalized command post. A formalized command post should be announced to responders and identified with a green flashing light.
- Rapidly gather information for size-up to help determine what is going on. Include MSDS.
- Locate and communicate with the “production Command”. The operations in a process unit can affect others.
- Determine and implement appropriate strategy for the operations (offensive, defensive, passive). Emergencies are dynamic. Continuous size-up is required. Develop and continuously review the incident action plan. The plan needs to be consistent with issues at hand.
- Provide tactical objectives.
- Determine any need for and request assistance. The recognition of needed assistance must be made early. A determination of what type, where will it come from and how long will it take to arrive must be considered. Be aware of what resources are dispatched on first, second and third alarm assignments.

Paper copies are uncontrolled. This copy is valid at time of printing. The controlled version can be found on
 C:\Users\abraham.todd\Documents\FRP\Plans\122301 - Philadelphia Energy Solutions\Plan\Section 3 General Response Plan
 Contents CED\PES Section 3.3 Facility Response Activities.doc

Revision Date: 02/01/2013

Revision Date: 02/01/2018

Last printed 5/9/2013 10:58 AM

PHILADELPHIA ENERGY SOLUTIONS OPA 90 PLAN

Section 3.3 - 30

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities

- Establish staging. Level one for initial responders and level two for escalated incidents. All level two staging incidents require a staging officer. Staging officer assignments can be allocated to responding community emergency agencies when practical.
- Appoint and utilize a safety officer
- Initiate an accountability procedure (PAR).
- Secure the scene. Exclude others
- Isolate the area.
- Establish zones.
- Determine PPE requirements.
- Establish decontamination when appropriate.
- Establish rehabilitation for responders when necessary.
- Delegate if necessary. Everyone works for you but not necessarily directly.
- Assign companies and personnel consistent with abilities and roles. Utilize the right resources to get the job done

On Scene Incident Management termination responsibilities.

- Release resources when able.
- Verify the wellness of all responders.
- Restore all equipment and apparatus.
- Conduct and compile a incident critique.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 3.3: Facility Response Activities

First Alarm Assignment

Paper copies are uncontrolled. This copy is valid at time of printing. The controlled version can be found on
C:\Users\abraham.todd\Documents\FRP\Plans\122301 - Philadelphia Energy Solutions\Plan\Section 3 General Response Plan
Contents CED\PES Section 3.3 Facility Response Activities.doc

Revision Date: 02/01/2013

Revision Date: 02/01/2018

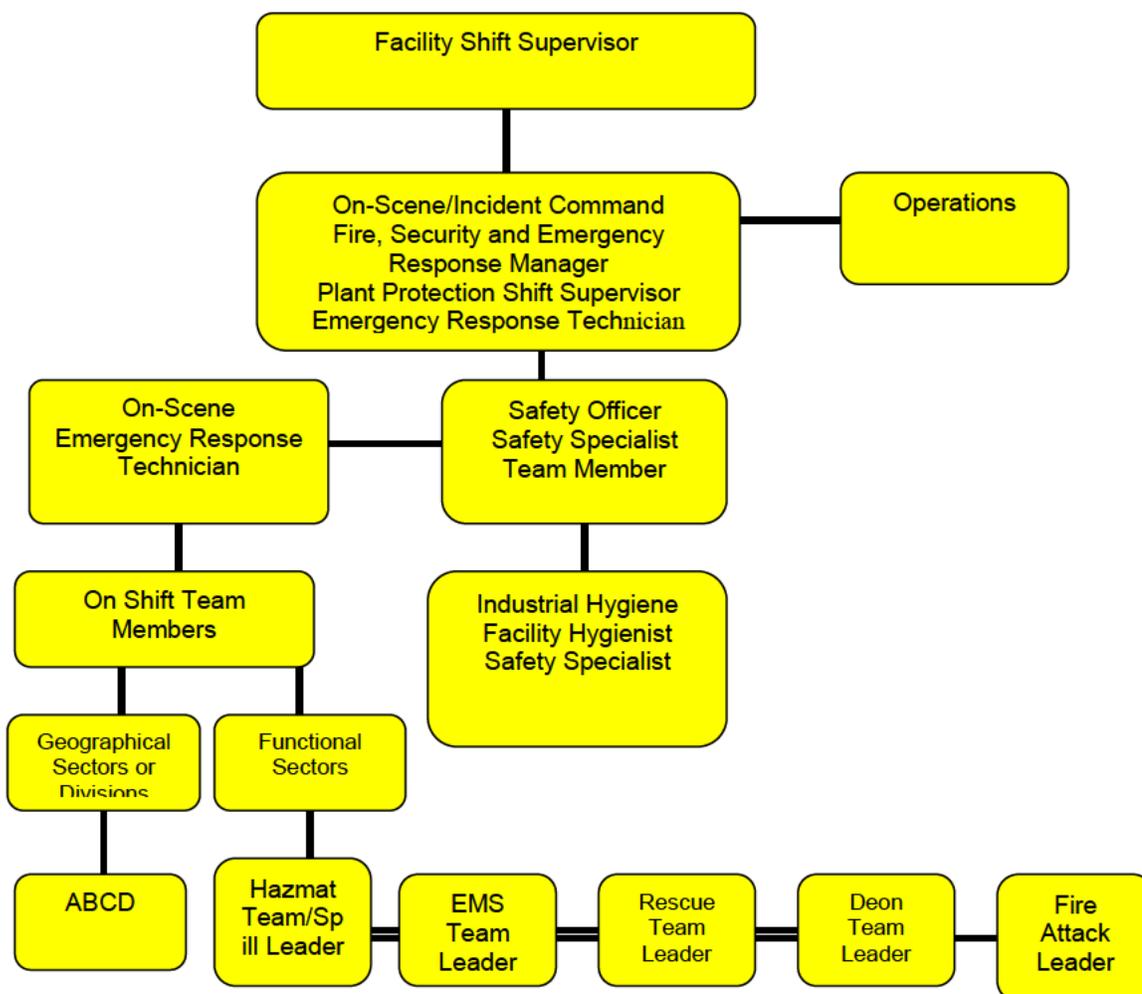
Last printed 5/9/2013 10:58 AM

PHILADELPHIA ENERGY SOLUTIONS OPA 90 PLAN

Section 3.3 - 32

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities



Paper copies are uncontrolled. This copy is valid at time of printing. The controlled version can be found on
 C:\Users\abraham.todd\Documents\FRP\Plans\122301 - Philadelphia Energy Solutions\Plan\Section 3 General Response Plan
 Contents CED\PES Section 3.3 Facility Response Activities.doc

Revision Date: 02/01/2013

Revision Date: 02/01/2018

Last printed 5/9/2013 10:58 AM

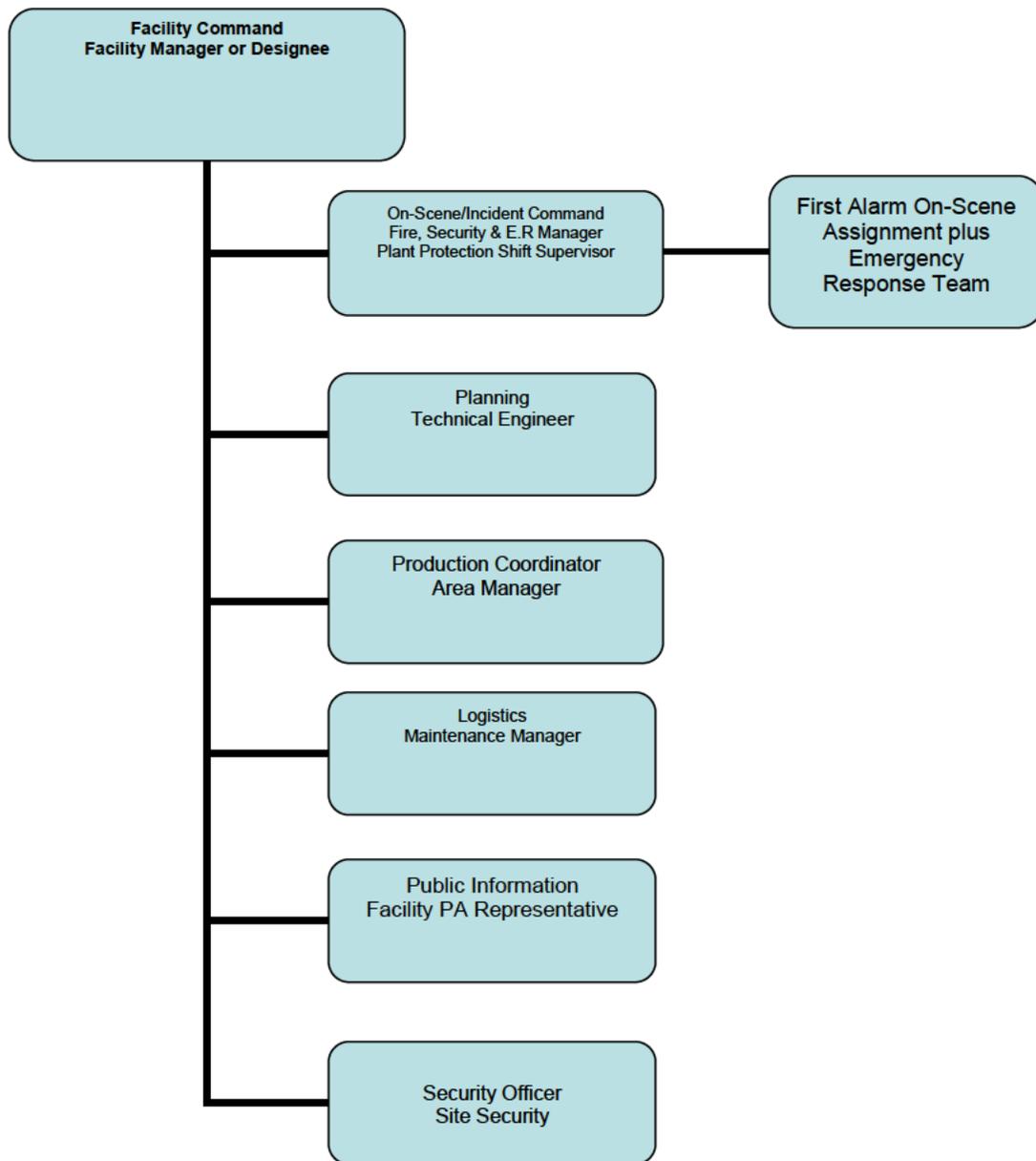
PHILADELPHIA ENERGY SOLUTIONS OPA 90 PLAN

Section 3.3 - 33

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities

Second Alarm Assignment



Paper copies are uncontrolled. This copy is valid at time of printing. The controlled version can be found on
 C:\Users\abraham.todd\Documents\FRP\Plans\122301 - Philadelphia Energy Solutions\Plan\Section 3 General Response Plan
 Contents CED\PES Section 3.3 Facility Response Activities.doc

Revision Date: 02/01/2013

Revision Date: 02/01/2018

Last printed 5/9/2013 10:58 AM

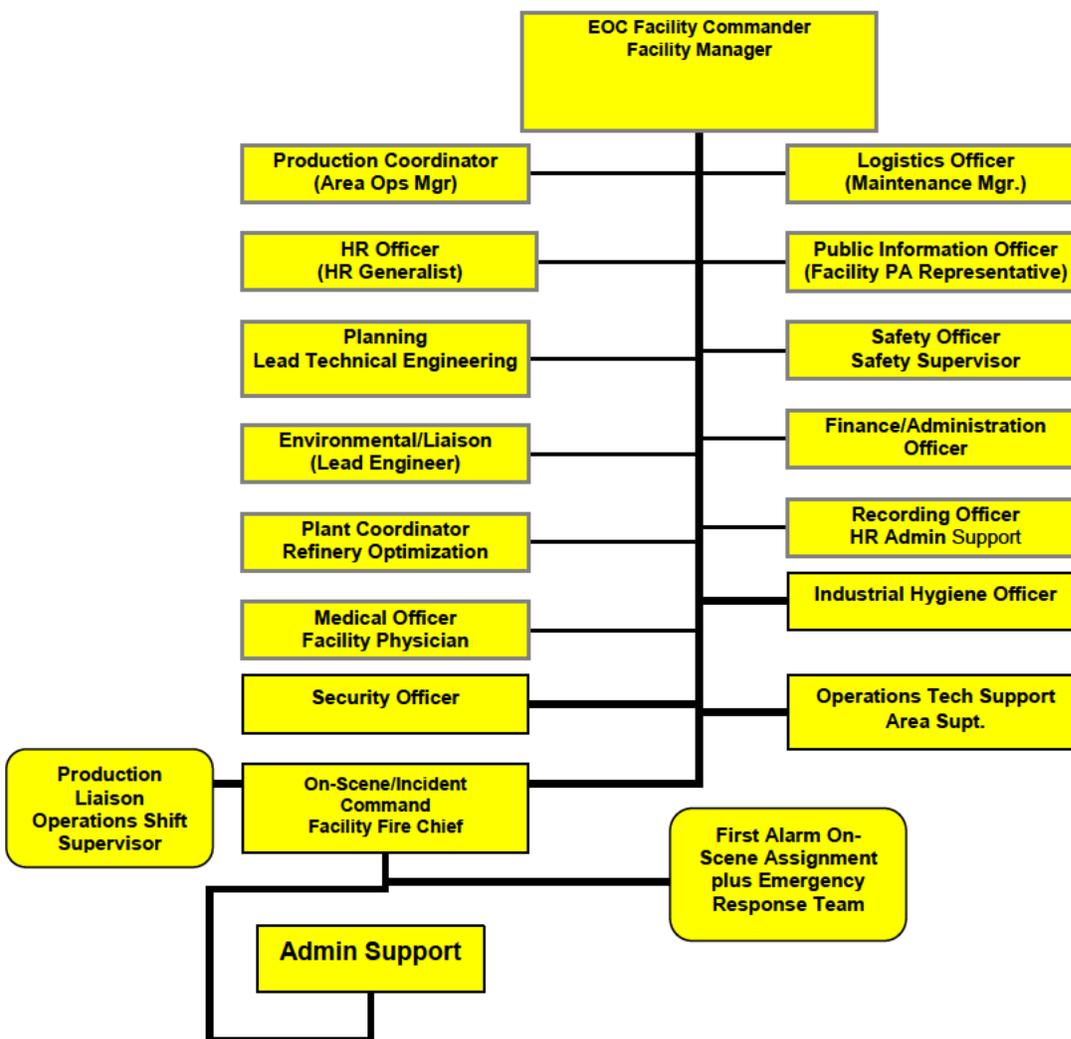
PHILADELPHIA ENERGY SOLUTIONS OPA 90 PLAN

Section 3.3 - 34

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities

Third Alarm Assignment



Paper copies are uncontrolled. This copy is valid at time of printing. The controlled version can be found on
 C:\Users\abraham.todd\Documents\FRP\Plans\122301 - Philadelphia Energy Solutions\Plan\Section 3 General Response Plan
 Contents CED\PES Section 3.3 Facility Response Activities.doc

Revision Date: 02/01/2013

Revision Date: 02/01/2018

Last printed 5/9/2013 10:58 AM

PHILADELPHIA ENERGY SOLUTIONS OPA 90 PLAN

Section 3.3 - 35

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities

7.2 The System

Incident Commander
On Scene Command

Command Staff

Information

Liaison

Safety, required for all Hazardous Material incidents (1910.120)

Command Functional Areas

Planning

Logistics

Operations

Finance / Administrative

A. On Scene Incident Commander

Overall Manager of Incident Scene

Functions

- Assume and Announce Command, Establish Command Post If Necessary
- Rapidly Evaluate the Situation. (Size Up)
- Determine Staging Needs and Assign Appropriate Area
- Initiate, Maintain, and Control the Communication Process
- Identify an Overall Strategy
- Develop an Incident Action Plan (IAP)
- Assign Companies and Personnel Consistent with Abilities
- Develop an Effective Command Organization
- Provide Tactical Objectives
- Review, Evaluate, Revise (as needed) the IAP
- Provide for the Continuity, Transfer, and Termination of Command
- Provide for Safety and Personnel Accountability

B. Facility Commander Functions

- Assume Command of Emergency Control Center
- Briefing from On Scene Commander
- Rapidly Evaluate the Situation. (Size Up)
- Initiate, Maintain, and Control the Communication Process
- Identify an Overall Global Strategy
- Review the Incident Action Plan (IAP) with On Scene Command
- Review, Evaluate, Revise (as needed) the IAP
- Assign Personnel Consistent with Abilities
- Develop an Effective Command Organization
- Provide Team Objectives
- Provide for the Continuity, Transfer, and Termination of Command
- Provide for Safety and Personnel Accountability
- Maintain activity Log

C. Planning Officer

- Briefing from Incident Commander or EOC Command as appropriate
- Establish Information Requirements
- Weather Data Collection

Paper copies are uncontrolled. This copy is valid at time of printing. The controlled version can be found on
C:\Users\abraham.todd\Documents\FRP\Plans\122301 - Philadelphia Energy Solutions\Plan\Section 3 General Response Plan
Contents CED\PES Section 3.3 Facility Response Activities.doc

Revision Date: 02/01/2013

Revision Date: 02/01/2018

Last printed 5/9/2013 10:58 AM

PHILADELPHIA ENERGY SOLUTIONS OPA 90 PLAN

Section 3.3 - 36

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities

- Assist with Preparation of Action Plan
- Gather information about the incident to develop short and long term plan
- Develop Alternate Strategies
- Provide technical information as required to support incident operations
- Provide process and design engineering support
- Provide plot plans and P & I D information as needed
- Provide lab support as needed
- Identify Specialized Resources
- Perform Operational Planning
- Provide Periodic Predictions on Outcome
- Compile and Display Incident Status
- Advise Staff of any Significant Changes
- Prepare and Distribute IC's Orders
- Demobilization
- Maintain activity Log
- Activates Engineering Services resources if necessary/applicable

D. Logistics Officer

- Briefing from Incident Commander or EOC Command as appropriate
- Provide facilities services and material support for the incident
- Provide liquid hydration and food service
- Estimate future service and support request
- Coordinate and Process Requests for Additional resources
- Review Incident Action Plan
- Advise on Current Service and Support capabilities
- Maintain activity Log

E. Operations (On Scene) - This is an ERT Function

- Briefing from On Scene Command
- Operations Portion of Incident Plan
- Brief Operations Personnel
- Supervise Operations
- Determine Need for Additional Resources
- Assemble and Disassemble Strike Teams
- Report Information to On Scene Command
- Maintain Activity Log

F. Operations (Production)

- Briefing from Incident Commander or EOC Command as appropriate
- Analyze unit operations, recommend operational changes or unit shut down
- Provide technical support and review action utilized to secure the unit emergency
- Designate appropriate operating representative to report to On Scene Commander
- Maintain Activity Log

G. Finance / Administrative

- Briefing from Incident Commander or EOC Command as appropriate
- Gather Information From Responsible Party
- Prepare emergency work order if needed
- Provide Cost Analysis
- Participate in Planning Sessions

Paper copies are uncontrolled. This copy is valid at time of printing. The controlled version can be found on
 C:\Users\abraham.todd\Documents\FRP\Plans\122301 - Philadelphia Energy Solutions\Plan\Section 3 General Response Plan
 Contents CED\PES Section 3.3 Facility Response Activities.doc
 Revision Date: 02/01/2013 Revision Date: 02/01/2018 Last printed 5/9/2013 10:58 AM

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities

- Insure Obligation Documentation Prepared and Completed
- Coordinate and approve all matters pertaining to vendor contracts impacted by the incident
- Maintain Activity Log

H. Safety Officer

- Briefing from Incident Commander or EOC Command as appropriate
- Monitors and Assesses Condition
- Develops Measures for Personnel Safety
- Can Exercise Emergency Authority
- Maintain Awareness of Situation
- Works with Medical Officer with preparing Medical Plan
- Works with IH Officer coordination of hazard evaluation/documentation
- Controls Entrance to Hazard Zones. (On Scene Safety)
- Gather MSDS sheets and information
- Gather information on any injury and treatment
- Asses monitoring and ppe and safety zones
- Maintains Activity Log

I. IH Officer

- Briefing from Incident Commander or EOC Command as appropriate
- Monitors and Assesses Condition
- Develops Measures for Personnel Safety
- Can Exercise Emergency Authority
- Maintain Awareness of Situation
- Works with Safety Officer coordination of hazard evaluation/documentation
- Develop strategy for monitoring and ppe and safety zones
- Arrange for perimeter atmospheric monitoring
- Conduct community atmospheric monitoring
- Maintains Activity Log

J. Liaison/Environmental

- Briefing from Incident Commander or EOC Command as appropriate
- Provide Point of Contact for Assisting / Cooperating Agencies
- Provide Point of Contact for PES corporate staff
- Identify Agencies and Contacts
- Respond to Requests from Incident Personnel for Agency Contacts
- Monitor for Potential Agency Problems
- Prepare Agency reports for environmental impact
- Maintain activity Log

K. Information Officer

- Briefing from Incident Commander or EOC Command as appropriate
- Coordinate Public Information Activities
- Establish Single Information Center
- Prepare Initial Information Summary as soon as Possible
- Observe Constraints Imposed by ECC
- Obtain approval of Release from ECC
- Arrange and Provide Interviews with Media
- Respond to Special Requests for Information
- Community Hot Line
- Assign personnel to receive and document calls from area residents/citizens

Paper copies are uncontrolled. This copy is valid at time of printing. The controlled version can be found on
 C:\Users\abraham.todd\Documents\FRP\Plans\122301 - Philadelphia Energy Solutions\Plan\Section 3 General Response Plan
 Contents CED\PES Section 3.3 Facility Response Activities.doc

Revision Date: 02/01/2013

Revision Date: 02/01/2018

Last printed 5/9/2013 10:58 AM

PHILADELPHIA ENERGY SOLUTIONS OPA 90 PLAN

Section 3.3 - 38

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities

- Maintain Activity Log
- Consider holding joint press conference with agencies and/or governmental officials

L. Human Resources Officer

- Briefing from Incident Commander or EOC Command as appropriate
- Track the status of injured employees and notify employee's families
- Maintain contact with Medical Officer to track status of injured employees, contractors and visitors
- Inform Public Information Officer on any known injuries
- Notify contractor company management of contractor injuries with status and location information
- Notify visitor's company of visitor injury and status and location information
- Observe Constraints Imposed by ECC
- Obtain approval of Release from ECC
- Maintain Activity Log

M. Recording Officer

- Briefing from Incident Commander or EOC Command as appropriate
- Start and maintain an event activity log
- Track time line, activities and chronology of events
- Assist IC with information distribution
- Coordinate with Planning Officer to provide IC with status of equipment, personnel, weather information, wind speed and other significant information

N. Medical Officer

- Briefing from Incident Commander or EOC Command as appropriate
- Works with Safety Officer with preparing Medical Plan
- Develop strategy for treatment of injured
- Gather information on any injury and treatment
- Assist the HR Officer with tracking the status of injured employees, contractors and visitors
- Maintain Activity Log

O. Plant Coordinator, Business Planning Officer

- Briefing from Incident Commander or EOC Command as appropriate
- Collect and evaluate information about the incident to ascertain how it will affect the financial status of the Refinery
- Evaluate / predict impact on business plan including process product impact, dock schedule and pipeline commitment
- Supply information to Incident Commander on impact to current business plans
- Develop strategies to allow product delivery commitments
- Maintain Activity Log

P. Operations Tech Support

- Briefing from Incident Commander or EOC Command as appropriate
- Provide administrative assistance to Incident Command
- Provide technical process information to Incident Command
- Work with Business Planning to:
- Evaluate information about the incident to ascertain how it will affect the financial status of the Refinery
- Evaluate / predict impact on business plan including process product impact, dock schedule and pipeline commitment
- Supply information to Incident Commander on impact to current business plans
- Develop strategies to allow product delivery commitments

Paper copies are uncontrolled. This copy is valid at time of printing. The controlled version can be found on
 C:\Users\abraham.todd\Documents\FRP\Plans\122301 - Philadelphia Energy Solutions\Plan\Section 3 General Response Plan
 Contents CED\PES Section 3.3 Facility Response Activities.doc
 Revision Date: 02/01/2013 Revision Date: 02/01/2018 Last printed 5/9/2013 10:58 AM

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities

- Maintain Activity Log

Q. Security Officer

- Briefing from Incident Commander or EOC Command as appropriate
- Evaluate any unique security or access need
- Work with On Scene or EOC to provide necessary security resources
- Maintain Activity Log

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities

Emergency Operations Center Control Model Staffing

EOC Facility Commander

Primary	Alternates
Operations Manager	Manager of affected area
Secondary	
On Call	

Production Coordinator

Primary	Alternates
Manager of affected area	On call

Medical Officer

Primary	Alternates
Refinery Doctor	On-Call

IH Officer

Primary	Alternates
Industrial Hygienist	Other Safety Personnel, (on call)

Safety Officer

Primary	Alternates
Safety Supervisor	Other Safety Personnel, (on call)

Environmental & Liaison

Primary	Alternates
Environmental Supervisor	Other Envirn. Personnel, (on call)

Public Information Officer

Primary	Alternates
Facility Public Affairs	On-Call

Logistics Officer

Primary	Alternates
Facility Maintenance Manager	On-Call

Planning

Primary	Alternates
Facility Lead Engineer	On-Call

Plant Coordinator, (Business Planning)

Primary	Alternates
Business Optimization	On-Call

Financial Officer

Primary	Alternates
Facility Materials Manager Representative	On-Call

Human Resources & Recording Officer

Primary	Alternates
Facility Human Resource Administration	On-Call

Operations Tech Support

Primary	Alternates
Area Superintendents	On-Call

Security Officer

Paper copies are uncontrolled. This copy is valid at time of printing. The controlled version can be found on
 C:\Users\abraham.todd\Documents\FRP\Plans\122301 - Philadelphia Energy Solutions\Plan\Section 3 General Response Plan
 Contents CED\PES Section 3.3 Facility Response Activities.doc

Revision Date: 02/01/2013

Revision Date: 02/01/2018

Last printed 5/9/2013 10:58 AM

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities

Primary
Facility Security Assistant

Alternates
Facility Security Officer

7.3 Transfer of Command

Within the chain of Command, the actual Transfer of Command will be regulated by the following procedure.

- A. The individual assuming Command shall communicate with the person being relieved by either radio or face to face. NOTE; Face to face is the preferred method to transfer Command.
- B. The individual being relieved shall brief the incoming Commander indicating at least the following.
 1. General situation status;
 - a) Incident conditions, i.e. (fire location and extent, Hazmat spill or release)
 - b) Incident Management Plan
 - c) Completion of tactical objectives.
 - d) Safety considerations
 2. Deployment and assignments of operations personnel.
 3. Appraisals of need for additional resources.
- C. The individual being relieved of Command should review any tactical notes and or worksheets with the incoming Commander. This should provide the location and status of personnel and resources.
- D. The individual being relieved of Command should be assigned to the best advantage by the individual assuming Command.

The arrival of a ranking official on the incident scene does not mean that Command has been automatically transferred to that individual. Command is only transferred when the outlined transfer of Command process has been completed.

A ranking company official may elect to have a subordinate continue the role of Commander. In cases where an individual is effectively Commanding an incident, and satisfactory progress is being made to bring the incident under control. The ranking official must determine that the Incident Commander is completely aware of the position and function of operating personnel, and general status of the situation. In these cases the arriving ranking official may assume a supportive role in the overall Command function. The ranking official shall assume responsibility for the incident by virtue of being involved in the Command process.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 3.3: Facility Response Activities

Finance/Administrative

- **Briefing from Command**
- **Gather Information from Responsible Party**
- **Prepare emergency work order if needed**
- **Provide Cost Analysis**
- **Participate in Planning Sessions**
- **Ensure Obligation Documentation Prepared and Completed**
- **Coordinate and approve all matters pertaining to vendor contracts impacted by the incident**
- **Maintain Activity Log**

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 3.3: Facility Response Activities

Human Resources Officer

- **Briefing from Command**
- **Track the status of injured employees and notify employee's families**
- **Maintain contact with Medical Officer to track status of injured employees, contractors and visitors**
- **Inform Public Information Officer on any known injuries**
- **Notify contractor company management of contractor injuries with status and location information**
- **Notify visitor's company of visitor injury and status and location information**
- **Observe Constraints Imposed by EOC**
- **Obtain approval of Release from EOC**
- **Maintain Activity Log**

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities

IH Officer

- Briefing from Command
- Monitors and Assesses Condition
- Develops Measures for Personnel Safety
- Can Exercise Emergency Authority
- Maintain Awareness of Situation
- Works with Safety Officer coordination of hazard evaluation/documentation
- Develop strategy for monitoring and ppe and safety zones
- Arrange for perimeter atmospheric monitoring
- Conduct community atmospheric monitoring
- Maintains Activity Log

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities

Facility Commander Functions

- **Assume Command of Emergency Operations Center**
- **Briefing from On Scene Commander**
- **Rapidly Evaluate the Situation. (Size Up)**
- **Initiate, Maintain, and Control the Communication Process**
- **Identify an Overall Global Strategy**
- **Review the Incident Action Plan (IAP) with On Scene Command**
- **Review, Evaluate, Revise (as needed) the IAP**
- **Assign Personnel Consistent with Abilities**
- **Develop an Effective Command Organization**
- **Provide Team Objectives**
- **Provide for the Continuity, Transfer, and Termination of Command**
- **Provide for Safety and Personnel Accountability**
- **Maintain activity Log**

Paper copies are uncontrolled. This copy is valid at time of printing. The controlled version can be found on
C:\Users\abraham.todd\Documents\FRP\Plans\122301 - Philadelphia Energy Solutions\Plan\Section 3 General Response Plan
Contents CED\PES Section 3.3 Facility Response Activities.doc

Revision Date: 02/01/2013

Revision Date: 02/01/2018

Last printed 5/9/2013 10:58 AM

PHILADELPHIA ENERGY SOLUTIONS OPA 90 PLAN

Section 3.3 - 46

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities

Information Officer

- **Briefing from Command**
- **Coordinate Public Information Activities**
- **Establish Single Information Center**
- **Prepare Initial Information Summary as soon as Possible**
- **Observe Constraints Imposed by EOC**
- **Obtain approval of Release from EOC**
- **Arrange and Provide Interviews with Media**
- **Respond to Special Requests for Information**
- **Community Hot Line**
- **Assign personnel to receive and document calls from area residents/citizens**
- **Maintain Activity Log**
- **Consider holding joint press conference with agencies and/or governmental officials**

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities

Liaison/Environmental

- Briefing from Command
- Provide Point of Contact for Assisting / Cooperating Agencies
- Provide Point of Contact for PES corporate staff
- Identify Agencies and Contacts
- Respond to Requests from Incident Personnel for Agency Contacts
- Monitor for Potential Agency Problems
- Prepare Agency reports for environmental impact
- Maintain activity Log

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities

Logistics Officer

- **Briefing from Command**
- **Provide facilities services and material support for the incident**
- **Provide liquid hydration and food service**
- **Estimate future service and support request**
- **Coordinate and Process Requests for Additional resources**
- **Review Incident Action Plan**
- **Advise on Current Service and Support capabilities**
- **Maintain activity Log**

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 3.3: Facility Response Activities

Medical Officer

- **Briefing from Command**
- **Works with Safety Officer with preparing Medical Plan**
- **Develop strategy for treatment of injured**
- **Gather information on any injury and treatment**
- **Assist the HR Officer with tracking the status of injured employees, contractors and visitors**
- **Maintain Activity Log**

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 3.3: Facility Response Activities

On Scene Incident Commander

Overall Manager of Incident Scene Functions

- **Assume and Announce Command, Establish Command Post If Necessary**
- **Rapidly Evaluate the Situation. (Size Up)**
- **Initiate, Maintain, and Control the Communication Process**
- **Identify an Overall Strategy**
- **Develop an Incident Action Plan (IAP)**
- **Assign Companies and Personnel Consistent with Abilities**
- **Develop an Effective Command Organization**
- **Provide Tactical Objectives**
- **Review, Evaluate, Revise (as needed) the IAP**
- **Provide for the Continuity, Transfer, and Termination of Command**

Paper copies are uncontrolled. This copy is valid at time of printing. The controlled version can be found on
C:\Users\abraham.todd\Documents\FRP\Plans\122301 - Philadelphia Energy Solutions\Plan\Section 3 General Response Plan
Contents CED\PES Section 3.3 Facility Response Activities.doc

Revision Date: 02/01/2013

Revision Date: 02/01/2018

Last printed 5/9/2013 10:58 AM

PHILADELPHIA ENERGY SOLUTIONS OPA 90 PLAN

Section 3.3 - 51

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities

- **Provide for Safety and Personnel Accountability**

Operations Tech Support

- **Briefing from Command**
- **Provide administrative assistance to Incident Command**
- **Provide technical process information to Incident Command**
- **Work with Business Planning to:**
 - **Evaluate information about the incident to ascertain how**
 - **It will effect the status of the refinery**
- **Evaluate / predict impact on business plan including process product impact, dock schedule and pipeline commitment**
- **Supply information to Incident Commander on impact to current business plans**
- **Develop strategies to allow product delivery commitments**
- **Maintain Activity Log**

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 3.3: Facility Response Activities

Operations (On Scene)-This is an ERT Function

- **Briefing from On Scene Command**
- **Operations Portion of Incident Plan**
- **Brief Operations Personnel**
- **Supervise Operations**
- **Determine Need for Additional Resources**
- **Assemble and Disassemble Strike Teams**
- **Report Information to On Scene Command**
- **Maintain Activity Log**

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 3.3: Facility Response Activities

Planning Officer

- **Briefing from Command**
- **Establish Information Requirements**
- **Weather Data Collection**
- **Assist with Preparation of Action Plan**
- **Gather information about the incident to develop short and long term plan**
- **Develop Alternate Strategies**
- **Provide technical information as required to support incident operations**
- **Provide process and design engineering support**
- **Provide plot plans and P & I D information as needed**
- **Provide lab support as needed**
- **Identify Specialized Resources**
- **Perform Operational Planning**
- **Provide Periodic Predictions on Outcome**

Paper copies are uncontrolled. This copy is valid at time of printing. The controlled version can be found on
C:\Users\abraham.todd\Documents\FRP\Plans\122301 - Philadelphia Energy Solutions\Plan\Section 3 General Response Plan
Contents CED\PES Section 3.3 Facility Response Activities.doc

Revision Date: 02/01/2013

Revision Date: 02/01/2018

Last printed 5/9/2013 10:58 AM

PHILADELPHIA ENERGY SOLUTIONS OPA 90 PLAN

Section 3.3 - 54

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities

- **Compile and Display Incident Status**
- **Advise Staff of any Significant Changes**
- **Prepare and Distribute IC's Orders**
- **Demobilization**

Added 05/31/2007

The ICS Planning Officer can utilize the services of the Engineering Services Department during an ICS emergency event should there be a need for support resources. The Engineering Services support contact list can be accessed via the PES@Work Engineering Services Share Point page and clicking on the [Engineering Specialist Contact List](#)

Plant Coordinator (Business Planning Officer)

- **Briefing from Command**
- **Collect and evaluate information about the incident to ascertain how it will affect the financial status of the Refinery**
- **Evaluate / predict impact on business plan including process product impact, dock schedule and pipeline commitment**
- **Supply information to Incident Commander on impact to current business plans**
- **Develop strategies to allow product delivery commitments**
- **Maintain Activity Log**

Paper copies are uncontrolled. This copy is valid at time of printing. The controlled version can be found on
C:\Users\abraham.todd\Documents\FRP\Plans\122301 - Philadelphia Energy Solutions\Plan\Section 3 General Response Plan
Contents CED\PES Section 3.3 Facility Response Activities.doc

Revision Date: 02/01/2013

Revision Date: 02/01/2018

Last printed 5/9/2013 10:58 AM

PHILADELPHIA ENERGY SOLUTIONS OPA 90 PLAN

Section 3.3 - 55

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 3.3: Facility Response Activities

Recording Officer

- **Briefing from Command**
- **Start and maintain an event activity log**
- **Track time line, activities and chronology of events**
- **Assist IC with information distribution**
- **Coordinate with Planning Officer to provide IC with status of equipment, personnel, weather information, wind speed and other significant information**

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities

Safety Officer

- Briefing from Command
- Monitors and Assesses Condition
- Develops Measures for Personnel Safety
- Can Exercise Emergency Authority
- Maintain Awareness of Situation
- Works with Medical Officer with preparing Medical Plan
- Works with IH Officer coordination of hazard evaluation/documentation
- Controls Entrance to Hazard Zones. (On Scene Safety)
- Gather MSDS sheets and information
- Gather information on any injury and treatment

Paper copies are uncontrolled. This copy is valid at time of printing. The controlled version can be found on
C:\Users\abraham.todd\Documents\FRP\Plans\122301 - Philadelphia Energy Solutions\Plan\Section 3 General Response Plan
Contents CED\PES Section 3.3 Facility Response Activities.doc

Revision Date: 02/01/2013

Revision Date: 02/01/2018

Last printed 5/9/2013 10:58 AM

PHILADELPHIA ENERGY SOLUTIONS OPA 90 PLAN

Section 3.3 - 57

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities

- **Asses monitoring and ppe and safety zones**
- **Maintains Activity Log**

Security Officer

- **Briefing from Command**
- **Evaluate any unique security or access need**
- **Work with On Scene or EOC to provide necessary security resources**
- **Maintain Activity Log**

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 3.3: Facility Response Activities

Operations (Production)

- Briefing from Command
- Analyze unit operations, recommend operational changes or unit shut down
- Provide technical support and review action utilized to secure the unit emergency
- Designate appropriate operating representative to report to On Scene Commander
- Maintain Activity Log

**OPA 90 PLAN for PHILADELPHIA ENERGY SOLUTIONS'S MARCUS HOOK, EAGLE POINT, &
PHILADELPHIA FACILITIES**

Section 3.3: Facility Response Activities

Revision Log

<i>Revision Date</i>	<i>Document Authorizer</i>	<i>Document Reviewer</i>	<i>Document Author</i>	<i>Revision Details</i>
05/23/2005	Donald Zoladkiewicz	William Ankrum, John Austin, Robert Jones	William Kelly	On-Scene Responsibilities Updated
08/2005	Donald Zoladkiewicz	William Ankrum, John Austin, Robert Jones	William Kelly	Scheduled review-no changes
05/31/2007	Donald Zoladkiewicz	William Ankrum, John Austin, Robert Jones	William Kelly	The ICS Planning Officer can utilize the services of the Engineering Services Department during an ICS emergency event should there be a need for support resources
01/22/2008	Donald Zoladkiewicz	William Ankrum, John Austin, Robert Jones	William Kelly	Editorial Change: Added Human Resource Position to Definition Section.

Paper copies are uncontrolled. This copy is valid at time of printing. The controlled version can be found on
C:\Users\abraham.todd\Documents\FRP\Plans\122301 - Philadelphia Energy Solutions\Plan\Section 3 General Response Plan
Contents CED\PES Section 3.3 Facility Response Activities.doc

Revision Date: 02/01/2013

Revision Date: 02/01/2018

Last printed 5/9/2013 10:58 AM

PHILADELPHIA ENERGY SOLUTIONS OPA 90 PLAN

Section 3.3 - 61

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 4: Sensitive Areas**

SENSITIVE AREAS [154.1035 (b)(4)(i-ii)]

SENSITIVE AREAS AND RESPONSE PROTECTIVE ACTIONS

SPECIAL REFERENCE

Philadelphia Energy Solutions is a member company of the Delaware Bay and River Cooperative. Information contained in this section of the OPA Plan has been extracted in part from the Delaware Bay River Cooperative Oil Spill Response Plan, Oil Spill Activation Plan and the Sector Delaware Bay Electronic Area Contingency Plan for response to Sensitive Areas.

At the request of the DBRC and the Captain of the Port (COTP); NOAA conducted a study with concerned federal, state and local agencies, as well as experts from area universities and industry to determine and prioritize areas of environmental, economic and social sensitivity. The results of that study have been updated periodically and incorporated in the Philadelphia Area Contingency Plan.

As others in the Ports of Philadelphia area this plan incorporates the DBRC study by reference. This section of the plan identifies and includes areas of economic importance and environmental sensitive areas relative to potential impact by the Philadelphia Energy Solutions complex. Additionally, equipment, personnel, and contractors that would be required to protect areas listed in this section are provided.

DELAWARE AND EASTERN PENNSYLVANIA

Along the Delaware River, several sensitive areas exist. The Delaware River is the home of a variety of business and industrial sites. In addition, sensitive areas such as the Tinicum National Environmental Center and wildlife preserve just south of the City of Philadelphia and about 8 miles from the PES complex. Other environmentally sensitive areas along the river include Pea Patch Island located some 18 miles down current from the Marcus Hook refinery; the Bombay Hook National Wildlife Refuge, which is located on the lower reaches of the Delaware River; Prime Hook National Wildlife Refuge located in the Delaware Bay just northwest of Cape Henlopen.

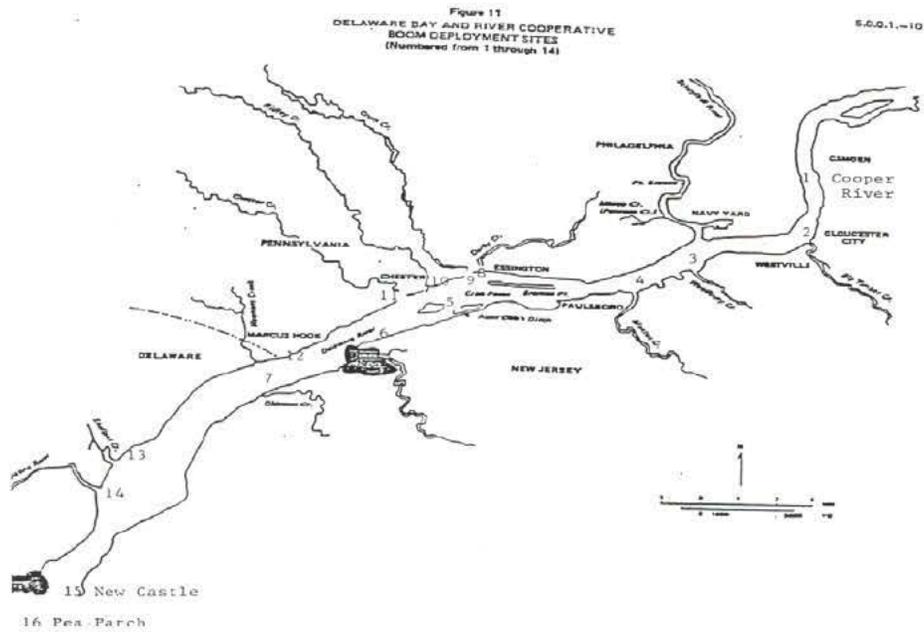
All of these areas are primarily marshes or wetlands and support a variety of waterfowl, wading birds, shore birds, raptors, and shellfish, including some species on the U. S. Endangered Species List. The State of Delaware has designated most of its coastline as Delaware Seashore State Park.

The high priority areas outlined in the DBRC study and highlighted in this plan are:

Cooper River	Oldman's Creek
Old Canal	Darby Creek
Big Timber Creek	Crum Creek
Woodbury Creek	Ridley Creek
Mantua Creek	Chester Creek
Aunt Deb's Ditch	Naaman's Creek
Newton Creek	Shellpot Creek
Raccoon Creek	Christiana River
New Castle	Pea Patch

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 4: Sensitive Areas



**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 4: Sensitive Areas**

Delaware Bay and River Cooperative Boom Deployments		
Location	Member Company	
Cooper River		Clean Venture and Miller Environmental
Big Timber Creek	Sunoco Eagle Point	
Woodbury Creek	Philadelphia Energy Solutions	
Mantua Creek	Valero	
Aunt Debb's Ditch		
Racoon Creek	Conoco Phillips	
Old Man's Creek	Sunoco Marcus Hook	
Darby Creek	Philadelphia Energy Solutions	
Crum Creek		
Ridley Creek		
Chester Creek		
Naaman's Creek	Sunoco Marcus Hook	
Shellpot Creek		
Christiana River	Wilmington Fire Dept.	
New Castle	Premcor	
Pea Patch	Premcor	

**Persistent oils discharged in tidal waters 15 miles down current.
(Max tidal influence)**

Pea Patch Island in the Delaware River adjacent to Delaware City exceeds the 15 miles down current measure. The map with boom sites and resources necessary are located on pages 4-18 through 4-39.

**Non-persistent oils discharged into tidal waters 5 miles down current
(Max tidal influence)**

A number of sites have been identified in the DBRC Boom Deployment Plan which brackets the 5 mile mark from each refinery. Information including maps and resources required are contained on pages 4-18 through 4-39.

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 4: Sensitive Areas**

A spill trajectory for distances (Non-tidal/tidal waters)

Based on an average net velocity of 1.5 N M/hr as determined by the ARMY COE (Delaware River and Bay Tidal Circulation & Water Level Forecast Atlas 12/87) the following table has been compiled:

LOCATION	DOWNSTREAM DISTANCE FROM MARCUS HOOK (NAUTICAL MILES)	TIME (HR)
Stoney Cr. - Oldman Pt.	3	2
Christina River	7	4.7
Delaware Memorial Bridge	9	6
Pea Patch Island	18	10.7

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 4: Sensitive Areas

Delaware River and Delaware Bay Area



OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 4: Sensitive Areas

Upper Delaware River



OPA 90 PLAN for the Philadelphia Energy Solutions Complex

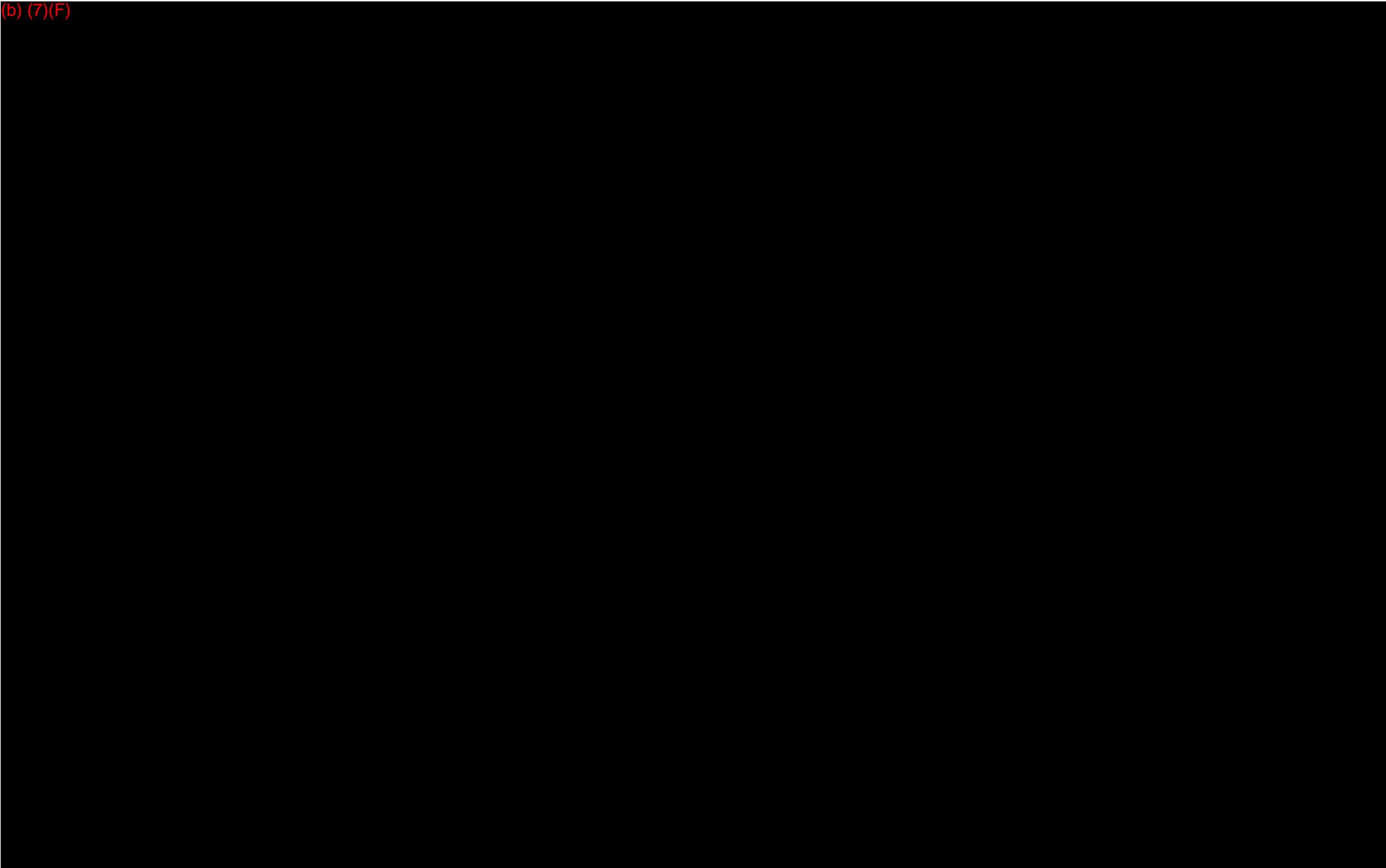
Section 4: Sensitive Areas

Lower Delaware River



OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 4: Sensitive Areas

(b) (7)(F)



OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 4: Sensitive Areas

Citgo Asphalt Refining Co.				Management Coordinator	Road					856-224-7405			
City of Burlington	Mr.	Vincent	Calisti		601 East Pearl Street		Burlington	NJ	08016	609-386-0307	609-386-0307		
New Castle County Office of Emergency Management	Mr.	Dave	Carpentar	NCC Emergency Planning Coordinator	3601 N. Dupont Hwy		New Castle	DE	19720	302-395-2700	302-573-2800	<20	
City of Delaware City	Mr.	Richard	Chcart	City Manager	Delaware City Town Hall 407 Clinton Street	P.O. Box 4159	Delaware City	DE	19706	302-834-4573	302-834-4573 (Office); additional contact: DNREC Emergency Spill Response, 302-739-9401	17.00	
City of Levittown	Mr.	Vincent	Capldey	City Manager	Water Plant	60 Main St.	Tullytown	PA	19007	215-547-9581 EXT.11	215-547-9581 EX.11		
City of New Castle	Mr.	John	Lloyd	Emergency Management Coordinator	220 Delaware Street		New Castle	DE	19720	302-323-6081	302-323-6081 (Office) 302-322-9800 (Police)	11.00	
City of Trenton	Mr.	Ronald	Lind	Emergency Management Coordinator	Trenton Water Works	P.O. Box 528	Trenton	NJ	08628	609-989-3640	609-989-3215		
City of Wilmington	Mr.	George	Giles	Emergency Manager	Public Safety Bldg.	22 Heald Shield	Wilmington	DE	19801	302-576-3914	302-784-0249 (Pager)	6.00	
Claymont Steel Inc.	Mr.	Teomasz	Wesolowski	Environmental Manager	4001 Philadelphia Pike		Claymont	DE	19703	302-792-5444	484-467-2488 (cell)	1.50	
Clean Harbor Environment Services	Mr.	Frank	Helpa		P.O. Box 337	2858 Route 322	Bridgeport	NJ	08014	856-467-7420	1-800-282-0058, 856-889-3235	2.66	80.66, 2.8
Conectiv Energy	Mr.	Mark	Elliot			200 Hay Road	Wilmington	DE	19899	302-761-7016	302-761-7102, 7013, 7105	7	72.2

Paper copies are uncontrolled. This copy is only valid at time of printing. The controlled version can be found on the company intranet.
Revision Date: 02/01/2012 Next Revision Date: 02/01/2018 Last printed 5/9/2013 10:58 AM

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 4: Sensitive Areas

Conectiv Energy	Mr.	Bob	Lattermen		198 Hay Road		Wilmington	DE	19809	302-761-7222 (Office)	302-761-7222 (Office)	7.00	68.61
Monroe Energy	Mrs.	Liddie	Clark	Environmental Manager	Trainer Refinery	4101 Post Rd.	Trainer	Pa	19061	610-364-8000	610-364-8000		
Conectiv Energy	Mrs.	May	Johnson	Environmental Manager	Deepwater Generating Station	373 North Broadway	Pennsville	NJ	08070	856-678-1708 (Office)	856-678-1700 (Shift supervisor)	10.59	
CSX Transportation	Mr.	Jerry L.	Cato	Supervisor, Environmental Control	East Side Yard	38 th and Jackson St.	Philadelphia	PA	19145	215-339-2734	215-339-2734	<20	
Delaware County, PA	Mr.	Edwin	Truitt	Director of Emergency Services	360 N. Middletown Road		Lima	PA	19063	610-565-8700	610-565-8700 (Emergency services)	0.00	
DELCORA	Mr.	Mike	DiSantis	Director of Operations and Maintenance	P.O. Box 999		Chester	PA	19016-0999	610-876-5523 x-264	610-876-5523 x-214	3.2	81.2
DuPont Chambers Works	Ms.	Cynthia	McManus	Environmental Manager	Admin Building #441	Rte. 130 and Canal Road	Deepwater	NJ	08023	856-540-3438	856-540-2901	10.6	68.60
E. I. DuPont Edgemoor Plant	Mr.	Tom	Anderson	Environmental Coordinator	104 Hay Road		Wilmington	DE	19809	302-761-2298 Office	302-761-2218, 2219	7.20	72.0
Evonik Industries	Mr.	Chris	Dumont	Environmental Coordinator	1200 W. Front Street		Chester	PA	19013	610-874-8630 ext. 223	610-874-8630 ex. 232	3.12	81.12
Exelon Generation Company	Mr.	Chris	Conroy		Chester Facility	3901 N. Delaware Ave	Philadelphia	PA	19137	215-831-7606	267-226-1487		
Exelon Generation Company	Mr.	Joe	Kuklinski		Eddystone Generating Station	#1 Industrial Highway	Eddystone	PA	19022	610-595-8113	610-595-8155	7	85.0
Exelon Generation Company	Mr.	Dale	Davis	Environmental Specialist	Schuylkill Generating Station	2800 Christian Street	Philadelphia	PA	19146	215-831-7606	215-731-2315	14.47	92.47
FPL Energy Marcus	Mr.	Timothy	Travers		Delaware Avenue and	P.O. Box 426	Marcus Hook	PA	19061	610-859-9591	610-859-9591 ext 231		

Paper copies are uncontrolled. This copy is only valid at time of printing. The controlled version can be found on the company intranet.
Revision Date: 02/01/2012 Next Revision Date: 02/01/2018 Last printed 5/9/2013 10:58 AM

PHILADELPHIA ENERGY SOLUTIONS OPA 90 PLAN

Section 4 - 10

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 4: Sensitive Areas

Hook, L.P. General Chemical Corporation	Ms.	Kathleen	Nese		Green Streets 6300 Philadelphia Pike		Claymont	DE	19703	302-792- 8500	302-792-8500	0.90	
Gloucester County, NJ	Mr.	J. Thomas	Butts		Gloucester County Emergency Response Center	1200 N. Delsea Drive	Clayton	NJ	08312	856-307- 7155 (Office)	856-589-0911 Ext.231	<20	
Hess Corporation	Mr.	John	Geitner	Environmental Supervisor	1 Hess Plaza		Woodbridge	NJ	07095	732-750- 7105	732-750-6000		
John Heinz National Wildlife Refuge	Mr.	Gary	Stolz	Refuge Manager	8601 Lindbergh Boulevard		Philadelphia	PA	19153	215-365- 3118 (Office)	610-804-3552 (Cell)	7.60	85.6
Kimberly- Clark	Ms.	Jessica	Hartley	Environmental Engineer	1 Avenue of the States		Chester	PA	19013	610-499- 6688	610-874-4331	5.00	83.0
Logan Township	Mr.	Lyman	Barnes	Emergency Management Coordinator	Logan Township	125 Main Street	Bridgeport	NJ	08014	856-467- 3424	856-589-0911 (Gl. Co. emergency management)	0.00	
Oldmans Township	Mr.	Jeff	Neuman	Emergency Management Coordinator	32 West Mill Street	P.O. Box 416	Pedricktown	NJ	08067	856-299- 3255	856-299-3255	3.00	
Pacific Atlantic Terminals	Mr.	John	Grisi		3400 South 67 th Street		Philadelphia	PA	19153	215-492- 8000	215-492-8000	<20	
Penn Terminals, Inc.	Mr.	Brian	Gallen		1 Saville Avenue		Eddystone	PA	19022	610-499- 3000	610-499-3000 EXT.110	6.2	84.2
Pennsville Township	Sgt.	Dave	Polk		Town Hall	90 N. Broadway	Pennsville	NJ	08070	856-678- 3089 ex. 159	856-678-7777 (Police dispatch)	10.50	
PG&E National Energy Group - Carney's Point Generating Plant	Ms.	Monica	Howell	Environmental Manager	500 Shell Road		Carney's Point	NJ	08069	856-351- 6369	856-299-1300 ex. 25 (Control room)	9.30	68.7

Paper copies are uncontrolled. This copy is only valid at time of printing. The controlled version can be found on the company intranet.
Revision Date: 02/01/2012 Next Revision Date: 02/01/2018 Last printed 5/9/2013 10:58 AM

PHILADELPHIA ENERGY SOLUTIONS OPA 90 PLAN

Section 4 - 11

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 4: Sensitive Areas

PG&E National Energy Group - Logan Generating Plant	Mr.	Terrence	Shannon	Environmental Manager	76 Route 130 South		Swedesboro	NJ	08085-9300	856-241-4575	8609-364-7244 (cell)	0.70	
Philadelphia Gas Works	Mr.	Michael	Duffy		3100 West Passyunk Avenue		Philadelphia	PA	19145	215-787-4841	215-787-4857	14.47	92.47
Philadelphia Water Department	Mr.	Keith	Houck	Industrial Waste Unit	1101 Market Street	Industrial Waste Unit/Fourth Floor	Philadelphia	PA	19107	215-685-4910 (Office)	215-686-4514; alternate contact: water and sewer emergencies, 215-685-6300	<20	1.00
PQ Corporation	Mr.	Frank	Gillespie	Senior Plant Engineer	1201 West Front Street		Chester	PA	19013-3496	610-447-3900 (Office)	267-249-9341 (Cell)	<20	
Richards Apex	Ms.	Karen	Centrella		4202-24 Main Street		Philadelphia	PA	19127	215-487-1100	1-800-633-8253	14.47	14.0 S.R. 92.47 DE R.
Salem County, NJ	Mr.	Jeff	Pompper	Emergency Management Coordinator	Salem County Emergency Services	135 Cemetery Road	Woodstown	NJ	08098	856-769-2900 X.1413	856-769-2959 (24-hour dispatch)	3.00	
Sunoco Logistics Partners LP	Mr.	Kelly	Wright	Environmental Engineer	4 Hog Island Rd		Philadelphia	PA	19014	610-859-5405	215-208-1643 (cell)	12.80	90.80
Sunoco R&M Marcus Hook Facility	Mr.	Bill	Kelly		100 Green Street		Marcus Hook	PA	19061	610-859-1304	610-476-2356		79.2
Sunoco R&M Eagle Point Facility	Mr.	Chris	Corcoran	Manager	US Route 1 and I-295		West Deptford	NJ	08093	856-853-3165	856-853-3100		94.0
Trigen Philadelphia Energy Corporation	Mr.	Brian	King	EHS	2600 Christian Street		Philadelphia	PA	19146	215-875-6900 ex. 5865	267-350-6802 ext. 3	14.47	92.47
Upper Chichester Township					2187 Furey Road		Boothwyn	PA	19061	610-485-5881	610-565-8700	<20	
Valero	Ms.	Heather	Chelpaty	Environment	4550 Wrangle		Delaware City	DE	19706	302-834-	302-834-6000	16.5	61.5

Paper copies are uncontrolled. This copy is only valid at time of printing. The controlled version can be found on the company intranet.
Revision Date: 02/01/2012 Next Revision Date: 02/01/2018 Last printed 5/9/2013 10:58 AM

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 4: Sensitive Areas**

Refining Company				Department	Hill Road					6000 X.6488	X.6488		
Valero Refining Company	Mr.	Peter	Hanley		800 Billingsport Rd		Paulsboro	NJ	08066	856-224-6000 X.4333	856-224-6000 X.4333		87.9
West Deptford Township	Mr.	Ed	Coates	Public Works	P.O. Box 89	400 Crown Point Road	Thorofare	NJ	08086	856-845-4004 x-127	856-845-2300	13	91
Wheelabrator	Mr.	Jeff	Morris	EHS Manager		600 US Route 130	Westville	NJ	08093	856-742-5076	856-742-1484 (Control room)	17.10	95.10

Paper copies are uncontrolled. This copy is only valid at time of printing. The controlled version can be found on the company intranet.
Revision Date: 02/01/2012 Next Revision Date: 02/01/2018 Last printed 5/9/2013 10:58 AM

PHILADELPHIA ENERGY SOLUTIONS OPA 90 PLAN

Section 4 - 13

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 4: Sensitive Areas**

LEGEND

	STAGING AREA
	PROTECTION
	COLLECTION

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 4: Sensitive Areas

DELAWARE, NEW JERSEY, AND PENNSYLVANIA

SHORELINE HABITAT RANKINGS

-  1 - EXPOSED SEAWALLS AND OTHER SOLID STRUCTURES MADE OF CONCRETE, WOOD, OR METAL
-  2A,2B - ERODING BLUFFS; WAVE-CUT CLAY PLATFORMS
-  3 - FINE-GRAINED SAND BEACHES
-  4 - MEDIUM- TO COARSE-GRAINED SAND BEACHES
-  5 - MIXED SAND AND GRAVEL BEACHES
-  6A - GRAVEL BEACHES
-  6B - RIPRAP STRUCTURES
-  7 - EXPOSED TIDAL FLATS
-  8A - VEGETATED, STEEPLY SLOPING RIVERINE BLUFFS
-  8B - SHELTERED SEAWALLS AND OTHER SOLID STRUCTURES MADE OF CONCRETE, WOOD, OR METAL
-  9 - SHELTERED TIDAL FLATS
-  10 - SALT AND BRACKISH WATER MARSHES

HUMAN-USE FEATURES

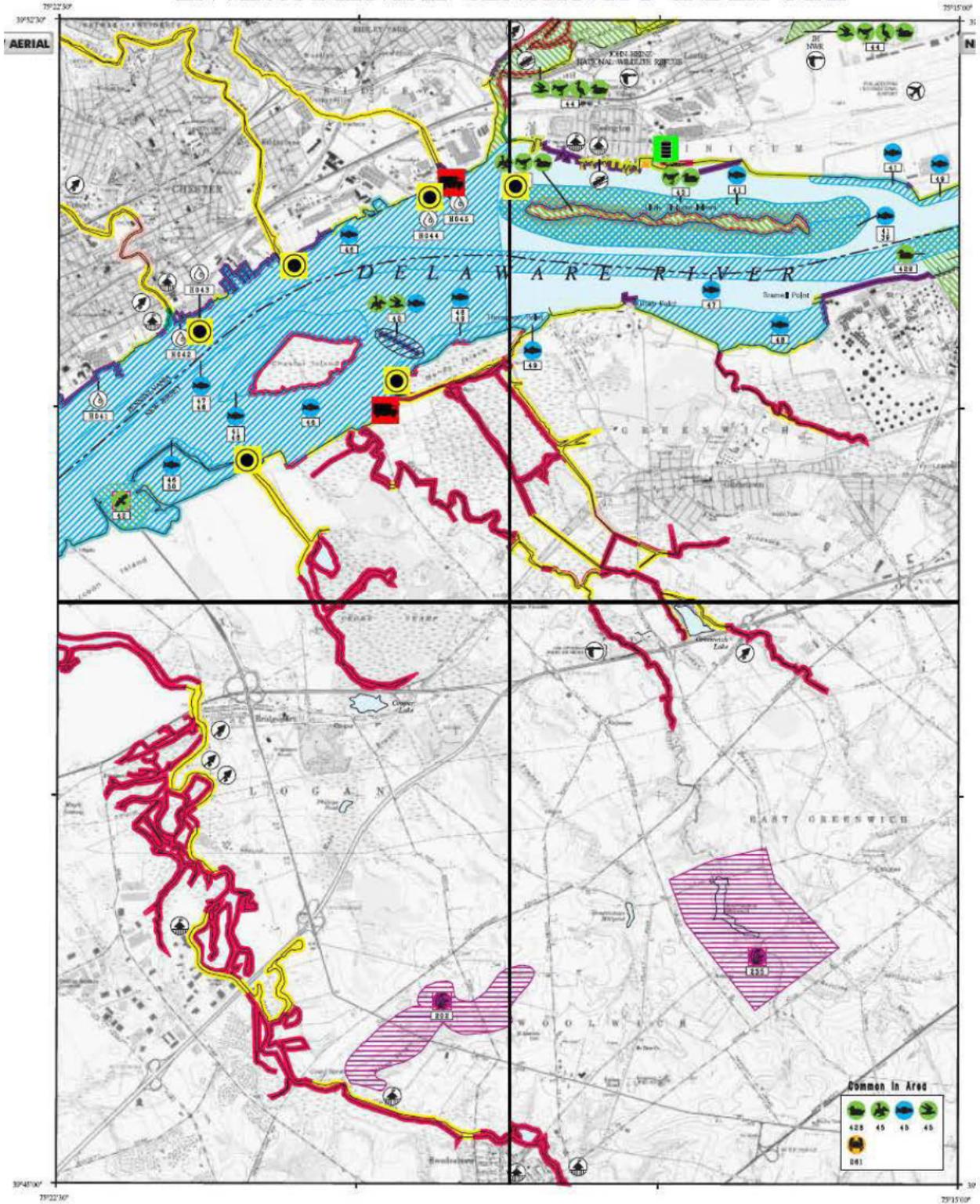
-  ACCESS POINT
-  AIRPORT
-  ARCHAEOLOGICAL SITE
-  BOAT RAMP
-  COAST GUARD
-  FERRY
-  HISTORICAL SITE
-  MARINA
-  PARK
-  RECREATIONAL FISHING
-  WATER INTAKE
-  WILDLIFE REFUGE
-  ID NUMBER
-  PARK/REFUGE BOUNDARY
-  STATE BOUNDARY

SENSITIVE BIOLOGICAL RESOURCES

-  BIRDS
 -  DIVING BIRDS
 -  GULLS & TERNS
 -  RAPTORS
 -  SHOREBIRDS
 -  WADING BIRDS
 -  WATERFOWL
 -  NESTING SITES
-  FISH
 -  FISH
-  MARINE MAMMALS
 -  DOLPHINS
 -  SEALS
 -  WHALES
-  TERRESTRIAL MAMMALS
 -  SMALL MAMMALS
-  REPTILES
 -  TURTLES
-  SHELLFISH
 -  BIVALVES
 -  CEPHALOPODS
 -  CRABS
 -  GASTROPODS
 -  LOBSTERS
-  HABITATS
 -  SUBMERGED AQUATIC VEGETATION
 -  TERRESTRIAL VEGETATION
-  MULTI-GROUP
-  THREATENED/ENDANGERED
-  ID NUMBER

OPA 90 PLAN for the Philadelphia Energy Solutions Complex Section 4: Sensitive Areas

ENVIRONMENTAL SENSITIVITY INDEX MAP

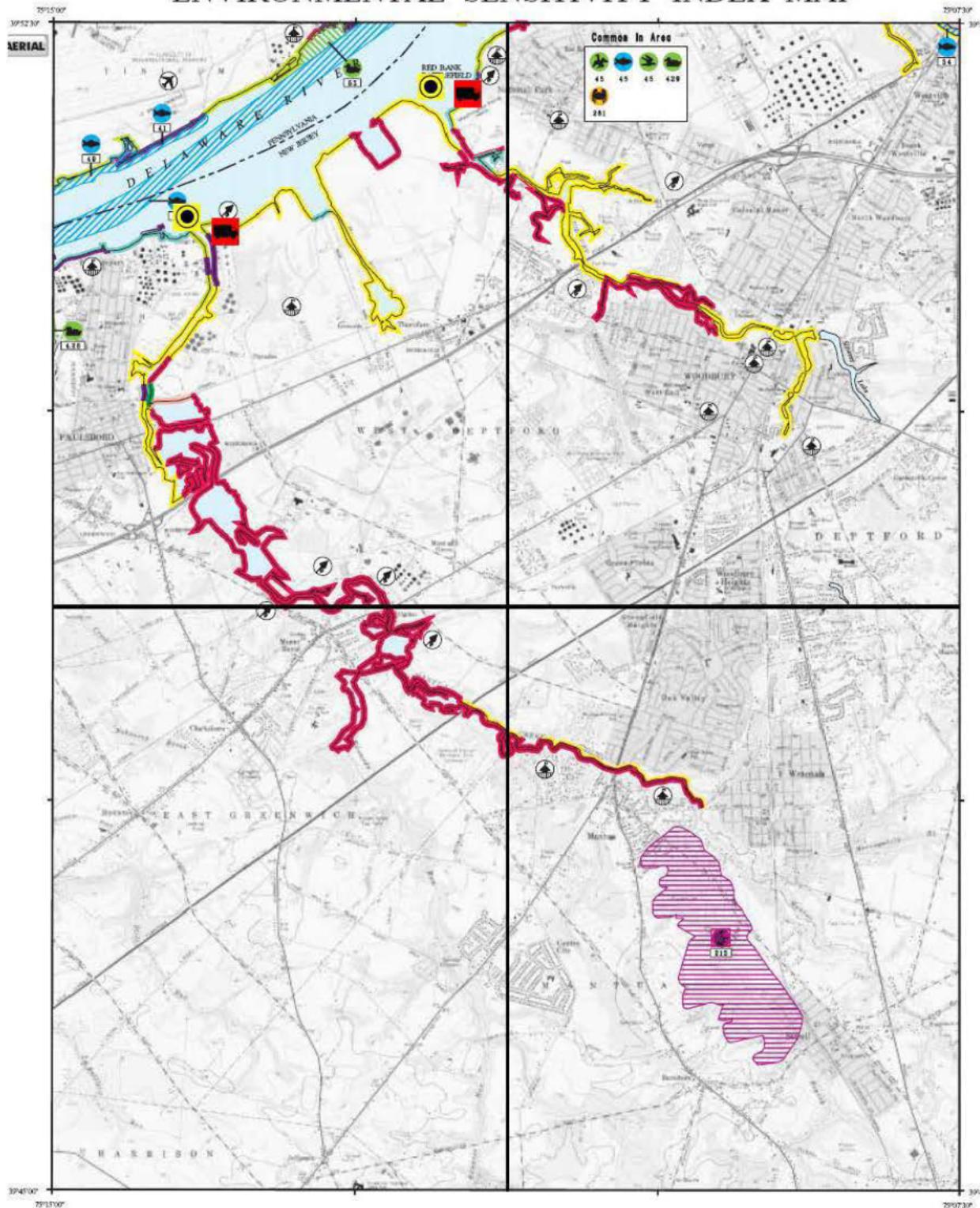


Paper copies are uncontrolled. This copy is only valid at time of printing. The controlled version can be found on the company intranet.
Revision Date: 02/01/2013 Next Revision Date: 02/01/2018 Last printed 5/9/2013 10:58 AM

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 4: Sensitive Areas

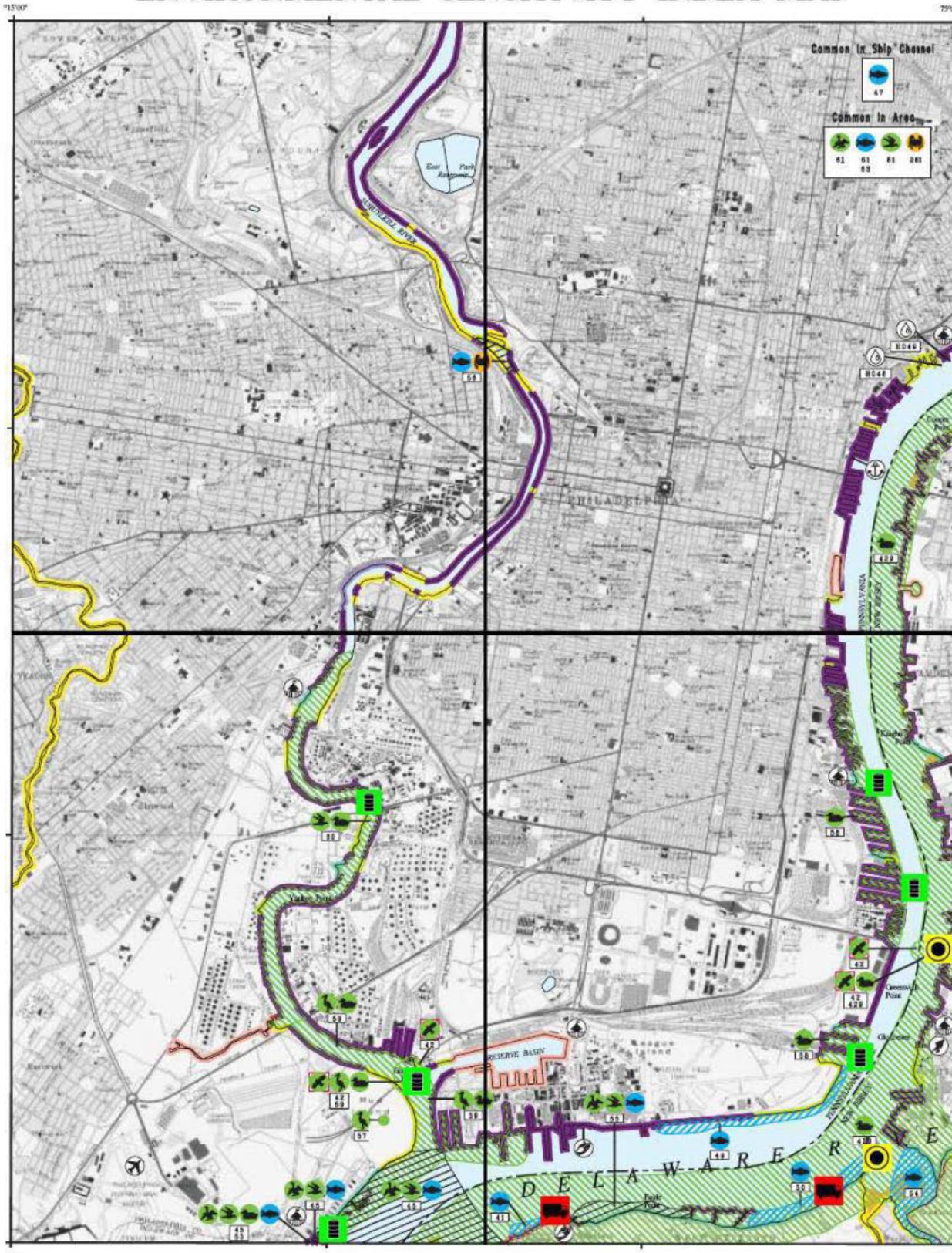
ENVIRONMENTAL SENSITIVITY INDEX MAP



Paper copies are uncontrolled. This copy is only valid at time of printing. The controlled version can be found on the company intranet.
Revision Date: 02/01/2013 Next Revision Date: 02/01/2018 Last printed 5/9/2013 10:58 AM

OPA 90 PLAN for the Philadelphia Energy Solutions Complex Section 4: Sensitive Areas

ENVIRONMENTAL SENSITIVITY INDEX MAP



Paper copies are uncontrolled. This copy is only valid at time of printing. The controlled version can be found on the company intranet.
Revision Date: 02/01/2013 Next Revision Date: 02/01/2018 Last printed 5/9/2013 10:58 AM

OPA 90 PLAN for the Philadelphia Energy Solutions Complex Section 4: Sensitive Areas

ESI MAP

NJ 76.97

Oldmans Creek

Access: Water Staging Area: US Army Corps of Engineers Access Road

Booming Considerations	<u>Tide</u>	<u>Current</u>	<u>Tending</u>
	Y	Y	Continuous

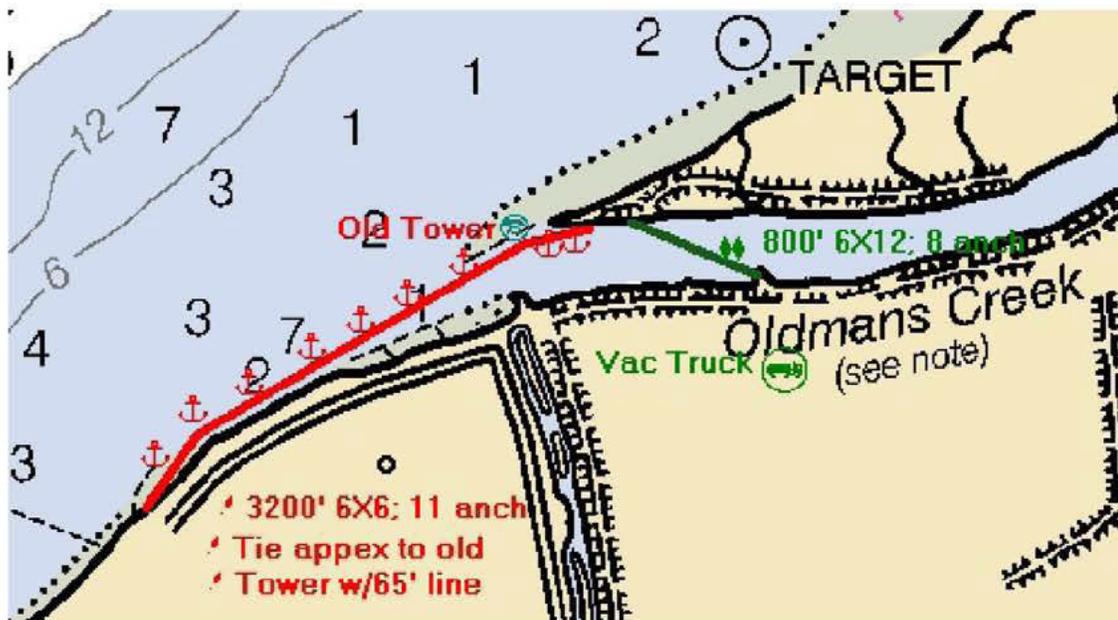
Description: Oldmans Creek is difficult to locate while traveling downstream on the Delaware River because of the angle with which its mouth opens towards downstream. Its mouth is characterized by dredge spoil deposits on both shores. The boom is stored at the DBRC Linwood Facility. Land access to the mouth is possible via the US Army Corps of Engineers dirt road off of Rt. 130 approximately 2 miles south of Oldmans Creek drawbridge.

Key For Access Gate Is At DBRC Linwood Facility.

#1 attachment North point: Two (2) 40# Danforth anchors secured on bank, boom attached with hook type tow bit.

#2 attachment point (apex of boom): 65' 5/8 poly line attached to structure in river with shackle, attach float ball to free end.

#3 attachment point: (South End) look for DBRC marker and cable attached to tree. Attach boom to cable with hook type tow bit. Attach anchor as shown on boom plan



	Deployment Resources				Recommended Booming	
	<u>Sm. Boat</u>	<u>Wk. Boat</u>	<u>Attachs.</u>	<u>Anchors</u>	<u>Strategy</u>	<u>Quantity</u>
Scenario 1	1	2	2	11	def	3,200 6 X 6
Scenario 2	0	1	1	8	col	800 6 X 12

OPA 90 PLAN for the Philadelphia Energy Solutions Complex Section 4: Sensitive Areas

ESI MAP

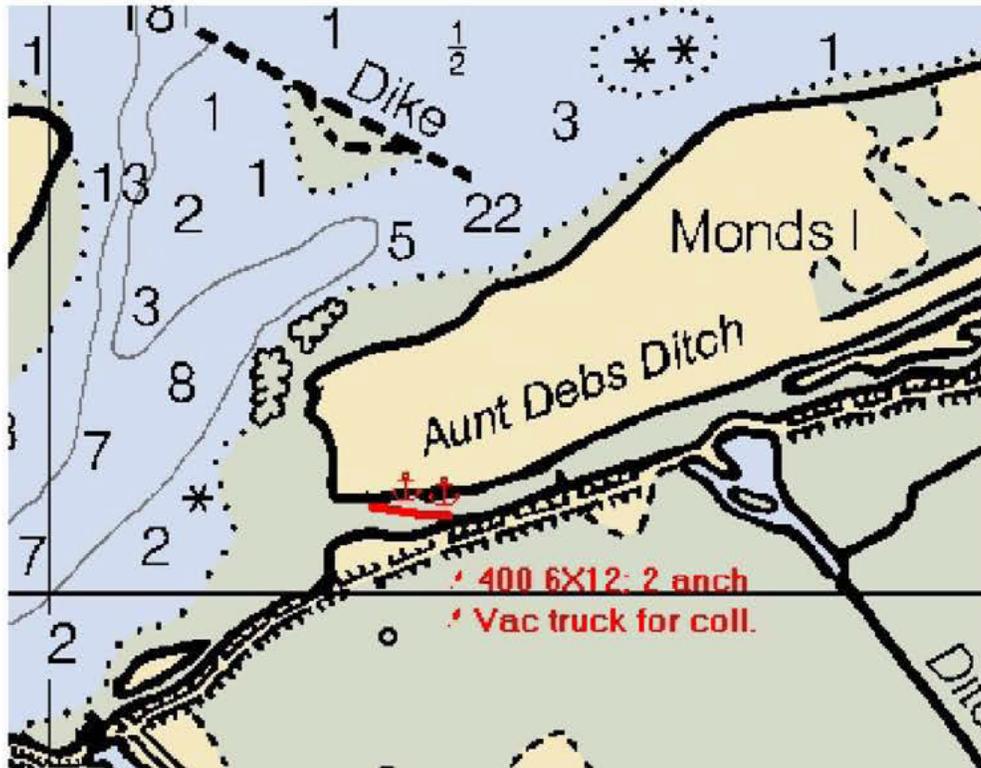
NJ 85.35

Aunt Debs Ditch

Access: Water/Land Staging Area: Access Road on NJ Shoreline

Booming Considerations	<u>Tide</u>	<u>Current</u>	<u>Tending</u>
	Y	Y	Continuous

Description: Aunt Debs Ditch is a narrow channel between Monds Island and the New Jersey river bank. It is open only on the south end. There is an access road to the boom site and a small jon boat can be launched from a bridge on the access road. Recovery of oil can be accomplished using a vacuum truck. Boom stored at DBRC Linwood Facility.



	Deployment Resources				Recommended Booming	
	<u>Sm. Boat</u>	<u>Wk. Boat</u>	<u>Attachs.</u>	<u>Anchors</u>	<u>Strategy</u>	<u>Quantity</u>
Scenario 1	1	0	2	2	col	400' 6 X 12

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 4: Sensitive Areas**

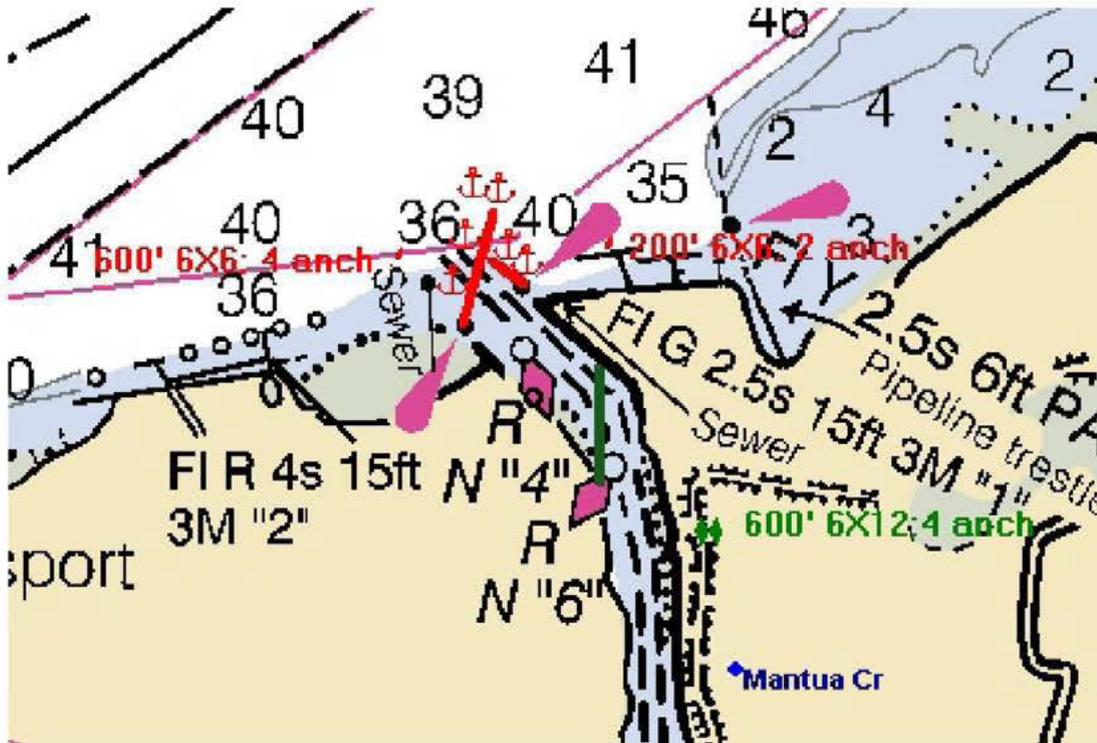


NJ 89.66
Mantua Creek

Access: Water/Land Staging Area: Valero Refinery

Booming Considerations Tide Current Tending
Y Y Continuous

Description: Mantua Creek runs between facilities at its mouth. It broadens into tidal flats approximately 3/4 mile upstream. The boom and anchors are stored at the Valero Refinery.



	Deployment Resources				Recommended Booming	
	Sm. Boat	Wk. Boat	Attachs.	Anchors	Strategy	Quantity
Scenario 1	1	1	2	6	def	800' 6 X 6
Scenario 2	1	1	2	4	col	600' 6 X 12

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 4: Sensitive Areas**

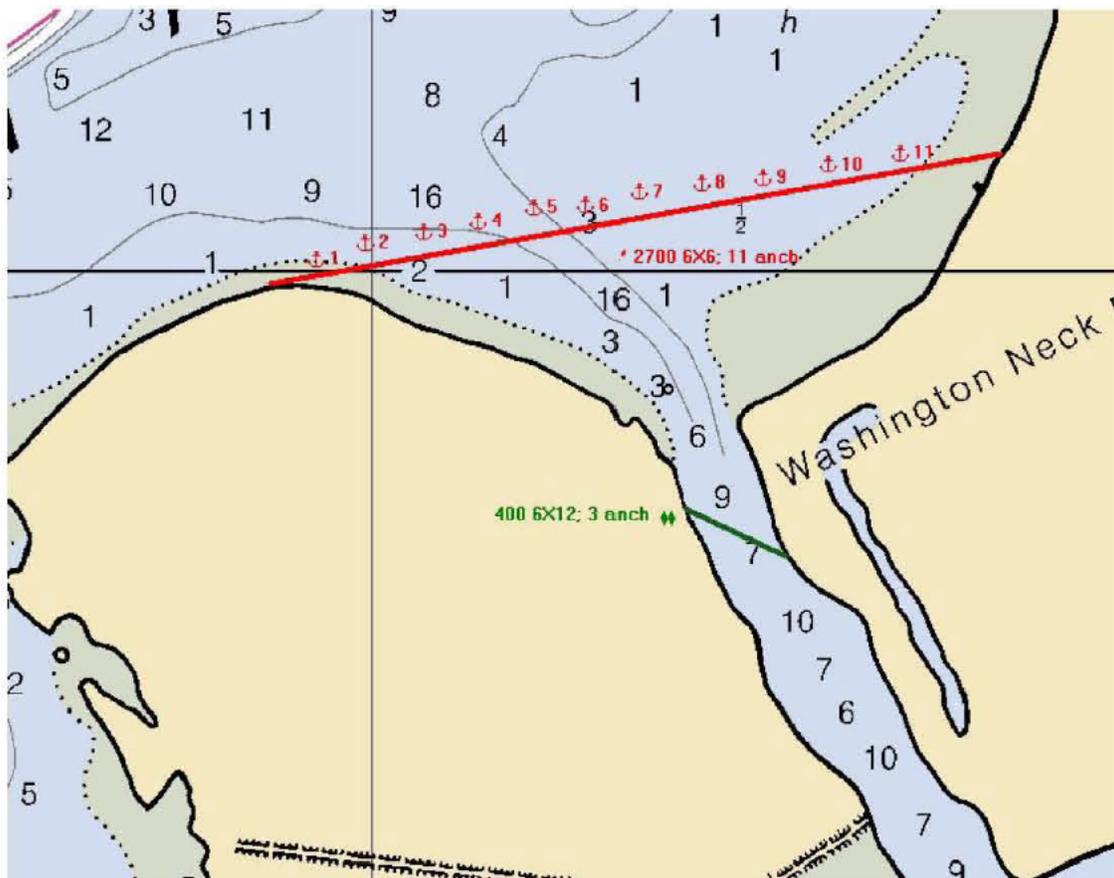


NJ 91.57
Woodbury Creek

Access: Water/Land Staging Area: US Army Corps of Engineers Access Road

Booming Considerations	Tide	Current	Tending
	Y	Y	Continuous

Description: Woodbury Creek has an irregular mouth which makes it amenable to deflection booming. The downstream bank is a point which offers some protection from oil coming upstream with the tide. Several hundred feet beyond the launching point the creek opens up into a large area of tidal flats. The boom is stored At Miller Environmental Group's (MEG) facility in Paulsboro, NJ.



	Deployment Resources				Recommended Booming	
	Sm. Boat	Wk. Boat	Attachs.	Anchors	Strategy	Quantity
Scenario 1	1	1	2	11	def	2,700' 6 X 6
Scenario 2	1	1	2	3	col	400' 6 X 12

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 4: Sensitive Areas

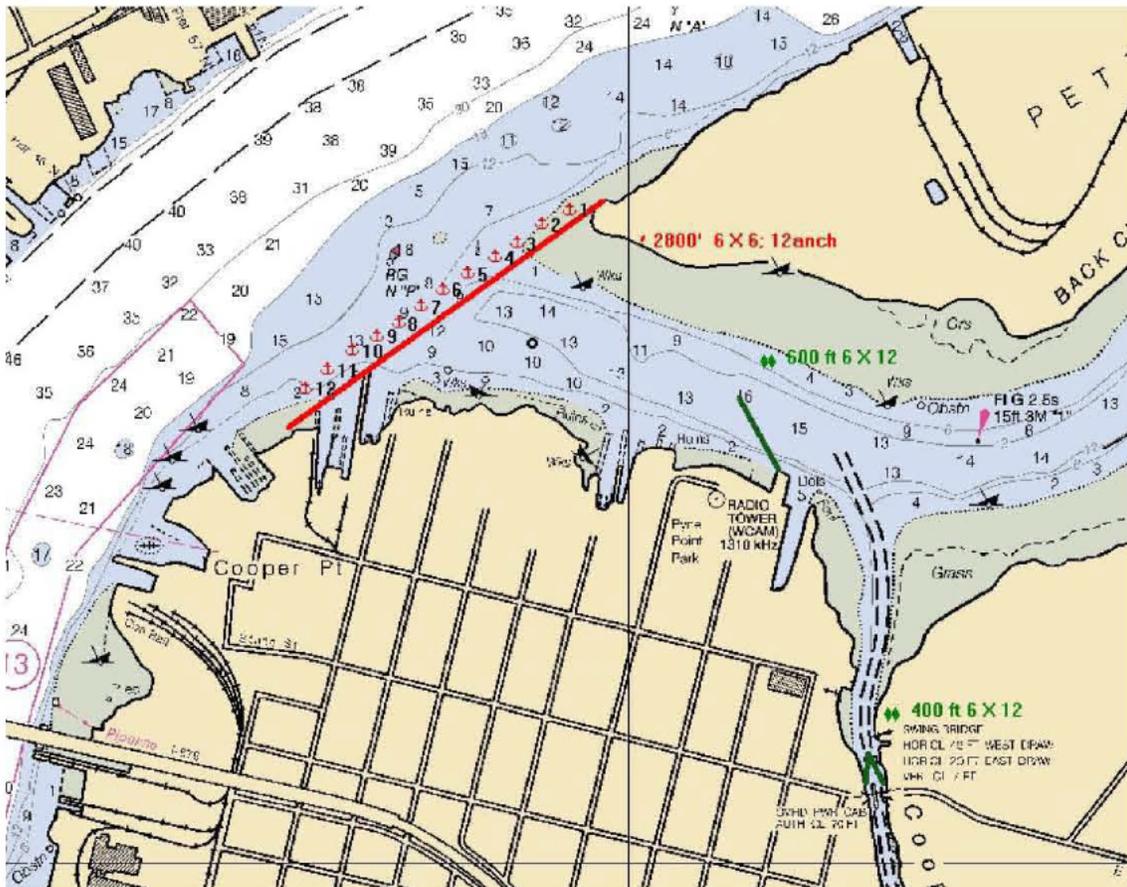
ESI MAP

NJ 101.5
Cooper River

Access: Water/Land Staging Area: Citgo Petty Island Terminal

<u>Booming Considerations</u>	<u>Tide</u>	<u>Current</u>	<u>Tending</u>
	Y	Y	Continuous

Description: Booming of the Cooper River to prevent oil from entering Back Channel and the river will be extremely difficult and the effectiveness may be less than ideal. The fall back is containment booming. The boom is stored at the DBRC Linwood Facility.



	Deployment Resources				Recommended Booming	
	<u>Sm. Boat</u>	<u>Wk. Boat</u>	<u>Attachs.</u>	<u>Anchors</u>	<u>Strategy</u>	<u>Quantity</u>
Scenario 1	0	2	2	12	def	2,800' 6X6
Scenario 2	1	1	3	8	col	1,000' 6X12

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 4: Sensitive Areas**

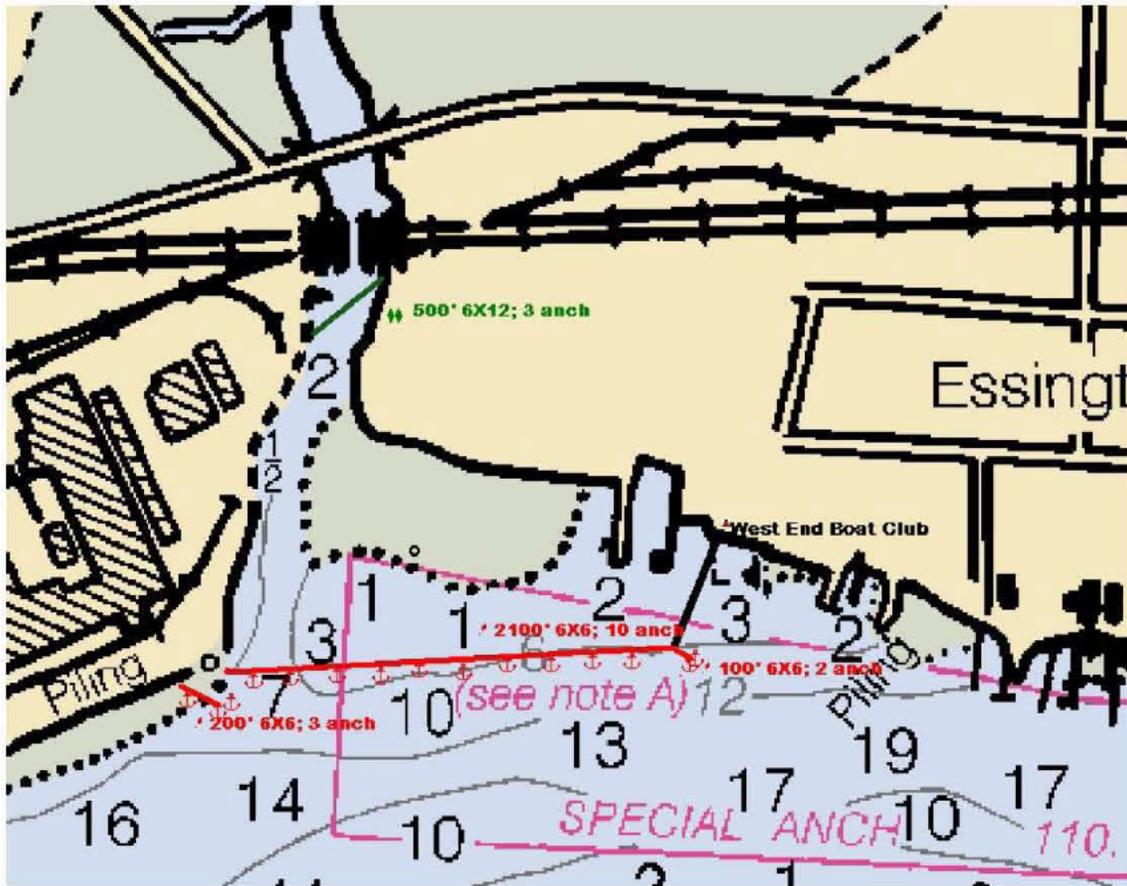


**PA 85.28
Darby Creek**

Access: Water/Land Staging Area: EXELON Eddystone

Booming Considerations	Tide	Current	Tending
	Y	Y	Continuous

Description: The mouth of Darby Creek opens into a wide cove. Upstream of the mouth are two railroad bridges, the Rt. 291 Bridge and the I-95 Bridge. Upstream marshes on Darby Creek are very sensitive and are considered of great value. The John Heinz National Wildlife Refuge is located on Darby Creek. A series of collection booms can be run between the railroad bridges and the Rt. 291 Bridge. A removal effort will need to be mounted here. The boom is stored at EXCELON Eddystone.



	Deployment Resources				Recommended Booming	
	Sm. Boat	Wk. Boat	Attachs.	Anchors	Strategy	Quantity
Scenario 1	1	2	3	15	def	2,400' 6 X 6
Scenario 2	1	1	2	3	col	500' 6 X 12

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 4: Sensitive Areas**

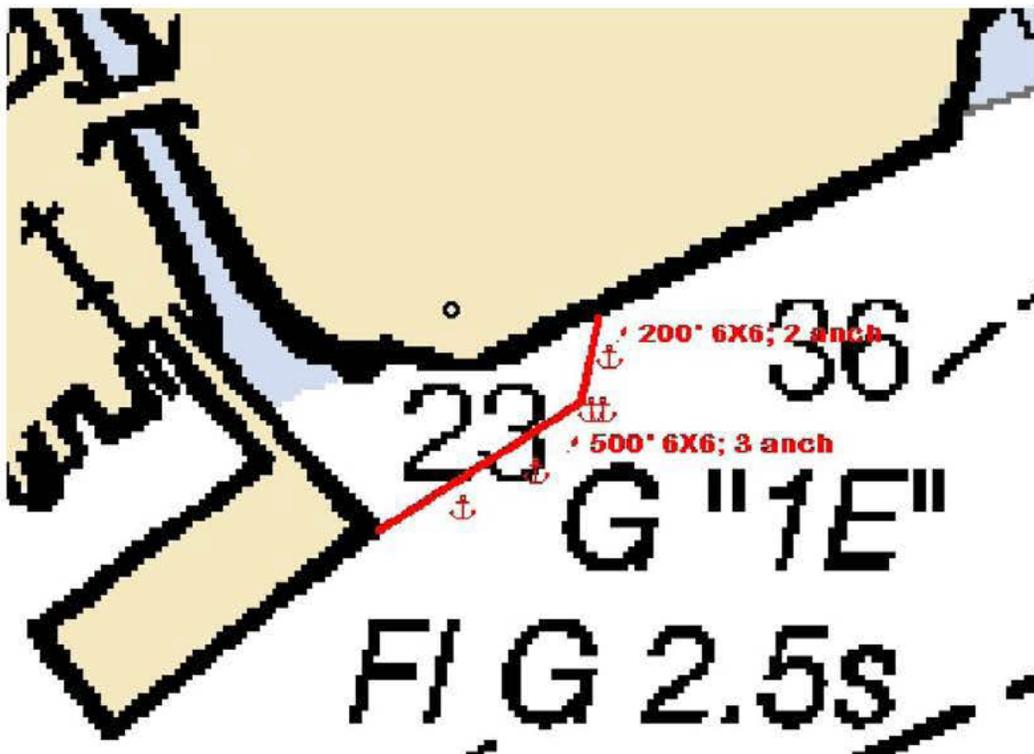
ESI MAP

**PA 83.80
Ridley Creek**

Access: Water/Land Staging Area: EXELON Eddystone

Booming Considerations	<u>Tide</u>	<u>Current</u>	<u>Tending</u>
	Y	Y	Daily

Description: Access is through the Penn Terminal on the north side. Boom is stored at EXELON Eddystone.



	Deployment Resources				Recommended Booming	
	<u>Sm. Boat</u>	<u>Wk. Boat</u>	<u>Attachs.</u>	<u>Anchors</u>	<u>Strategy</u>	<u>Quantity</u>
Scenario 1	0	1	2	5	def	700' 6 X 6

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 4: Sensitive Areas**

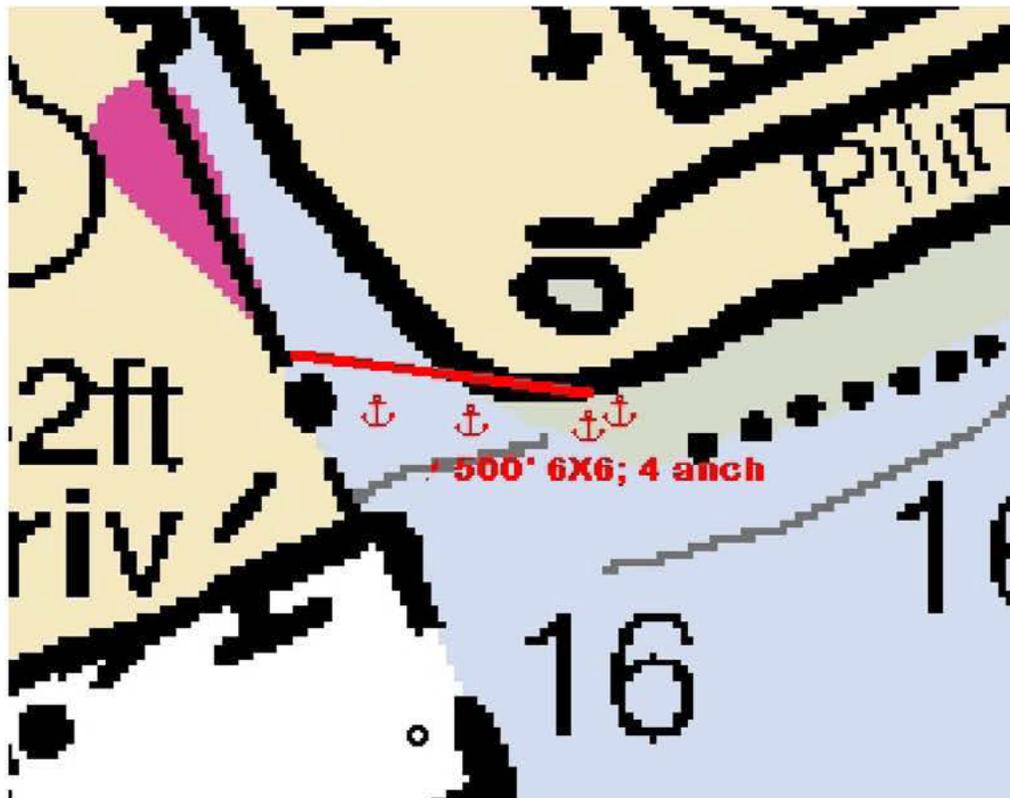


**PA 84.90
Crum Creek**

Access: Water/Land Staging Area: EXELON Eddystone

Booming Considerations	<u>Tide</u>	<u>Current</u>	<u>Tending</u>
	Y	Y	Daily

Description: Access is through the EXCELON Eddystone Power Plant. Do not boom in fire boat and utilize a double anchor system on north end for the attachment point. There is no tie off point on Boeing's property. Excelon will need notice prior to crews arriving at plant to perform booming @ (610) 595-8100.



	Deployment Resources				Recommended Booming	
	<u>Sm. Boat</u>	<u>Wk. Boat</u>	<u>Attachs.</u>	<u>Anchors</u>	<u>Strategy</u>	<u>Quantity</u>
Scenario 1	1	0	1	4	col/def	500' 6 X 6

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 4: Sensitive Areas**

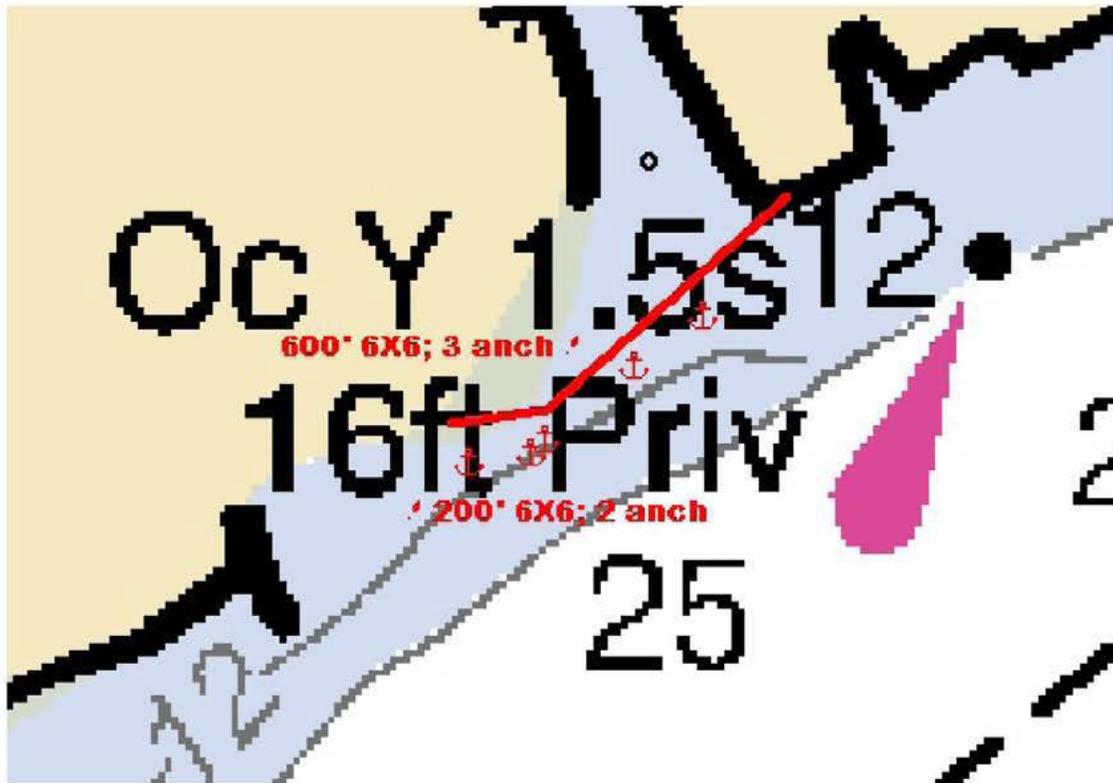


**PA 82.93
Chester Creek**

Access: Water/Land Staging Area: EXELON Eddystone

Booming Considerations Tide Current Tending
 Y Y Daily

Description: Access via Rt. 352 (Avenue of States) to River.



	Deployment Resources				Recommended Booming	
	<u>Sm. Boat</u>	<u>Wk. Boat</u>	<u>Attachs.</u>	<u>Anchors</u>	<u>Strategy</u>	<u>Quantity</u>
Scenario 1	0	1	2	5	def	800' 6 X 6

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 4: Sensitive Areas**

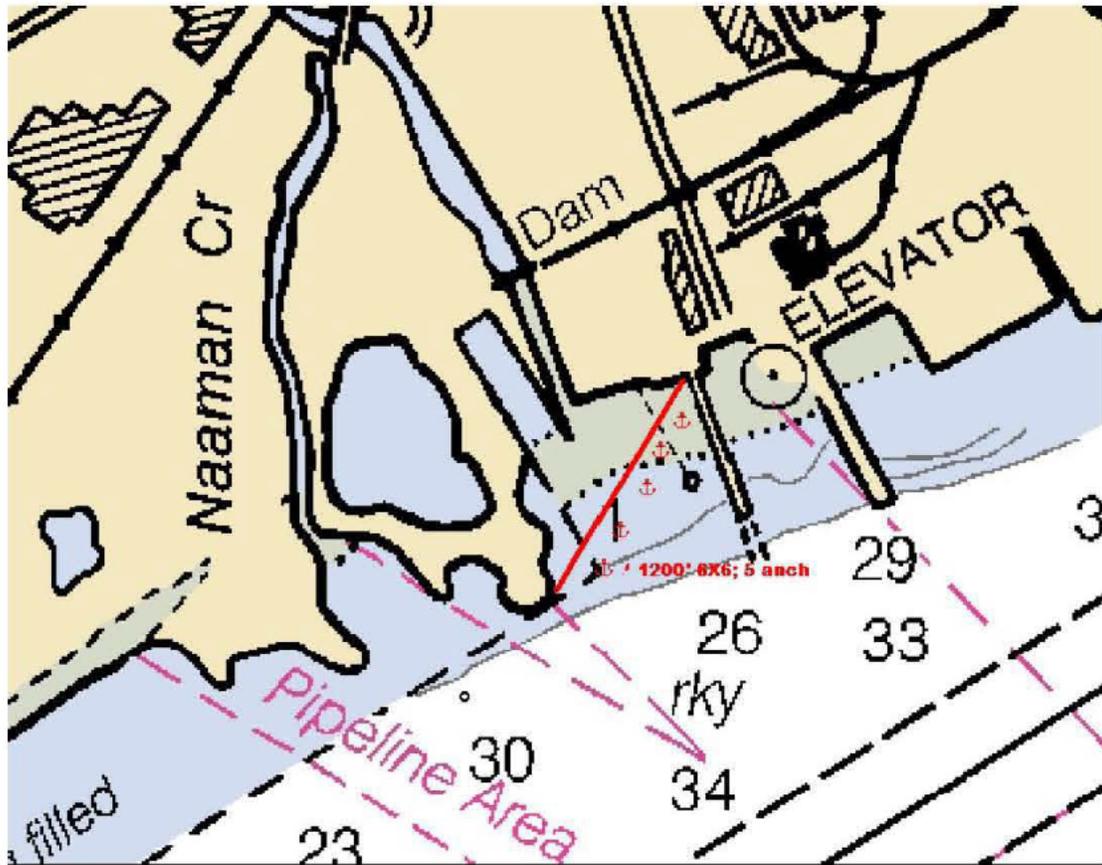
ESI MAP

**DE 77.65
Naamans Creek**

Access: Water/Land Staging Area: Sunoco Refinery, Marcus Hook

Booming Considerations	Tide	Current	Tending
	Y	Y	Daily

Description: Naamans Creek has a narrow mouth with rip rap and concrete banks. It drains an industrial area. Approximately 200 yards up the creek there is a dam like obstruction which will stop almost all oil from going further upstream. Land access is through Cities Steel (formerly Phoenix Steel).



	Deployment Resources				Recommended Booming	
	<u>Sm. Boat</u>	<u>Wk. Boat</u>	<u>Attachs.</u>	<u>Anchors</u>	<u>Strategy</u>	<u>Quantity</u>
Scenario 1	1	1	2	5	def	1,200' 6 X 6

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 4: Sensitive Areas**

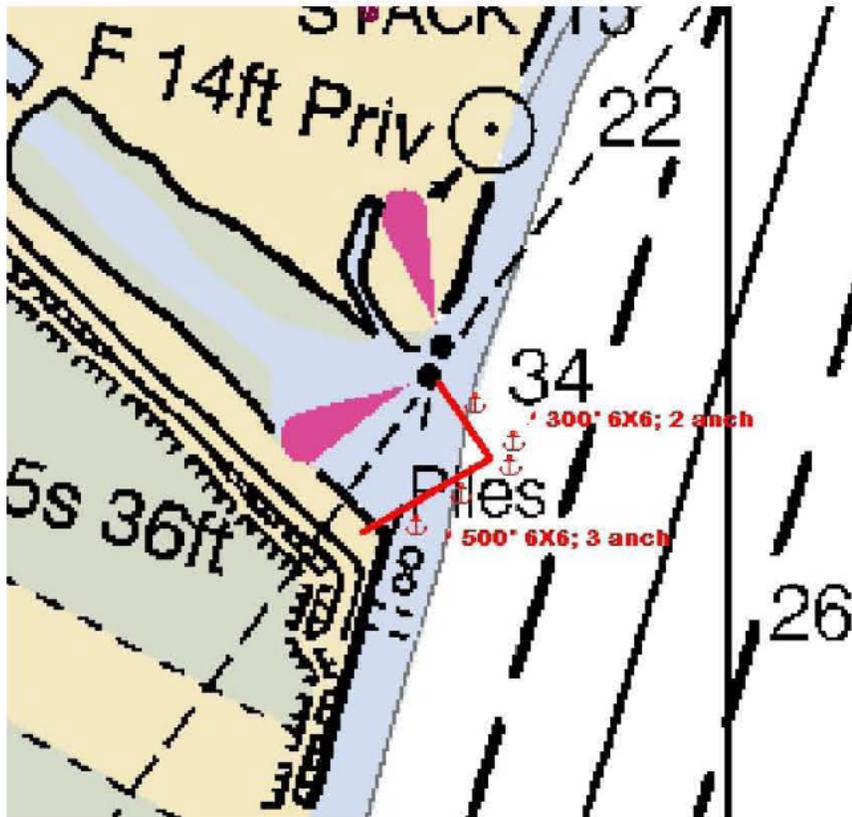


**DE 72.00
Shell Pot Creek**

Access: Water/Land Staging Area: CONECTIV Power Plant, Edgemoor

Booming Considerations	Tide	Current	Tending
	Y	Y	Daily

Description: Shell Pot Creek opens into a wide cove adjacent to the Edgemoor Generating Station. The upstream has a high volume continuous outfall. The down river attachment point requires landing a shore crew by boat. The upriver attachment requires access through the Conectiv facility and is at the range light. Boat launch site is the 7th Street public ramp on the Christina River in Wilmington. The eddy current between the range light and north wall may prevent flow into the creek but sorbent should be used if not.



	Deployment Resources				Recommended Booming	
	<u>Srn. Boat</u>	<u>Wk. Boat</u>	<u>Attachs.</u>	<u>Anchors</u>	<u>Strategy</u>	<u>Quantity</u>
Scenario 1	1	1	2	5	def	800' 6 X 6

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 4: Sensitive Areas**

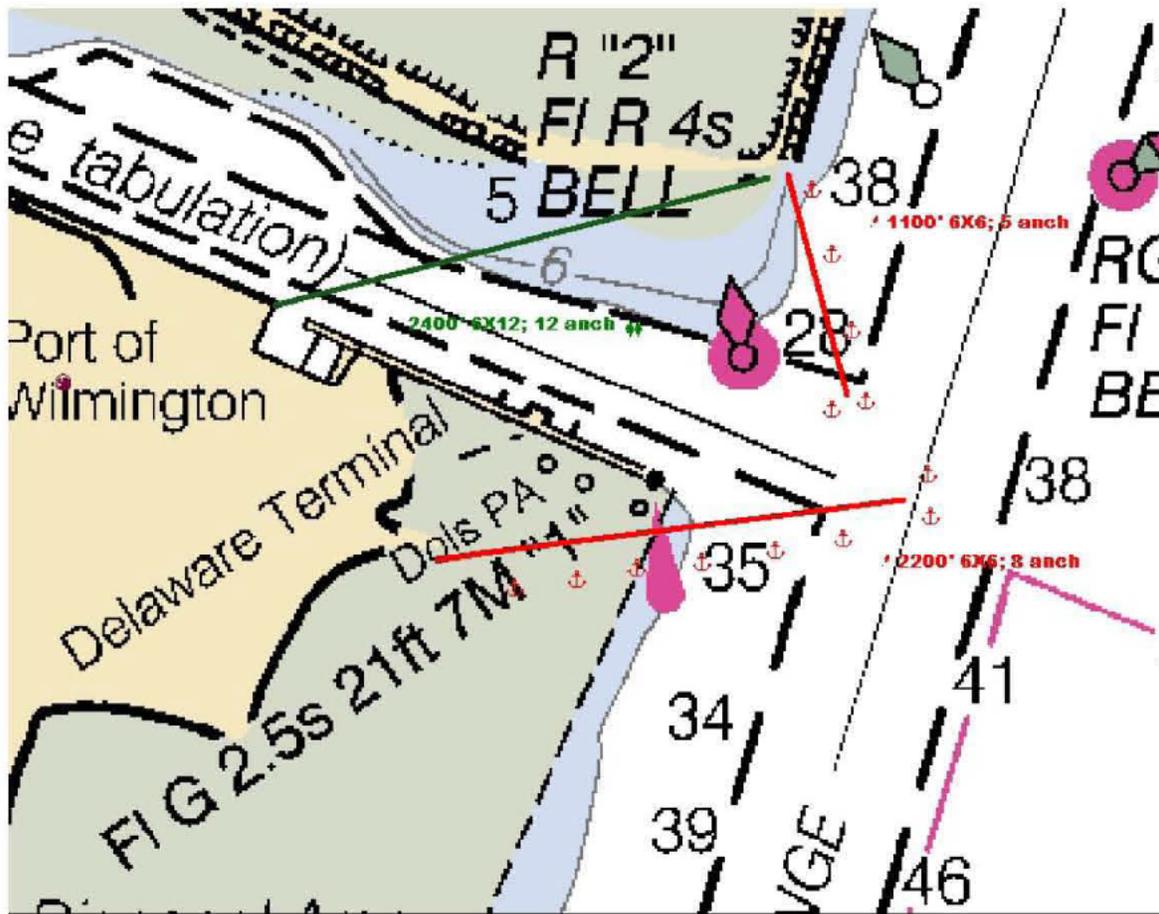
ESI MAP

**DE 70.73
Christina River**

Access: Water/Land Staging Area: Port of Wilmington

Booming Considerations	Tide	Current	Tending
	Y	Y	Continuous

Description: This wide mouthed river has a jetty on the downstream side and the banks of the Cherry Island landfill on the upstream side. This is a commercial port and heavy traffic can be expected. Traffic will have to be regulated and boom requires continuous tending to assist vessels through the opening. The boom is stored at the DBRC Linwood Facility.



	Deployment Resources				Recommended Booming	
	Sm. Boat	Wk. Boat	Attachs.	Anchors	Strategy	Quantity
Scenario 1	1	2	2	13	def	3,300' 6 X 6
Scenario 2	1	2	2	12	col	2,400' 6 X 12

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 4: Sensitive Areas**

ESI MAP

**DE 66.20
New Castle/Battery Park**

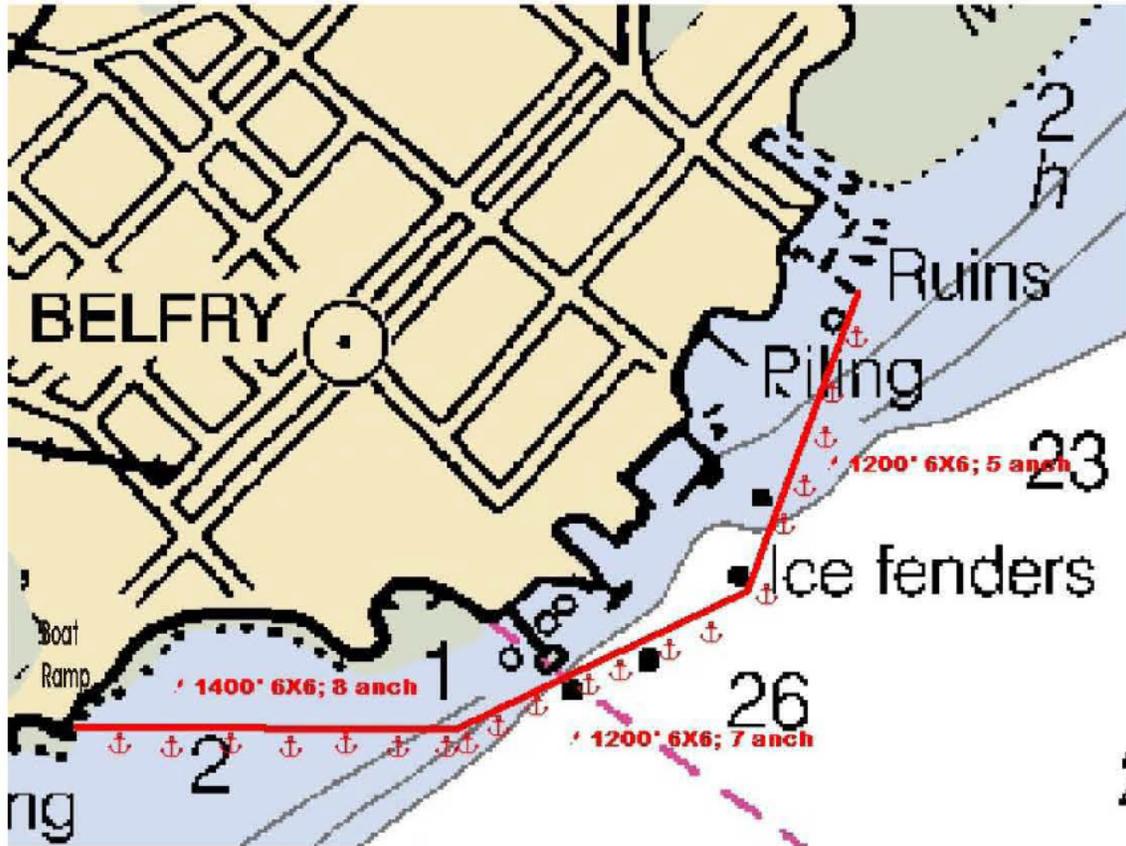
Access: Water/Land

Staging Area: Battery Park Boat Ramp

Booming Considerations

Tide	Current	Tending
Y	Y	Daily

Description: Battery Park in New Castle is a highly visible area and would be difficult to clean if oiled. Boats can be launched at the boat ramp at this site and boom deployed from the ramp area. Boom is stored at the DBRC Linwood Facility.



	Deployment Resources				Recommended Booming	
	<u>Srn. Boat</u>	<u>Wk. Boat</u>	<u>Attachs.</u>	<u>Anchors</u>	<u>Strategy</u>	<u>Quantity</u>
Scenario 1	2	3	2	20	def	3,800' 6 X 6

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 4: Sensitive Areas

DE 63.50

Gambles Gut North

Access: Water

DE 63.36

Gambles Gut

Staging Area: Deemers Beach Marina

DE 63.20

Gambles Gut South

ESI MAP

Booming Considerations

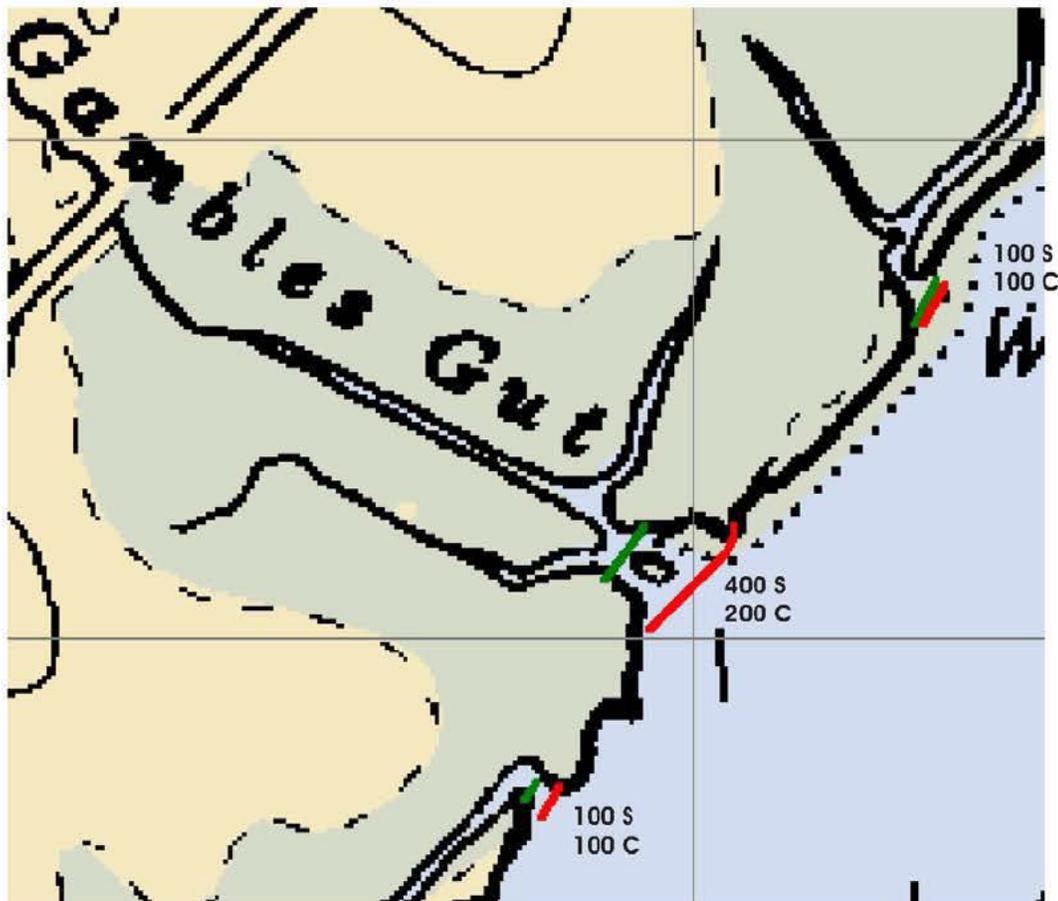
TideCurrentTending

Y

Y

Daily

Description: These three guts have low grassy headlands and drain small wetlands areas. The north gut has a wreck in the mouth which makes operating a boat in this area dangerous in all but the calmest conditions. Gambles Gut has access via a dirt road from Route 9. The beach area is known locally as Moms Beach and is used by locals for fishing.



	Deployment Resources				Recommended Booming	
	<u>Sm. Boat</u>	<u>Wk. Boat</u>	<u>Attachs.</u>	<u>Anchors</u>	<u>Strategy</u>	<u>Quantity</u>
Scenario 1	1	1	6	4	def	R/600(S)
Scenario 2	1	1	6	8	def	R/400(C)

Boom is for all three Guts

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 4: Sensitive Areas**



DE 63.00
Tom Creek

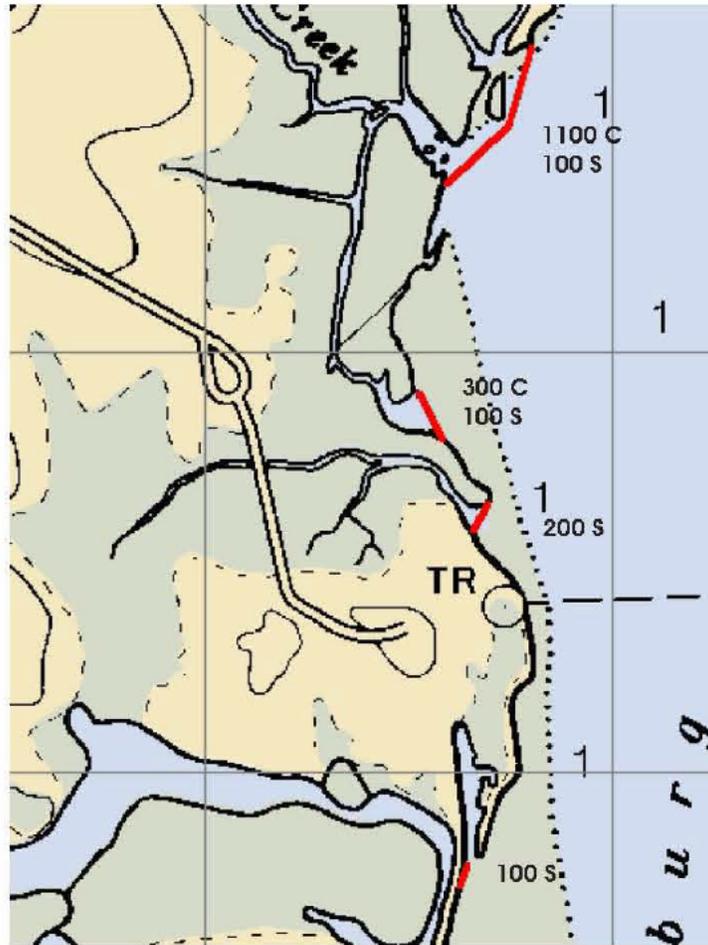
DE 62.66
Red Lion Creek

Access: Water

Staging Area: Deemers Beach Marina

Booming Considerations Tide Current Tending
 Y Y Daily

Description: Tom Creek is a complex of three openings into Hamburg Cove and drains a moderate size wetlands area. Red Lion Creek is protected by a tide gate. If the tide gate is inoperative, protective boom should be installed.



Scenario 1	Deployment Resources				Recommended Booming	
	Sm. Boat	Wk. Boat	Attachs.	Anchors	Strategy	Quantity
Scenario 1	1	1	8	10	def	R/1400(C)500(S)

Boom is for all four openings

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 4: Sensitive Areas**



DE 61.45

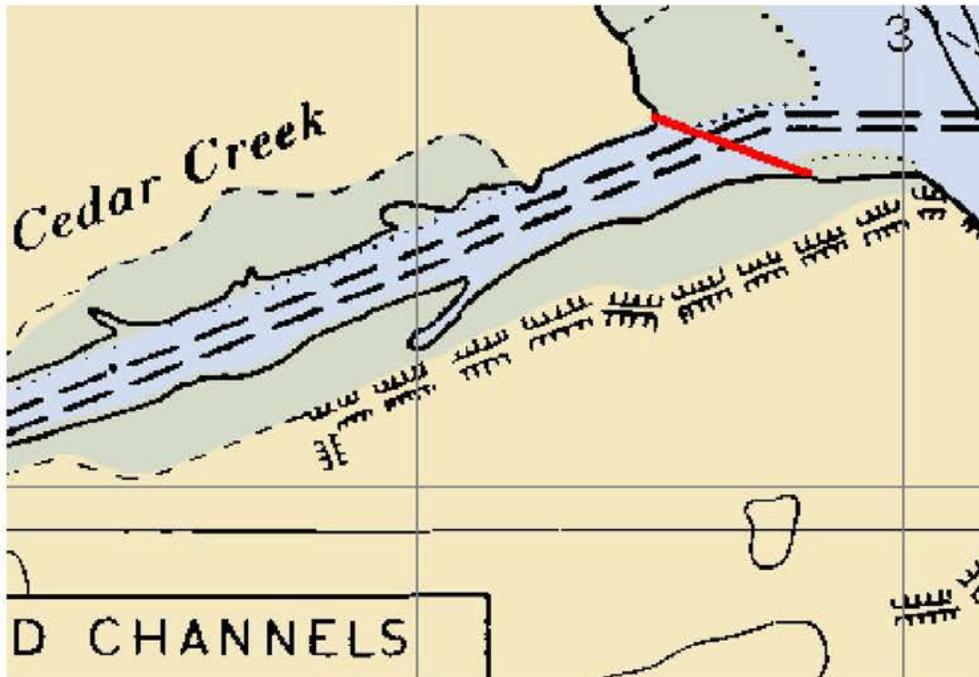
Cedar Creek - Motiva Water Intake

Access: Water

Staging Area: DE City State Boat Ramp

Booming Considerations	<u>Tide</u>	<u>Current</u>	<u>Tending</u>
	Y	Y	Daily

Description: The main water intake for the Motiva Refinery is on Cedar Creek.



	Deployment Resources				Recommended Booming	
	<u>Sm. Boat</u>	<u>Wk. Boat</u>	<u>Attachs.</u>	<u>Anchors</u>	<u>Strategy</u>	<u>Quantity</u>
Scenario 1	1	1	2	4	def	R/1000(C)100(S)

OPA 90 PLAN for the Philadelphia Energy Solutions Complex Section 4: Sensitive Areas

ESI MAP

DE 61.55**Pea Patch Island - Permanent Anchors**

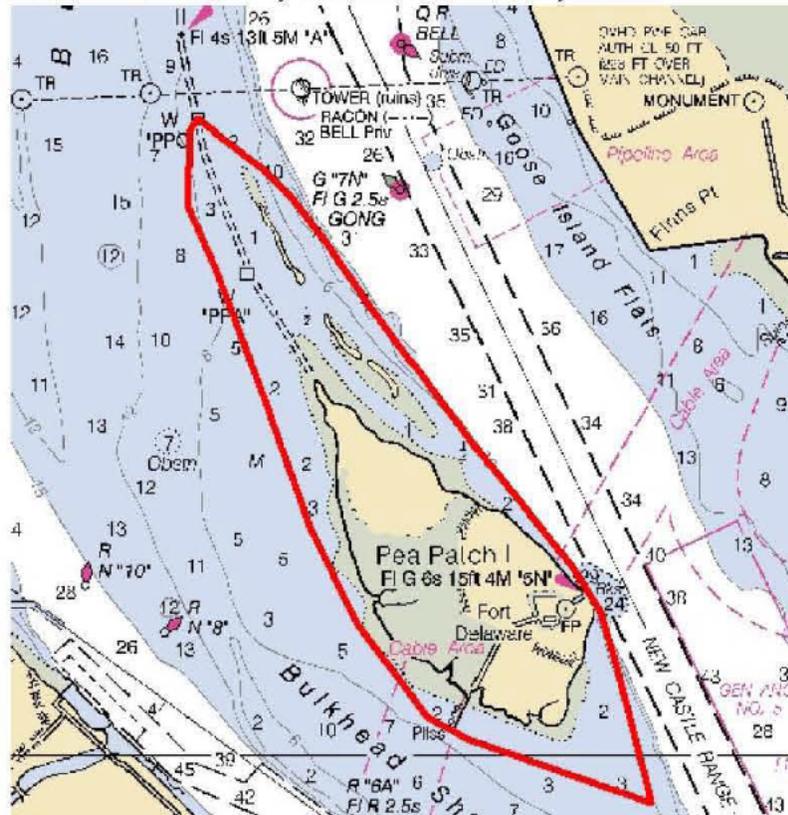
Access: Water

Staging Area: Premcor Refinery - Outside of Marine Gate

Booming Considerations

Tide
YCurrent
YTending
Continuous

Description: This is the most important site in Delaware. It is home to a Heron rookery and is home to other important bird species. The island has exposed sand spits on the north end. All of the boom will be deployed from the beach near the marine gate at the Premcor Refinery. 50 permanent mooring bouys are installed around the island. 30 inch bouys are used except during the ice season when 7 inch ice spars are used. The boom must be attached to the cable to which the buoy is attached and not the buoy.

**Deployment Resources****Recommended Booming**

<u>Sm. Boat</u>	<u>Wk. Boat</u>	<u>Attachs.</u>	<u>Anchors</u>
-----------------	-----------------	-----------------	----------------

<u>Strategy</u>	<u>Quantity</u>
-----------------	-----------------

Scenario 1

2

4

3

0

def

R/27,500(C)

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 4: Sensitive Areas**

OILED BIRDS**Tri-State Bird Rescue – Dr. Heidi Stout (Oil Spill Director)**

Newark, DE

(302) 737-7241 – Oil Industry Clients – Oil Spill Line

(302) 737-9543 – Public Line

(302) 737-9562 - Fax

Tri-State Bird Rescue Contacts:

Eileen Gilbert

(b) (6)

(800) 710-0695 & (800) 710-0696 – On Call Pagers for Oil Spill Staff

International Bird Research Center

Jay Holcomb

Berkley, CA

(510) 841-9086

Fish & Wildlife Agencies**Pennsylvania Game Commission****(717) 787-4250****Delaware Division Fish & Wildlife****(302) 739-9910****New Jersey Fish & Wildlife****(609) 292-2965****US Fish & Wildlife Service****(800) 344-9453**

OPA 90 PLAN for PHILADELPHIA ENERGY SOLUTIONS COMPLEX

Section 5: Disposal Plan

General

Spilled oil and oil contaminated materials recovered from land and water spills require proper handling. Spill response and cleanup procedures often produce contaminated materials that become wastes and need to be managed properly. These materials may be residue, contaminated soil or water, rinsing, sorbents, used clothing, and other debris. The waste materials must be characterized for proper handling. The management of oil and waste material, including recycling, treatment, storage, and disposal must comply with the applicable standards set forth in 40 Code of Federal Regulations (CFR) Parts 260-299 as mandated by the Resource Conservation and Recovery Act (RCRA) and relevant state regulations.

Waste handling procedures shall be preceded by several steps with an overall objective of waste minimization, cost effectiveness, minimization of impact on unaffected areas of already cleaned areas, regulatory compliance, worker safety, and proper disposal. The Environmental Unit Leader is responsible for proper waste management.

Response

The following procedures are followed by the Philadelphia Energy Solutions Environmental Unit during an oil spill cleanup:

1. Report to the Incident Commander.
2. Contact the Operations Section Chief for an assessment of the magnitude of material to be handled.
3. Arrange with Operations Section Chief to collect representative samples of oil and oily waste material to be characterized.
4. Deliver representative samples to laboratory for analysis.
5. Make preliminary contacts with listed subcontractors to evaluate their response capabilities and availability.
6. Assist in completion of the Uniform Hazardous Waste Manifest or Philadelphia Energy Solutions Non-Hazardous Manifest/Bill of Lading for Non-Hazardous Waste.

Reclamation

Collection methods and activities will be under the immediate control of the Operations Section Chief. The Environmental Unit is responsible for advising Operations of the proper procedures, and the handling of wastes and be in constant communication with the Operations Sections Chief, so the Cleanup Supervisors understand the necessary requirements.

Recovered oil will be placed in containers such as 5-gallon cans with lids or caps, 55-gallon drums, portable tanks, tank trucks or any other container that can be sealed to prevent spillage. The recovered oil may be pumped back into storage tanks of compatible material upon approval.

Oil wastes will be placed in leak-proof containers to prevent leakage during handling and transportation. Double-walled plastic bags are convenient for this purpose. For larger materials or those which could penetrate the bags, debris boxes or similar

OPA 90 PLAN for PHILADELPHIA ENERGY SOLUTIONS COMPLEX

Section 5: Disposal Plan

containers could be used as long as they lined with plastic or protected from leakage by some other means. Hazardous waste bins and lined dump-truck beds may also be used for collection of oiled wastes.

Characterization

The objective of characterizing the waste is to ensure it is handled properly, in accordance with federal and state requirements. For waste materials containing stocks handled at the Refinery, assume the material is a RCRA hazardous waste until indicated otherwise by testing or generator knowledge.

Spill Residue as a RCRA Listed Hazardous Waste

There are two ways a spill residue could be a RCRA listed hazardous waste:

1. If the material spilled was itself a RCRA listed hazardous waste, then by the mixture rule, any resulting spill residue is automatically a RCRA listed hazardous waste, regardless of the amount of listed waste contained in the residue.
2. If the material spilled was a commercial chemical product listed in 40 CFR 261.33 or any resulting commercial chemical product residue that needs to be discarded, it is a RCRA listed hazardous waste. As with any listed waste or derivation from listed waste, the spill residue is a RCRA listed hazardous waste unless delisted by EPA.

Is the Spill Residue a RCRA Characteristic Waste? Does the spill residue exhibit any of the four characteristics, ignitability, corrosivity, reactivity, toxicity in 40 CFR 261.21-24?

If a characteristic waste or a non-listed material which exhibits a characteristic is spilled, the spill residue is hazardous only if the residue exhibits a characteristic.

State guidelines for characterizing the waste may differ from the RCRA guidelines. Hence, both the federal and state criteria are checked when characterizing a waste. State guidelines may contain different criteria for toxicity, ignitability, reactivity, and corrosivity.

Particular attention should be directed toward any differences between the federal and state toxicity criteria. It may be possible that a spill residue could be classified as a state hazardous waste, but not a RCRA listed or characteristic waste, and be subject to state storage, treatment and disposal standards.

The following tests should be made by the laboratory in an effort to characterize the oiled waste:

1. Oil type
2. pH
3. Toxicity characteristic (40 CFR 261.24); and
4. Flash point.

Typical hydrocarbon characteristics are listed on the MSDS sheets. If a chemical composition and properties of the waste material are unknown, chemical analyses shall be performed as required to complete a Uniform Hazardous Waste Manifest.

OPA 90 PLAN for PHILADELPHIA ENERGY SOLUTIONS COMPLEX

Section 5: Disposal Plan

Temporary Storage and Segregation

In spill situations where relatively large quantities of oil and waste materials are recovered, temporary storage may be required until an effective means of handling can be determined.

Once a temporary storage site is located, certain site preparations shall be performed to minimize soil contamination. An earthen berm should be constructed around the perimeter of the storage site. If a paved parking lot is used, soil shall be imported from local sources. Entrance and exit ramps should be constructed over the berm to allow cleanup equipment access to the site. If the temporary structure is permeable, several layers of plastic sheeting should be spread over the berm and across the floor of the storage site to prevent contamination. A front-end loader should be stationed at each storage site to evenly distribute the oil-contaminated material and to load trucks.

Free oil can be stored in tanker trucks, 55-gallon drums, portable tanks, or an empty storage tank at the facility, if available.

Transportation

Licensed waste transporters should be contracted to transport waste. DOT drums can be used for loading materials that are flammable (flash point less than 100° F).

U.S. Department of Transportation (DOT) drums 6B or 6C shall be used for liquids having a vapor pressure less than 16 psi absolute at 100° F (49 CFR 119(k)). U.S. DOT steel drums (1A1 and 1A2) drums shall be used for liquids having a flash point between 20 and 70°F, and a vapor pressure less than 18 psi absolute, at 100°F (49 CFR 199 (1)). For loading materials that have a flash point from 100 to 200°F, roll-off bin trucks shall be used. Vacuum trucks can be used for loading fluid waste materials.

Waste materials shall always be covered during transportation. All truck roll-off bins shall be lined with plastic before loading to prevent the spread of oil.

Tarpaulin covers should be used to cover the truck loads during transportation. New liners should be used for each load. Proper permits and signs should be obtained for transportation per hazardous waste manifest and transport guidelines.

Waste Handling

Spilled free oil and waste materials recovered from land and water spills require responsible handling. Handling can pose initial and long-range problems including the storage and transportation of the material to a disposal or processing site, as well as the proper recycling, treatment, and disposal method.

A primary concern in handling recovered oil and oiled solid wastes is to prevent contamination of previously unaffected areas or recontamination of areas already cleaned. This can be accomplished by using correct handling techniques.

Waste disposal must be minimized. This is accomplished by proper identification, waste segregation, recycling, and treatment. The residue from these steps must be disposed of in an approved manner. In order to reduce the amount of waste generated, response equipment used during the response activities (such as vehicles, tools, reusable personal protective equipment, etc.) will be decontaminated prior to demobilization.

OPA 90 PLAN for PHILADELPHIA ENERGY SOLUTIONS COMPLEX

Section 5: Disposal Plan

Waste generated from decontamination will be characterized and disposed of appropriately. Recycling and treatment alternatives have been developed for each type of waste and are described in the following subsections.

Recycling

Recycling is the preferred method of handling recovered material. The Philadelphia Energy Solutions Waste Management Specialist will determine whether recovered material will be reused or discarded.

Oil recovered from aquatic areas will typically contain water and debris. An oil/water separator can be constructed under field conditions using a 55-gallon drum or large welded sheet metal box fitted with a valved, bottom-draining pipe. The oil/water mixture is pumped in to the container and allowed to stand long enough for the oil and water to separate. The water is then drained off the bottom through the piping valve, and the oil is pumped into a storage tank or truck. A tank or vacuum truck can also be used as an effective oil/water separator by following the same procedure. Any water drained off by separation techniques should be discharged into an aboveground tank for future disposal, or to the facility's waste water treatment system.

Recovered oil from the spill that can be returned to process can be brought into the refineries. This recycling activity may be exempt from hazardous waste transport regulations, depending on the characterization of the material. However DOT requirements still apply.

Treatment

Federal and state land disposal restrictions prohibited the last disposal of hazardous waste without prior treatment to strict standards. These standards vary depending upon whether the waste is classified as RCRA or state hazardous waste, and whether the waste is a listed or characteristic hazardous waste. Contact the Waste Management Specialist for applicable requirements.

Disposal

Solid, non-recyclable waste or treatment residue will need to be disposed of at the licensed disposal facility approved by Philadelphia Energy Solutions. Solid, non-recyclable waste includes disposal personal protective equipment (PPE) and used adsorbent materials. Philadelphia Energy Solutions maintains a program of auditing disposal facilities; only those approved during the audit are designated for use. The Waste Management Specialist has predefined, with identified disposal facilities, the acceptance requirements for proper disposal. Since the cost for sending non-recyclable oily waste to disposal facility is significant, the amount of waste to be disposed should be minimized to the maximum extent possible given the economic and technical constraints.

Oil Storage Capacity for Recovered Oily Material

Recovered oil from a discharge event can be placed into crude and recovered oil tanks for reuse in the process cycle. Contact refinery Blending & Shipping for directions on appropriate tank(s) to use.

OPA 90 PLAN for PHILADELPHIA ENERGY SOLUTIONS COMPLEX
Section 5: Disposal Plan

PHILADELPHIA ENERGY SOLUTIONS ADHERE TO ALL APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS WITH REGARDS TO CONTAINERIZATION, TEMPORARY STORAGE, AND TRANSPORTATION OF THE WASTE MATERIAL(S) TO A LICENSED DISPOSAL FACILITY.

OPA 90 PLAN for PHILADELPHIA ENERGY SOLUTIONS COMPLEX

Section 5: Disposal Plan

DISPOSAL PLAN – Philadelphia

Recovered Product

Oil product recovered from on-shore and off-shore cleanup operations will be transported to and handled at the refinery facility. The facility has sufficient storage tank capacity to accommodate oil recovery for a worst case discharge. In most situations, the oil recovered will contain large amounts of water. This mixture of oil and water will be returned to the facility and stored for further separation. The recovered product will be sent to crude storage tanks, as appropriate. Water from these tanks is drawn off and sent to the facility's API oil/water separator and then to the onsite waste water treatment plant. Oil recovered from the API separator is sent to recovered oil storage and then is returned to crude oil storage for processing into various petroleum products.

Contaminated Soil

Contaminated soil will be containerized and sent to an approved disposal/recycling facility as designated by the refinery waste specialist.

Contaminated Equipment and Materials, including drums, tank parts, valves, and shovels

All contaminated equipment which is delivered to the facility premises will be sent to the bundle cleaning pad, or a staging area near the spill scene, for decontamination where feasible.

Personal Protective Equipment

Hazardous contaminated personal protective equipment which cannot be cleaned and reused will be transported and disposed of at a PES approved facility.

Decontamination Solutions

Equipment that is steamed or washed with water can be handled at the bundle cleaning pad. Only approved cleaning solutions may be used. Solutions used with cleaning can be collected and transported to a PES approved facility.

Adsorbents

Hazardous adsorbents which cannot be recycled will be transported and disposed of at PES approved facility.

Oil contaminated debris will be placed in drums, plastic bags and/or lined dumpsters then transported to an authorized disposal facility. All containers of waste will be marked and labeled in accordance with State and Federal regulations. Transporters will be licensed hazardous waste haulers. The facility has a pre-designated area for the temporary storage of hazardous materials. This area meets applicable Federal and State requirements.

Transportation and Disposal/Recycling Facilities

Below is a list of some of the vendors available for use. Contact the Environmental Waste Specialist for a complete list.

OPA 90 PLAN for PHILADELPHIA ENERGY SOLUTIONS COMPLEX
Section 5: Disposal Plan

Landfills

Primary Landfill for non-hazardous oily solid waste:

Republic Services, Inc
Conestoga Landfill
420 Quarry Road
Morgantown, PA 19543
(610)289-7876

Waste Management of Pennsylvania
G.R.O.W.S., Inc.
1513 Bordentown Road
Morrisville, PA 19067
(215) 736-9400

T.R.R.F.
200 Bordentown Road
Tullytown, PA 19006
(215) 736-9400

Recycling Facilities

Clean Earth
3201 South 61st Street
Philadelphia, PA 19153
(215)724-5520

Transporters

Republic Services
3000 Hedley Street
Philadelphia, PA 19137
(215)744-2995

SJ Transportation
1176 US 40
Pilesgrove, NJ 08098
(856)769-2741

Republic Services of PA LLC / McCusker & Ogborne (parent company)
10 Reaney Street
Chester, PA. 1805
(610) 485-1805

US Environmental
409 Boot Road
Downingtown, PA 19335
(610)518-5800

OPA 90 PLAN for PHILADELPHIA ENERGY SOLUTIONS COMPLEX
Section 5: Disposal Plan

PSC-Environmental Services Division
2337 North Penn Road
Hatfield, PA 19440
(215)822-2676

Safety-Kleen
1140/1142 Green Hill Road
West Chester, PA 19380

Clean Venture, Inc.
600 Cenco Boulevard
Clayton, NJ 08312
(856) 863-8778
(856) 863-3725

Clean Harbors Environmental Services
2301 Pennsylvania Avenue
Deptford, NJ 08096
(856) 589-5000

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 6: Hazard Evaluation

GENERAL STATEMENT

A spill vulnerability analysis was conducted to identify the potential sources of spills in the operating areas, tank farms and for marine transfers in the refineries. This analysis complements the refineries Process Safety Management Program and as a methodology assisted operating and emergency personnel in assessing the potential for a spill, prevention methods and response strategies. The Spill Vulnerability Analysis can be found in Table 6-1 at the end of this section

Vulnerability Analysis

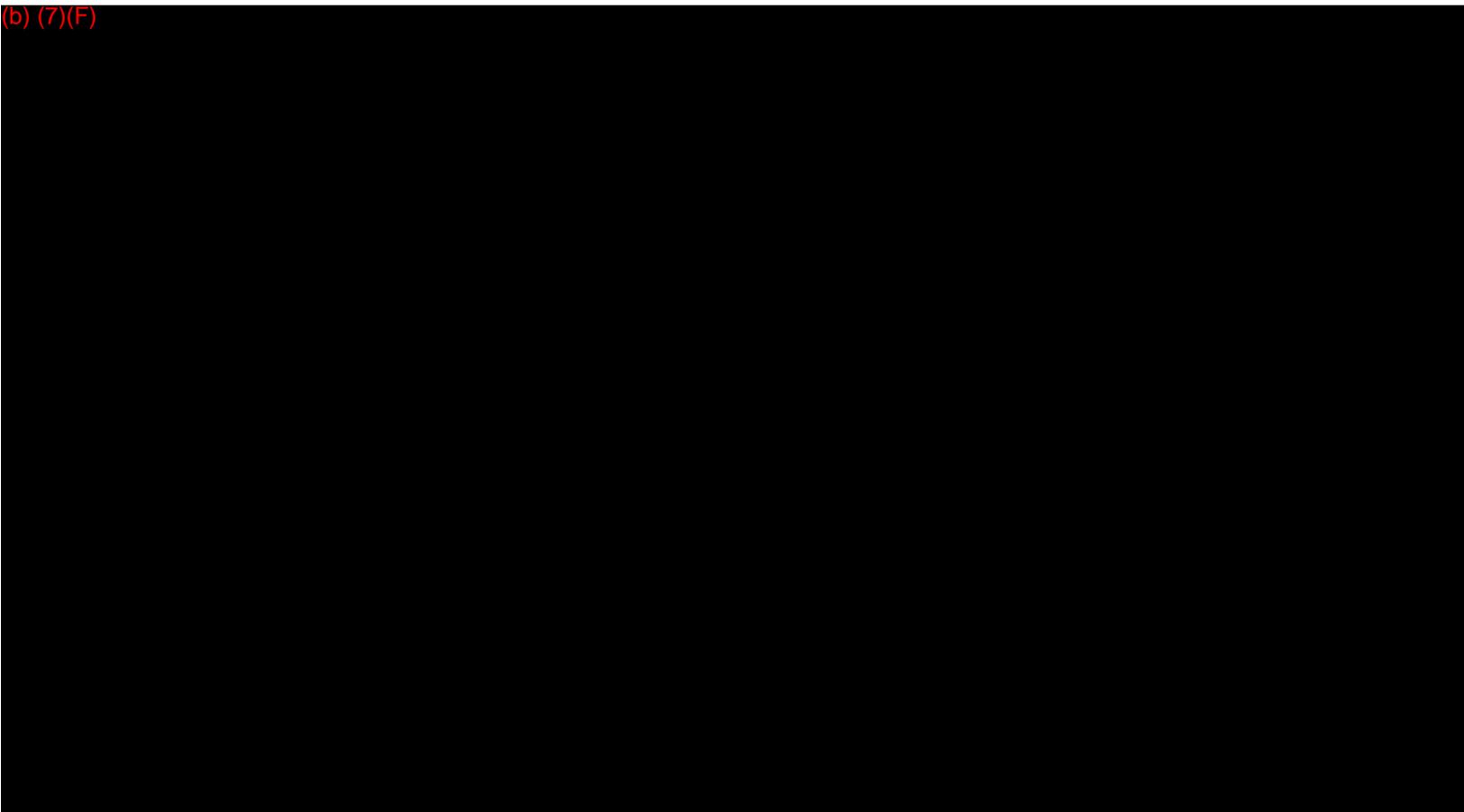
Vulnerability analysis addresses potential effects (human health, property, and environment) that may occur from a spill. A spill from the refinery not contained on site could eventually flow into the Delaware River, Schuylkill River and / or associated waterways. All nearby surface water intakes are industrial users. Petroleum discharges to these waterways may have the possibility for potential impact to adjoining residential areas, nearby businesses and utilities, wetlands, fish and wildlife, flora and fauna, recreational areas, and water transportation routes. There are no schools or medical facilities vulnerable to such a spill event. Containment areas, drain systems and surveillance measures assist with minimizing an oil spill to the waterways.

In 2001, the Delaware Bay and River Cooperative, working for the major refineries located on the Delaware River, issued an electronic "Oil Spill Response Plan" that depicts maps of the Delaware River formation from Trenton, N.J. to the mouth of the Delaware Bay. Included in Section 4 - Sensitive Areas are Environmental Sensitivity Index (ESI) maps identifying wetlands, fish and wildlife, flora and fauna, recreational areas and other areas of economic importance for both sides of the river. Included in this plan are booming guideline strategies, boom locations and boom deployment locations to protect the environmentally and economically sensitive areas. A copy of the DBRC electronic Oil Spill Response Plan is available on the Philadelphia Energy Solutions Intranet site.

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 6: Hazard Evaluation**

Areas as defined in Delaware Sector Bay Electronic Contingency Plan Appendix V Annex E

(b) (7)(F)



PHILADELPHIA FACILITY DESCRIPTION

The Philadelphia Girard Point Process area has a rated crude throughput of 200,000 barrels per day. Crude oil is processed into three grades of gasoline, home and industrial heating fuels, kerosene, jet fuel, liquefied petroleum gas (LPG), benzene, toluene, cumene, and sulfur. Processing units in operation include atmospheric and vacuum crude distillation, catalytic reforming, fluid catalytic cracking, distillate desulphurization, alkylation, amine scrubbing, sulfur recovery, petrochemical complex, and gasoline treating and blending.

The Girard Point Process Area covers approximately 373 acres. The process area is located on the east bank of the Schuylkill River. The Schuylkill River Tank Farm is a petroleum bulk storage facility and a gasoline blending facility that operates 24 hours a day, 365 days a year. Intermediate and finished products are stored in approximately 50 tanks. There are no underground storage tanks and no refining units at the Schuylkill River Tank Farm. The 211-acre Schuylkill River tank farm is located on the west bank of the Schuylkill River, directly opposite the Girard Point Process Area. The facility has a refined products terminal with seven berths. The Girard Point Wharf Terminal is located

Paper copies are uncontrolled. This copy is valid at time of printing. The controlled version can be found on the company intranet

Revision Date: 02/01/2013

Next Revision Date: 02/01/2018

Last printed 5/9/2013 10:59 AM

PHILADELPHIA ENERGY SOLUTIONS OPA 90 PLAN

Section 6 - 2

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 6: Hazard Evaluation

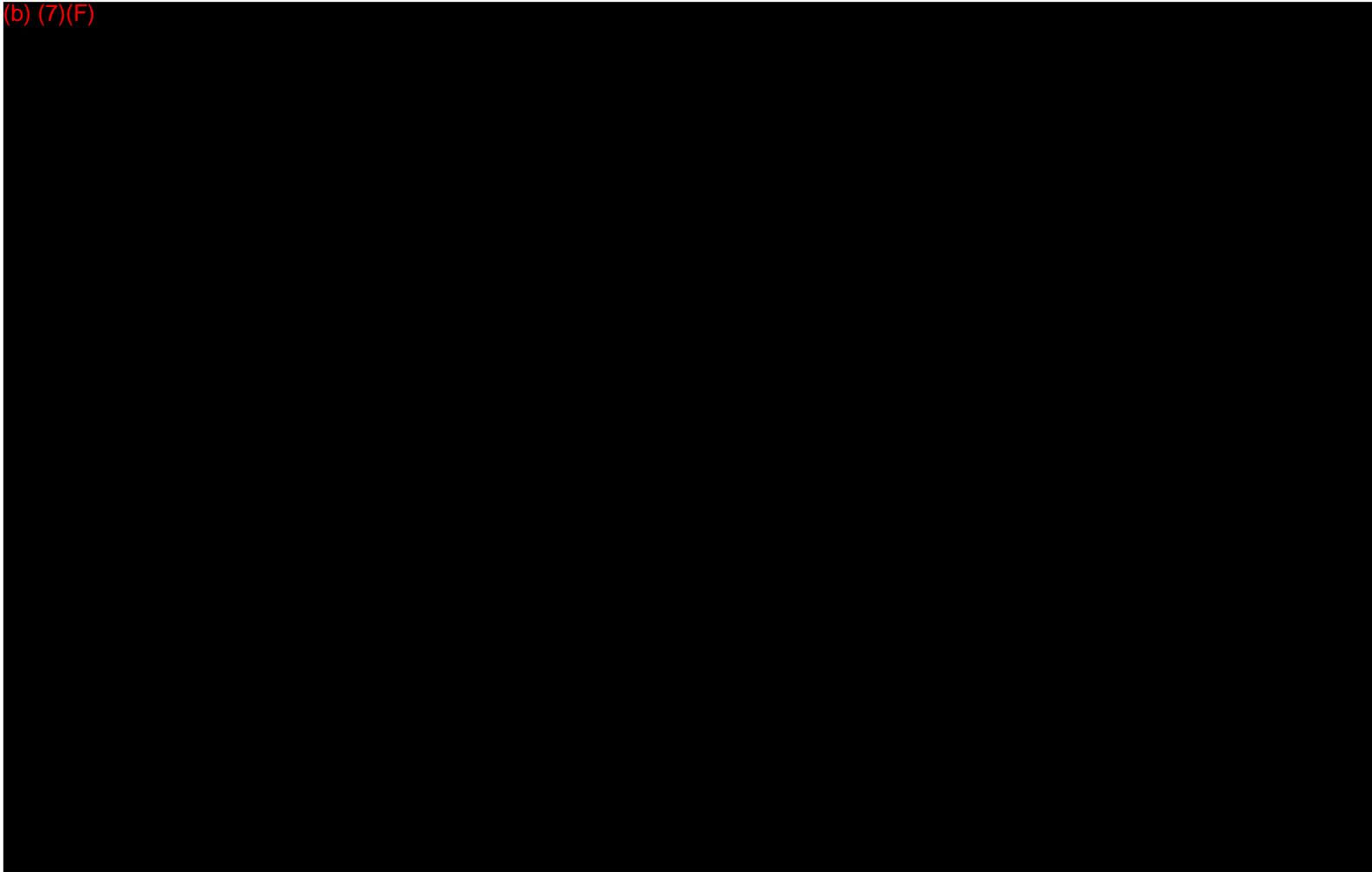
on the north side of the Schuylkill River adjacent to the process area. The facility is approximately one mile above the confluence with the Delaware River.

The Point Breeze Process area consists of approximately 672 acres. The Point Breeze Process area is an integrated fuels refinery with a crude throughput of 125,000 barrel per day. Crude is brought into the facility by pipeline from Sunoco's Fort Mifflin ship unloading facility and stored in tanks. Crude oil is processed in the crude distillation units to yield light hydrocarbon gases, reformed stock, kerosene, furnace oil, and gas oils. All processing facilities are located in the South Yard.

The facility loads fuel oil, gasoline, diesel, and kerosene at four barge loading facilities on the Schuylkill River which is open on a 24-hour basis. (b) (7)(F) [REDACTED]. The Point Breeze Process area loads liquefied petroleum gases and heavy fuels onto truck and railcars at loading facilities located in the North Yard.

The West Yard is inactive. This area, occupying approximately 52.5 acres, was used for bulk storage of petroleum products in above ground storage tanks. The tanks have been removed from the West Yard.

(b) (7)(F)



OPA 90 PLAN for the Philadelphia Energy Solutions Complex

(b) (7)(F)

BULK STORAGE TANKS & CONTAINMENT TECHNIQUES

In general, storage tanks fall within three geographic or topographic areas in the refinery; first, is Point Breeze, which is north of the Schuylkill River and east of Passyunk Avenue; secondly, is Girard Point which is north of the Schuylkill River and North of the Penrose Ferry Bridge and finally the area referred to as the Schuylkill River Tank Farm. As described in the following sections, tanks in all three of these areas are provided with secondary containment by a combination of dikes, curbs, and natural terrain equaling 110% capacity of the largest tank in each of these areas.

The Philadelphia Tank List (pages 13-18) presents detailed information regarding the storage and use of oil and hazardous materials at this facility. The list identifies:

- Petroleum storage which includes the storage of "oil", as defined in 40 CFR 112.2(a) including tank and drum storage of raw products and waste oils; and,
- Non-petroleum storage, which includes the storage of hazardous materials.

The list also includes relevant information and characteristics for both tanks and material storage areas.

There are no surface impoundments located at Philadelphia facilities.

There have been no tank failures which have resulted in a loss of tank contents.

The Point Breeze Process Area is the only area that has underground storage tanks. The underground storage tanks for gasoline and diesel are double-walled fiberglass tanks. These tanks are used for vehicle maintenance. A leak detection system for these tanks is connected to the tank database maintained by the Blending and Shipping

Paper copies are uncontrolled. This copy is valid at time of printing. The controlled version can be found on the company intranet

Revision Date: 02/01/2013

Next Revision Date: 02/01/2018

Last printed 5/9/2013 10:59 AM

PHILADELPHIA ENERGY SOLUTIONS OPA 90 PLAN

Section 6 - 4

OPA 90 PLAN for the Philadelphia Energy Solutions Complex Section 6: Hazard Evaluation

Department. The steel underground storage tank for the #2 heating oil is used for building heat. This tank is exempted from PA PPC tank requirements.

Girard Point and Schuylkill River Tank Farm

As of December 31, 1997, the Schuylkill River Tank Farm no longer has any underground storage tanks.

Pipeline volumes are listed in Table D-2.

Point Breeze

Pipeline volumes are listed in Table D-2.

Secondary Containment

All storage tanks at the Sun facilities have secondary containment. The Tank list provides the type and characteristics of the secondary containment for each of the oil storage units (tanks or other type of storage area) at this facility. Containment areas for oil storage units are constructed so that drainage (i.e., collected rainwater) is controlled by valves in order to prevent any unauthorized release from the containment area. The operators conduct daily visual inspections of the secondary containments so that repairs or upgrades can be scheduled and completed. All secondary containment is sufficiently impervious to retain spilled product.

Diversions structures are designed to direct spilled oil products away from storm drains and other off-site outlets and toward containment areas, where they can be cleaned up. Diversions structures for aboveground tanks include earth berms, drainage trenches.

Diversions structures for drum storage areas may include sloped floors, trenches, berms, curbs and sumps. Absorbent materials are located in some of the oil/chemical storage areas, as well as locations without diversions structures.

Secondary Containment Capacity for Facility	
<i>Facility</i>	(b) (7)(F)
Girard Point	
Schuylkill River Tank Farm	
Point Breeze	

Transfer System Descriptions

Facility Piping Systems

Where possible, piping containing oil or oil products is placed aboveground. These aboveground portions of the piping network are protected from corrosion by paint. In areas subject to vehicle traffic and possible collisions, such as vehicle fueling locations, the piping is protected by steel and concrete barrier posts, or other similar methods.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 6: Hazard Evaluation

All aboveground portions of the piping network are inspected regularly. These inspections include an examination of the pipe exterior, shutoff valves, joints, and supporting framework so that the installations can be maintained in proper operating condition. Much of the buried piping is wrapped and/or cathodically protected.

Transfer connections at fueling stations are equipped with manual shutoff valves. The pump systems are equipped with manually operated electrical disconnect switches. Flow, drain, loading and unloading valves and connections that are not in use are in the closed position. When terminal connections are not used for six months or more, they are securely capped.

Idles transfer lines at the docks are have blind flanges.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 6: Hazard Evaluation

Truck and Rail Car Unloading

Benzene is delivered to the refinery by tank trucks and rail cars on a regular basis. Benzene is transferred directly from the truck or rail car to the storage tank. Transfer operations are attended by an operator. In the event of a spill, material will flow towards the refinery process sewers and be collected in the oil/water separators. Recovered material would be pumped to the slop oil tank. In the event of a large spill, the oil/water separators and the slop oil tank can be used as storage tanks for the recovered material. The slop oil tank has an 80,000-barrel capacity.

ABOVE GROUND STORAGE TANKS

All above ground bulk storage tanks are either within diked areas provided with a process waste water drain and a normally closed manual valve, which is used to release any accumulated water and liquids to an oil/water separator; or without dikes and a manual drain valve, but located so that the natural terrain conveys any surface spills to an oil/water separator. The dikes and containment are constructed of concrete or imported gravel over native soils. Internal steam heating coils are monitored via the condensate return lines. High level alarms are used in conjunction with level measurements to control over filling.

UNDERGROUND STORAGE TANKS

The underground storage tanks are constructed of steel or fiberglass. The underground tanks have been tested and registered with the Pennsylvania DER and meet State and Federal requirements for leak detection and monitoring.

TANK CAR AND TANK TRUCK

All tank car/tank truck loading/unloading procedures meet the minimum requirements and regulations established by the Department of Transportation.

In general, the loading and unloading rack areas have concrete or asphalt pads that slope towards the process waste water drains. At tank car loading/unloading racks, trench drains are located adjacent to the tank cars to collect spilled oil. Trench drains are sufficiently sized to collect and transfer the maximum capacity of the largest tank car or truck to oil/water separators. Product spilled into the drains flows into oil water sumps and is eventually pumped to oil/water separators.

Each loading and unloading rack is equipped with warning signs that provide instruction to personnel engaged in transfer of product. These warning signs indicate the proper procedures for connecting transfer lines, checking all valves on the tank truck or tank car, monitoring the liquid level, and ensuring that all valves and outlets have been checked prior to departure.

SHIPS AND BARGES

Three dock areas are used for loading and unloading oil products from ships and barges at an average rate of 40,000 barrels/hour. The dock areas have curbing around outer edges to contain spilled oil. Any spilled oil is directed to sumps located at each dock and then pumped to the refinery's oil recovery system. A spill boom is located at

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 6: Hazard Evaluation

the mooring points and Spill Response Center to contain any oil discharged into the river. Dock personnel continuously monitor the transfer of oil. The following procedures are undertaken at the barge loading and unloading facilities:

- Cargo hoses are supported properly and checked frequently during transfer operations to prevent stress and resultant failure.
- Cargo transfer operations are discontinued and cargo hatches, openings, or other openings to cargo tanks and pump rooms are closed and secured during electrical storms.
- Upon completion of pumping, cargo hoses and ship and shore connections are blanked immediately to prevent spills.
- Ship and shore personnel initially agree on pumping rates, and tanks are gauged periodically to ensure that the cargo is being transferred as intended to avoid spills from over filling.
 - Plant personnel patrol the water front during every shift to check for spills.

FACILITY TRANSFER OPERATIONS, PUMPING AND IN PLANT PROCESS PIPELINES AND VALVES

Where practical, buried pipelines include a protective wrapping and coating to reduce corrosion. Cathodic protection is provided for pipelines if it is determined necessary by electrolytic testing. When a section of pipeline is exposed, it is inspected for deterioration and corrective action is taken as required. Pipeline terminal connections are blank-flanged at the transfer point and marked if the line is not in service or is on regular stand by service for an extended period of time. All dead lines are excavated, blocked, and plugged. An extensive, long range project is underway to identify and convert all buried pipelines in the vicinity of navigable waterways to above ground installations. Pipe supports are designed to minimize abrasion and corrosion, while allowing for expansion and contraction. Pipeline support designs meet the American National Standard Institute (ANSI) standards.

Line personnel are required by operating procedures to regularly examine above ground piping and valves in their area. Routine inspection includes assessing the general condition of flange joints, expansion joints, valve glands, catch pans, pipe supports, and metal surfaces. Periodic pressure testing is performed on piping where appropriate. Vehicles entering the refinery are warned by signs placed in areas where the height of traffic may exceed elevated pipelines. Construction and labor crews are alerted verbally to the location of buried lines in their work area and are required to secure excavation permits that state the location of buried lines, electrical conduits, or other underground obstructions. This excavation permit is separate from the operating permit required for general work and must be obtained before excavation begins.

FACILITY DRAINAGE

Girard Point

In the mid 1950s, the entire perimeter of the Girard Point Process Area bordering the east side of the Schuylkill River was completely walled in with interlocking steel sheet piling. The 25-foot to 50-foot piling extend down a minimum of ten feet below mean low

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 6: Hazard Evaluation

water deep in the subsurface and extend nine feet above the water level at high tide. The elevation of Girard Point Process Area generally ranges between eleven and thirteen feet above mean low tide. The steel piling presents an impervious barrier that prevents any direct discharge of water to the Schuylkill River. The elevation of the sheet piling is sufficient to protect again a 100-year flood.

The entire process area surface slopes away from the river. Runoff would flow towards the center of the plant and enter the facility's sewer system. There are three separate sewer systems, a sanitary sewer, a storm water sewer, a process water sewer.

The sanitary sewer systems at the Girard Point Process Area and the Schuylkill River Tank Farm discharge to the in-plant septic system.

Process Area Wastewaters

All process water and storm water which potentially could contain free oil enters at least one API-type oil/water separator equipped with oil retention baffles, before entering the treatment system. The process water sewers first flow into one of two API separators before being pumped into one of two skim and surge holding tanks where further oil and sediment removal is accomplished. The oil-containing capacity of the API separators and surge tanks is sufficient to contain the capacity of the largest oil-containing unit which would discharge directly to the treatment plant. From the skim and surge tanks, the water is then pumped to biological and filtration treatment units before being discharged to the river via an NPDES Outfall.

Schuylkill River Tank Farm

All dikes are designed to contain the product from the largest tank within the dike plus an allotment for storm water.

Diking, elevations and piping throughout the Schuylkill River Tank Farm are sloped so that flow is directed towards the API-type separator. Process water consisting of condensate, municipal water used from once-through cooling, water drained from the tank basin and surface drains, enters a common sewer system which flows to an API-type separator for oil removal. Effluent from the separator is pumped through the municipal conduit system to the City of Philadelphia's Southwest Treatment Plant. The separator is the only point source discharge for the Schuylkill River Tank Farm. During periods of high flows to the separator, the inlet control valve to the separator is cut back. This will enable the separator to properly function for adequate skimming, thus preventing flooding to the Schuylkill River.

Water and spills are retained within the dikes by means of manually operated shear gates, which are maintained in the closed position. Operating personnel in each area are responsible for draining accumulated rainwater from secondary containment into storm drains, when necessary. Prior to draining the water, the operator must visually inspect the accumulated water for visible oil, alert the oil movement personnel regarding the imminent drainage, and secure the shear gate in the closed position once the water is drained. Water is released to several NPDES Outfalls via API separators.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 6: Hazard Evaluation

Point Breeze

Storm water and potential spills are discharged directly to the facility's wastewater treatment plant or maintained inside containment dikes for later release to the wastewater treatment plant or a storm pond. Collected storm water runoff from the North Yard and South Yard oil/water separators and effluent from the wastewater treatment plant are discharged to the river at three NPDES outfalls.

Process Wastewaters

Drainage from process units, shops, buildings, pump rooms, and areas which may produce contaminated wastewaters discharges directly to the wastewater treatment plant. Wastewater enters the plant and passes through API separators and Tank 7308 prior to entering the treatment units. During storm events or known spill events, wastewater is diverted to a temporary storage tank (Tank 7300) that functions as an equalization tank prior to entering the API separators. Refinery operators are instructed to notify the treatment plant in the event of any unusual discharge, such as a spill or washing out of equipment, so that the discharge can be diverted to a temporary storage tank and gradually introduced to the normal flow. The oil-containing capacity of the API separators and Tank 7308 is sufficient to contain the capacity of the largest oil-containing unit which would discharge directly to the treatment plant. The treated effluent is discharged to the Schuylkill River at permitted NPDES Outfall 002.

Tank Farm Drainage

Dikes surround nearly all aboveground oil storage tanks. All dikes are designed to contain the product from the largest tank within the dike plus an additional containment capacity for storm water.

Spills are retained within the dikes by means of manually operated shear gates, which are maintained in the closed position. Operating personnel in each area are responsible for draining accumulated rainwater from secondary containment into storm drains, when necessary. Prior to draining the water, the operator must visually inspect the accumulated water for visible oil, alert the oil movement personnel regarding the imminent drainage, and secure the shear gate in the closed position once the water is drained.

In the South Yard, the dike drains lead to a dry weather pump-back chamber and two guard separators in series before entering a storm pond. Water in the storm pond is sent to the wastewater treatment plant and/or left to evaporate. During high flows, water in the pond is discharged to the river at NPDES Outfall 004. In the North Yard, the storm drains lead to a separator, and then to the wastewater treatment plant in the South Yard, except in the event of high flow, in which case some storm water is discharged to the Schuylkill River at NPDES Outfall 001. Since the North Yard contains only tanks with containment dikes, a potential spill occurring during a storm event would still be contained.

DISCHARGE PREVENTION MEASURES

The Philadelphia Refinery a very detailed tank program in place that covers the design, installation, inspection, repair and replacement of all refinery tanks. This program and

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 6: Hazard Evaluation

procedures aid in the prevention and detection of releases of hydrocarbons or other regulated substances and ensure the compatibility of the construction materials of the tanks, pipelines, vessels, etc. with their contents, intended use, and the environment.

Inspection of atmospheric pressure storage tanks is performed in accordance with Philadelphia Energy Solutions Standard 2402, which meets the requirements of API Standard 653 "Tank Inspection, Repair, Alteration, and Reconstruction". Philadelphia Energy Solutions personnel perform daily visual inspections for potential problems, which are recorded on daily logs.

The Philadelphia Energy Solutions Standard 2402 (See Section 7, Inspection of Atmospheric Storage Tanks) inspection program requires the following three levels of tank inspections:

- For tanks with a capacity of less than 21,000 gallons, a monthly in-service inspection is performed by Philadelphia Energy Solutions operations, and an In-service Comprehensive Inspection is performed every ten years by a state certified inspector;
- For tanks with capacity of at least 21,000 gallons, an In-service Comprehensive Inspection is performed every five years by a state certified inspector; and
- For tanks with capacity of at least 21,000 gallons, an Out-of-Service Comprehensive Inspection is performed every twenty years by a state certified inspector.

These inspections are consistent with the requirements of the Pennsylvania Tank Law and Federal Oil Pollution Prevention requirements. In-service inspections include visual inspection of the outside of the container for signs of deterioration, discharges, or accumulation of oil inside diked areas. Comprehensive Inspections combine visual inspection with another integrity testing technique, such as hydrostatic testing, radiographic testing, ultrasonic testing, acoustic emissions testing, or another system of non-destructive shell testing. These inspections include the container's supports and foundations.

Leakage through defective internal heating coils is controlled by passing the steam return or exhaust lines through an oil separation device.

New tanks, as well as tank repairs, are designed and installed in accordance with Philadelphia Energy Solutions Standard 2401. Philadelphia Energy Solutions Standard 2401 supplements API Standard 650, "Welded Steel Storage Tanks for Oil Storage", and covers the materials design, fabrication, erection, inspection, and welder qualifications for tank installations and repairs. In addition to the above installation standards, all new tanks and all tanks in need of floor replacements are installed with a secondary containment/early detection system. In the event of repair, alteration, reconstruction, or change in service that might affect the risk of a discharge or failure, the container is re-evaluated for risk of discharge prior to being placed back into service.

(b) (7)(F)

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 6: Hazard Evaluation

(b) (7)(F)

Philadelphia also has a detailed piping program in place that covers the design, installation, inspection, repair and replacement of all refinery-piping systems. From an inspection standpoint, there are several levels of tank/piping inspections performed at the refinery. As part of their daily shift requirements, operations personnel perform a general inspection/walk-around of their respective unit(s) looking for signs of loss of pressure, loss of level, and/or visual or other indications of leaks. Also, as part of the monthly visual tank inspection program, all tank piping and shell connections are checked for cracks, corrosion, distortions, and leakage. As part of the Benzene NESHAPs for waste operations requirements, operations personnel must also perform a quarterly walk-around of all aboveground wastewater and recovered oil piping systems containing benzene. Additionally, annual tests of applicable product lines in the dock areas are conducted pursuant to the U.S. Coast Guard regulations.

All new piping systems, as well as repairs to existing piping, are performed in accordance with Philadelphia Energy Solutions Standard 0201. Philadelphia Energy Solutions Standard 0201 supplements ANSI Standard B31.3, "chemical plant and Refining Piping Code", and covers the design, materials, fabrication, assembly, erection, examination, and testing of pressure piping systems. Philadelphia Energy Solutions Standard 0201 specifically addresses underground lines and requires that underground lines must be properly protected against corrosion.

SPILL HISTORY

The spill history for the Philadelphia Refinery can be found in APPENDIX B.

Construction/In-Service Dates fields that have been intentionally left blank due to these small tanks were shop built, purchased and placed in the field. No construction or in-service dates are available.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex Section 6: Hazard Evaluation

Girard Point / Point Breeze										Containment Type and Capacity of Registered and SPCC Tanks			Unit: ALL
													Cont. Type: ALL
Item No.	Tank Number	State Reg No	Tank Status	Regulatory Status	Tank Cleaned	Tank Type	Diameter	Height	(b) (7)(F)	Primary Product	Unit	Tank Field Containment Type	(b) (7)(F)
38	GP R 217	178A	IS	Active	N	IFR	95	30		Benzene	STF	Dike	
39	GP R 225	007A	IS	Active	N	Cone Roof	117	42		#3 Fuel Oil	STF	Dike	
40	GP R 227	009A	IS	Active	N	Cone Roof	120	40		Light Cycle Oil	STF	Dike	
41	GP R 228	(N/A)	IS	(N/A)	N	EFR	117	42		Storm Water	STF	Dike	
42	GP R 251	031A	IS	Active	N	IFR	120	40		Untreated Distillate	NTF	Dike	
43	GP R 269		IS	(N/A)	N	Horiz. Elev	4	6		LSD	Plant Protection	(None)	
44	GP R 272	034A	IS	Active	N	IFR	120	40		Recovered Oil	NTF	Dike	
45	GP R 273	035A	IS	Active	N	Cone Roof	120	40		Residual	NTF	Dike	
46	GP R 276	038A	IS	Active	N	IFR	120	40		Light Naphtha	NTF	Dike	
47	GP R 281	043A	IS	Active	N	Cone Roof	120	40		Heavy Gas Oil	NTF	Dike	
48	GP R 282	044A	IS	Active	N	Cone Roof	120	40		Heavy Gas Oil	NTF	Dike	
49	GP R 284	046A	IS	Active	N	Cone Roof	120	40		Heavy Gas Oil	NTF	Dike	
50	GP R 285	047A	IS	Active	N	IFR	120	40		Naphtha	NTF	Dike	
51	GP R 286	048A	IS	Active	Y	IFR	120	40		Naphtha	NTF	Dike	
52	GP R 292		IS	(N/A)	N	IFR	60	39		Sour Water w/Oil	NTF	Dike	
53	GP R 304	176A	IS	Active	N	Vert. Elev	7	9		Methanol	1332	Dike	
54	GP R 494	064A	IS	Active	N	Cone Roof	85	30		Decanted Oil	NTF	Dike	
55	GP U 676	130A	OOS	Active	N		0	0		#3 Fuel Oil	#3 BH/U		
56	GP U 767	135A	IS	Active	N	IFR	20	21		Recovered Oil	#2 SEP	Dike	
57	GP R 791	092A	IS	Active	N	IFR	25	24		Benzene	1700'S	Dike	
58	GP R 792	093A	IS	Active	N	Cone Roof	25	30		Cumene	1700'S	Dike	
59	GP R 793	094A	IS	Active	N	Cone Roof	25	30		Cumene	1700'S	Dike	
60	GP R 794	095A	IS	Active	N	IFR	25	24		Solvent	1700'S	Dike	
61	GP R 796	096A	IS	Active	N	Cone Roof	14	16		Glycol	1700'S	Dike	
62	GP R 798	098A	IS	Active	N	IFR	25	24		Benzene	1700'S	Dike	
63	GP R 799	099A	IS	Active	N	IFR	25	24		Benzene	1700'S	Dike	
64	GP U 894	199A	IS	Active	N	Open Trp	17	10		Caustic, Fresh	433	(None)	

UPDATED: 12/31/12

Page 1 of 6

Paper copies are uncontrolled. This copy is valid at time of printing. The controlled version can be found on the company intranet

Revision Date: 02/01/2013

Next Revision Date: 02/01/2018

Last printed 5/9/2013 10:59 AM

PHILADELPHIA ENERGY SOLUTIONS OPA 90 PLAN

Section 6 - 13

OPA 90 PLAN for the Philadelphia Energy Solutions Complex Section 6: Hazard Evaluation

Girard Point / Point Breeze										Containment Type and Capacity of Registered and SPCC Tanks			Unit: ALL
Item No.	Tank Number	State Reg No	Tank Status	Regulatory Status	Tank Cleaned	Tank Type	Diameter	Height	(b) (7)(F)	Primary Product	Unit	Tank Field Containment Type	(b) (7)(F)
65	GP C2 941	127A	IS	Active	N	Horiz. Elev	4	20		Corr Inhib (DCI8A)	231	Dike	
66	GP R 973	193A	IS	Active	N	Cone Roof	19	25		Caustic, Fresh	1232	Dike	
67	GP U2 1007		IS	(N/A)	N	IFR	40	22		Recovered Oil	#5 SEP	Dike	
68	GP R 1039	148A	IS	Active	N	Cone Roof	25	38		ASO STG	137	Dike	
69	GP R 1047	183A	IS	Active	N	Open Top	30	30		Caustic, Fresh	433	(None)	
70	GP R 1051		IS	(N/A)	N	EFR	60	43		Potassium Fluoride Brine	433	Dike	
71	GP R 1086		IS	(N/A)	N	IFR	35	38		Caustic, Spent	WWTP	Dike	
72	GP R 1087		IS	(N/A)	N	IFR	35	38		Caustic, Spent	WWTP	Dike	
73	GP R 1088	099A	IS	Active	N	Dome Roof	15	20		Caustic, Fresh	WWTP	Dike	
74	GP R 1091	121A	IS	Active	N	Cone Roof	10	24		Four Depress (Infinium R500)	231	Dike	
75	GP R 1116	072A	IS	Active	N	EFR	60	48		Udex Feed	NTF	Dike	
76	GP R 1117	073A	OOS	Active	N	EFR	60	48		Udex Feed	NTF	Dike	
77	GP R 1203	156A	IS	Active	N	Cone Roof	10	8		Caustic, Fresh	1332	Area Drain to Waste	
78	GP R 1211	097A	IS	Active	N	Cone Roof	45	42		Cumene	STF	Dike	
79	GP R 1213	119A	IS	Active	N	Cone Roof	60	42		Cumene	STF	Dike	
80	GP R 1214	128A	IS	Active	N	IFR	60	60		Benzene	STF	Dike	
81	GP R 1215	170A	IS	Active	N	Cone Roof	90	40		Cumene	STF	Dike	
82	GP R 1216	171A	IS	Active	N	IFR	45	42		Cumene	STF	Dike	
83	GP R 1217	172A	IS	Active	N	IFR	45	42		Cumene	STF	Dike	
84	GP R 1218	158A	IS	Active	N	Cone Roof	60	41		Cumene	STF	Dike	
85	GP R 1219	159A	IS	Active	N	Cone Roof	90	40		Cumene	STF	Dike	
86	GP R 1220	160A	IS	Active	N	Cone Roof	48	48		Cumene	STF	Dike	
87	GP U 1221	198A	IS	Active	N	Horiz. Elev	6	12		Acid, Sulfuric, Fresh	#2 SEP	Dike	
88	PB 1224		IS		N	Cone Roof	8	16		Four Depress (Infinium R500)	859	Double Wall Tank	
89	GP R 2000	155A	IS	Active	N	Horiz. Elev	6	15		Caustic, Fresh	137	Dike	
90	GP R 2500	192A	IS	Active	N	Cone Roof	10	11		Corr Inhib (EC 1024C)	137	Dike	
92	GP R 3000		IS	(N/A)	N	Horiz. Elev	4	6		Lube Oil	137	Dike	

Paper copies are uncontrolled. This copy is valid at time of printing. The controlled version can be found on the company intranet

Revision Date: 02/01/2013

Next Revision Date: 02/01/2018

Last printed 5/9/2013 10:59 AM

PHILADELPHIA ENERGY SOLUTIONS OPA 90 PLAN

Section 6 - 14

OPA 90 PLAN for the Philadelphia Energy Solutions Complex Section 6: Hazard Evaluation

Girard Point / Point Breeze

Containment Type and Capacity of Registered and SPCC Tanks

Cont. Type: ALL

Item No.	Tank Number	State Reg No	Tank Status	Regulatory Status	Tank Cleaned	Tank Type	Diameter	Height	(b) (7)(F)	Primary Product	Unit	Tank Field Containment Type	(b) (7)(F)
93	GP R 3001		IS	(N/A)	N	Horiz, Elev	4	6		Lube Oil	1232	Dike	
94	GP R 3002		IS	(N/A)	N	Horiz, Elev	5	6		Lube Oil	1232	Dike	
95	GP R 3003	184A	IS	Active	N	Dome Roof	12	10		Caustic	1232	Dike	
96	GP R 3004		IS	(N/A)	N	Horiz, Elev	5	6		Lube Oil	1332	Dike	
97	GP R 3005		IS	(N/A)	N	Horiz, Elev	4	6		Lube Oil	231	Dike	
98	GP R 3101A	191A	IS	Active	N	Flat Roof	8	15		Sodium Hypochlorite	1232	Dike	
99	GP 19T 8000	197A	IS	Active	N	Horiz, Elev	4	6		Recovered Oil	NTF	Dike	
100	GP 19T 8004	198A	IS	Active	N	Horiz, Elev	4	6		Recovered Oil	NTF	Dike	
101	PB 9V 2	138A	IS	Active	N	Vert, Elev	10	22		Caustic	859	Area Drain to Waste	
102	PB 11V 11	184A	IS	Active	N	Horiz, Elev	6	32		Four Depress (Infinium R500)	885	Dike	
103	PB 14V 11	211A	IS	Active	N	Horiz, Elev	8	8		Amine	210	Dike	
104	PB 12V 12	210A	IS	Active	N	Vert, Elev	5	10		Lube Oil	886	Dike	
105	PB 9V 14	140A	IS	Active	N	Horiz, Elev	5	18		Methanol	859	Area Drain to Waste	
106	PB 1V 20	168A	IS	Active	N	Vert, Elev	6	9		Lube Oil	859	Area Drain to Waste	
107	PB 2V 20	166A	IS	Active	N	Vert, Elev	6	9		Lube Oil	880	Area Drain to Waste	
108	PB 26	001A	IS	Active	N	IFR	90	51		Ethanol	1 FM	Dike	
109	PB 27	002A	IS	Active	N	EFR	110	48		Gasoline Components	1 FM	Dike	
110	PB 28	003A	IS	Active	N	EFR	110	49		Light Cat	1 FM	Dike	
111	PB 29	004A	IS	Active	N	EFR	102	49		Heavy Reformate	1 FM	Dike	
112	PB 33	007A	IS	Active	N	EFR	102	49		Gasoline	1 FM	Dike	
113	PB 34	008A	IS	Active	N	EFR	110	47		Gasoline	1 FM	Dike	
114	PB 35	009A	IS	Active	N	EFR	110	48		Gasoline	1 FM	Dike	
115	PB 37	011A	IS	Active	N	IFR	110	48		Gasoline Components	1 FM	Dike	
116	PB 38	012A	IS	Active	N	EFR	110	48		Gasoline	1 FM	Dike	
117	PB 39	013A	IS	Active	N	EFR	110	48		Gasoline	1 FM	Dike	
118	PB 40	014A	IS	Active	N	EFR	140	48		Gasoline	1 FM	Dike	
119	PB 42	015A	IS	Active	N	Cone Roof	100	48		LSD	1 FM	Dike	

Paper copies are uncontrolled. This copy is valid at time of printing. The controlled version can be found on the company intranet

Revision Date: 02/01/2013

Next Revision Date: 02/01/2018

Last printed 5/9/2013 10:59 AM

PHILADELPHIA ENERGY SOLUTIONS OPA 90 PLAN

Section 6 - 15

OPA 90 PLAN for the Philadelphia Energy Solutions Complex Section 6: Hazard Evaluation

Girard Point / Point Breeze

Containment Type and Capacity of Registered and SPCC Tanks

Cont. Type: ALL

Item No.	Tank Number	State Reg No	Tank Status	Regulatory Status	Tank Cleaned	Tank Type	Diameter	Height	(b) (7)(F)	Primary Product	Unit	Tank Field Containment Type	(b) (7)(F)
120	PB 43	016A	IS	Active	N	Cone Roof	120	40		Jet	1 FM	Dike	
121	PB V 49		IS	(N/A)	N	Vert. Elev	3	6		Lube Oil	864	Area Drain to Waste	
122	PB V 50		OOS	(N/A)	N	Vert. Elev	4	5		Lube Oil	864	Area Drain to Waste	
123	PB 78	189A	IS	Active	N	Vert. Elev	10	20		Corr Inhib (DCI6A)	1 FM	Dike	
124	PB 83	020A	IS	Active	N	Cone Roof	100	56		Jet	1 FM	Dike	
125	PB 84	021A	IS	Active	N	Cone Roof	100	56		Jet	1 FM	Dike	
126	PB 85	022A	IS	Active	N	Cone Roof	80	48		LSD	1 FM	Dike	
127	PB 8Z 102	212A	IS	Active	N	Horiz. Elev	5	16		Corrosion Inhibitor	868	Area Drain to Waste	
128	PB WC 106		OOS	(N/A)	N	Vert. Elev	4	5		Lube Oil	BIO	(None)	
129	PB WC 107		OOS	(N/A)	N	Vert. Elev	4	5		Lube Oil	BIO	(None)	
130	PB 117		IS	(N/A)	N	EFR	60	48		Recovered Oil	BIO	Dike	
131	PB 1V 120	155A	IS	Active	N	Cone Roof	12	15		Amine	862	Area Drain to Waste	
132	PB 121	025A	IS	Active	N	IFR	102	48		Udex Feed	2 FM	Dike	
133	PB 16V 122	209A	IS	Active	N	Cone Roof	6	9		Lube Oil	869	Double Wall Tank	
134	PB 126	027A	IS	Active	N	EFR	70	49		Heavy Naphtha	2 FM	Dike	
135	PB 128	028A	IS	Active	N	EFR	140	56		Heavy Naphtha	1 FM	Dike	
136	PB 129	029A	IS	Active	N	EFR	140	55		Reformate	1 FM	Dike	
137	PB 16V 135	143A	IS	Active	N	Cone Roof	20	18		Acid, Sulfuric, Fresh	869	Dike	
138	PB 16V 137	144A	IS	Active	N	Cone Roof	20	18		Acid, Sulfuric, Spent	869	Dike	
139	PB 144	185A	IS	Active	N	Cone Roof	70	48		Main Frac Bottoms	2 FM	Dike	
140	PB 145	186A	IS	Active	N	Cone Roof	70	48		Main Frac Bottoms	2 FM	Dike	
141	PB 1V 150		IS	(N/A)	N	Vert. Elev	4	5		Lube Oil	862	Dike	
142	PB 151	037A	IS	Active	N	EFR	120	48		Heavy Gas Oil	2 FM	Dike	
143	PB 1V 151		OOS	(N/A)	N	Vert. Elev	4	5		Lube Oil	862	Area Drain to Waste	
144	PB 152	038A	IS	Active	N	Cone Roof	120	48		Resid Vacuum Bottoms	2 FM	Dike	
145	PB 1V 152		IS	(N/A)	N	Vert. Elev	4	5		Lube Oil	862	Area Drain to Waste	
146	PB 172	041A	IS	Active	N	IFR	120	48		Cat Gasoline	2 FM	Dike	

Paper copies are uncontrolled. This copy is valid at time of printing. The controlled version can be found on the company intranet

Revision Date: 02/01/2013

Next Revision Date: 02/01/2013

Last printed 5/9/2013 10:59 AM

PHILADELPHIA ENERGY SOLUTIONS OPA 90 PLAN

Section 6 - 16

OPA 90 PLAN for the Philadelphia Energy Solutions Complex Section 6: Hazard Evaluation

Girard Point / Point Breeze

Containment Type and Capacity of Registered and SPCC Tanks

Cont. Type: ALL

Item No.	Tank Number	State Reg No	Tank Status	Regulatory Status	Tank Cleaned	Tank Type	Diameter	Height	(b) (7)(F)	Primary Product	Unit	Tank Field Containment Type	(b) (7)(F)
147	PB 178	045A	IS	Active	N	EFR	150	48		Naphtha	2 FM	Dike	
148	PB 179	046A	IS	Active	N	EFR	128	48		Light Naphtha	2 FM	Dike	
149	PB 191	050A	IS	Active	N	EFR	52	41		Recovered Oil	4 FM	Dike	
160	PB 204	052A	IS	Active	N	IFR	40	38		Recovered Oil	1 FM	Dike	
151	PB 8T 204	146A	IS	Active	N	Cone Roof	6	8		Lube Oil	888	Area Drain to Waste	
162	PB 8T 205		IS	(N/A)	N	Cone Roof	4	8		Lube Oil	888	Area Drain to Waste	
163	PB 19T 221		IS	(N/A)	N	Horiz. Elev	4	7		LSD	Plant Protection	Dike	
154	PB 19T 222		IS	(N/A)	N	Horiz. Elev	4	7		LSD	Plant Protection	Dike	
165	PB 19T 223		IS	(N/A)	N	Horiz. Elev	4	11		LSD	Plant Protection	Dike	
166	PB 19T 224		IS	(N/A)	N	Horiz. Elev	4	11		LSD	Plant Protection	Dike	
157	PB 253	056A	IS	Active	N	Cone Roof	100	48		Light Cycle Oil	4 FM	Dike	
168	PB 14V 403	139A	IS	Active	N	Horiz. Elev	4	8		Methanol	210	Dike	
169	PB 686	097A	IS	Active	N	Cone Roof	100	48		Heavy Gas Oil	3 FM	Dike	
160	PB 688	099A	IS	Active	N	Cone Roof	40	48		Light Cycle Oil	3 FM	Dike	
161	PB 672	093A	IS	Active	N	Cone Roof	100	48		Heavy Gas Oil	3 FM	Dike	
162	PB 821	095A	IS	Active	N	IFR	144	48		Light Cycle Oil	4 FM	Dike	
163	PB 822	096A	IS	Active	N	IFR	144	48		Light Cycle Oil	4 FM	Dike	
164	PB 823	097A	IS	Active	N	Cone Roof	144	48		LSD	4 FM	Dike	
165	PB 824	098A	IS	Active	N	Cone Roof	144	48		LSD	4 FM	Dike	
166	PB 825	099A	IS	Active	N	Cone Roof	120	48		LSD	4 FM	Dike	
167	PB 826	100A	IS	Active	N	EFR	160	57		Crude	4 FM	Dike	
168	PB 835	105A	IS	Active	N	IFR	144	48		Distillate, Untreated	5 FM	Dike	
169	PB 840	108A	IS	Active	N	EFR	140	50		Crude	4 FM	Dike	
170	PB 841	109A	IS	Active	N	EFR	140	49		Crude	4 FM	Dike	
171	PB 881	120A	IS	Active	N	EFR	160	56		Crude	4 FM	Dike	
172	PB 882	121A	IS	Active	N	EFR	160	56		Crude	4 FM	Dike	
173	PB 883	122A	IS	Active	N	EFR	160	57		Crude	4 FM	Dike	

Paper copies are uncontrolled. This copy is valid at time of printing. The controlled version can be found on the company intranet

Revision Date: 02/01/2013

Next Revision Date: 02/01/2018

Last printed 5/9/2013 10:59 AM

PHILADELPHIA ENERGY SOLUTIONS OPA 90 PLAN

Section 6 - 17

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 6: Hazard Evaluation**

Girard Point / Point Breeze**Containment Type and Capacity of Registered and SPCC Tanks**

Cont. Type: ALL

Item No.	Tank Number	State Reg No	Tank Status	Regulatory Status	Tank Cleaned	Tank Type	Diameter	Height	(b) (7)(F)	Primary Product	Unit	Tank Field Containment Type	(b) (7)(F)
174	PB 884	123A	IS	Active	N	EFR	200	56		Crude	4 FM	Dike	
175	PB 885	124A	IS	Active	N	EFR	200	56		Crude	4 FM	Dike	
176	PB 886	125A	IS	Active	N	EFR	200	56		Crude	4 FM	Dike	
177	PB 8T 1004	207A	IS	Active	N	Horiz, Elev	5	6		Methanol	888	Dike	
178	PB 18T 1010	196A	IS	Active	N	Horiz, Elev	4	6		Recovered Oil	4 FM	Dike	
179	PB 18T 1012	205A	IS	Active	N	Horiz, Elev	5	14		Recovered Oil	4 FM	Dike	
180	PB 3128	192A	IS	Active	N	Horiz, Elev	8	12		Light Naphtha	210	Dike	
181	PB 14T 4000	199A	IS	Active	N	Horiz, Elev	4	6		Recovered Oil	210	Dike	
182	PB 14T 4001	200A	IS	Active	N	Horiz, Elev	4	6		Recovered Oil	210	Dike	
183	PB 14T 4002	201A	IS	Active	N	Horiz, Elev	4	6		Recovered Oil	210	Dike	
184	PB 14T 4003	202A	IS	Active	N	Horiz, Elev	4	6		Recovered Oil	210	Dike	
185	PB 19T 6003	204A	IS	Active	N	Horiz, Elev	4	6		Recovered Oil	3 FM	Dike	

The following are abbreviations that are used in the list above:

EFR – external floating roof (open top, floating roof tank)
IFR – internal floating roof (covered floating roof tank)
CIP – “Closed in Place”
TOOU – “Temporarily Out of Use”

CR – Cone Roof
VER – Vertical Elevated Roof
DEM - Demolished
HER – Horizontal, Elevated

Paper copies are uncontrolled. This copy is valid at time of printing. The controlled version can be found on the company intranet

Revision Date: 02/01/2013

Next Revision Date: 02/01/2018

Last printed 5/9/2013 10:59 AM

PHILADELPHIA ENERGY SOLUTIONS OPA 90 PLAN

Section 6 - 18

OPA 90 PLAN for THE PHILADELPHIA ENERGY SOLUTIONS COMPLEX
Section 6: Hazard Evaluation

TABLE 6-1					
Spill Vulnerability Analysis – PHILADELPHIA ENERGY SOLUTIONS					
Source	Major Type of Failure	Total Qty. (bbls)	Rate (bbls/hrs)	Direction of Flow	Secondary Containment
Process Areas					
Aboveground Storage Tanks	Overfill	(b) (7)(F)	10,000 (max. pumping rate)	To water treatment plant	Diked Area or Oil/Water Separator
	Rupture	(b) (7)(F)	Instantaneous	To the water treatment plant	Diked Area or Oil/Water Separator
	Bottom Leakage	(b) (7)(F)	Varies	Into secondary containment	Diked Area or Oil/Water Separator
Underground Storage Tanks	Overfill	(b) (7)(F)	320 (max. pumping rate)	To the water treatment plant	Diked Area
	Rupture	(b) (7)(F)	Instantaneous	Into double-walled tank	Double-wall tank
	Bottom Leakage	(b) (7)(F)	Varies	Into double-walled tank	Double-wall tank
Oil/Water Separator	Over flow	(b) (7)(F)	Varies	Backs up into refinery process sewer system	Backs up into refinery process sewer system
	Bottom Leakage	(b) (7)(F)	Varies	Backs up into refinery process sewer system	Backs up into refinery process sewer system
Tank Truck Loading	Overfill	(b) (7)(F)	320 (max. pumping rate)	To the water treatment	Oil/Water Separator

Paper copies are uncontrolled. This copy is only valid at time of printing. The controlled version can be found on the company intranet.

Revision Date: 01/23/2008

Next Revision Date: 01/23/2013

Last printed 5/9/2013 10:59 AM

OPA 90 PLAN for THE PHILADELPHIA ENERGY SOLUTIONS COMPLEX
Section 6: Hazard Evaluation

TABLE 6-1					
Spill Vulnerability Analysis – PHILADELPHIA ENERGY SOLUTIONS					
Source	Major Type of Failure	(b) (7)(F)	Rate (bbls/hrs)	Direction of Flow	Secondary Containment
	Equipment Failure		Varies	To the water treatment plant	Oil/Water Separator
	Truck Leakage		Varies	To the water treatment	Oil/Water Separator
	Truck Rupture		Instantaneous	To the water treatment	Oil/Water Separator
Aboveground Piping System	Leakage		Varies	To the water treatment	Diked Area or Guard Oil/Water Separator
	Rupture		Instantaneous	To the water treatment	Diked Area or Guard Oil/Water Separator
Process Vessels	Leakage		Varies	To the water treatment	Diked Area or Guard Oil/Water Separator
	Rupture		Instantaneous	To the water treatment	Diked Area or Guard Oil/Water Separator
Water Treatment Plant	Rupture		Instantaneous	To refinery process sewer system	To refinery process sewer system
	Overflow		Varies	To refinery process sewer system	To refinery process sewer system
	Tank Bottom Leakage		Varies	To process sewers	To process sewers

Paper copies are uncontrolled. This copy is only valid at time of printing. The controlled version can be found on the company intranet.

Revision Date: 01/23/2008

Next Revision Date: 01/23/2013

Last printed 5/9/2013 10:59 AM

PHILADELPHIA ENERGY SOLUTIONS OPA 90 PLAN

Section 6 - 20

OPA 90 PLAN for THE PHILADELPHIA ENERGY SOLUTIONS COMPLEX
Section 6: Hazard Evaluation

TABLE 6-1					
Spill Vulnerability Analysis – PHILADELPHIA ENERGY SOLUTIONS					
Source	Major Type of Failure	(b) (7)(F)	Rate (bbls/hrs)	Direction of Flow	Secondary Containment
	Rupture		Instantaneous	To the water treatment plant	Diked Area or Oil/Water Separator
	Bottom Leakage		Varies	To secondary containment	Diked Area or Oil/Water Separator
Oil/Water Separator	Over flow		Varies	To refinery process sewer system	To refinery process sewer system
	Bottom Leakage		Varies	To refinery process sewer system	To refinery process sewer system
Tank Truck Loading	Overfill		320 (max. pumping rate)	To the water treatment plant	Oil/Water Separator
	Equipment Failure		Varies	To the water treatment plant	Oil/Water Separator
	Truck Leakage		Varies	To the water treatment plant	Oil/Water Separator

Paper copies are uncontrolled. This copy is only valid at time of printing. The controlled version can be found on the company intranet.
 Revision Date: 01/23/2008

Next Revision Date: 01/23/2013

Last printed 5/9/2013 10:59 AM

OPA 90 PLAN for THE PHILADELPHIA ENERGY SOLUTIONS COMPLEX
Section 6: Hazard Evaluation

TABLE 6-1					
Spill Vulnerability Analysis – PHILADELPHIA ENERGY SOLUTIONS					
Source	Major Type of Failure	Total Qty. (bbls)	Rate (bbls/hrs)	Direction of Flow	Secondary Containment
	Truck Rupture	(b) (7)(F)	Instantaneous	To the water treatment plant	Oil/Water Separator
Aboveground Piping System	Leakage		Varies	To the water treatment plant	Diked Area or Guard Oil/Water Separator
	Rupture		Instantaneous	North to the water treatment plant	Diked Area or Guard Oil/Water Separator
Marine Transfer					
Barge/Ship Loading/Unloading Areas	Leaking Loading Arm	(b) (7)(F)	5,000-10,000 (max. pumping rate)	To catch basin	Boomed area
	Tanker Overfill		5,000-10,000 (max. pumping rate)	To River	Boomed area
Aboveground Piping System	Leakage		Varies	To River	Boomed area
	Rupture		Instantaneous	To River	Boomed area
	Tanker Overfill		5,000-10,000 (max. pumping rate)	To River	Boomed area

Paper copies are uncontrolled. This copy is only valid at time of printing. The controlled version can be found on the company intranet.

Revision Date: 01/23/2008

Next Revision Date: 01/23/2013

Last printed 5/9/2013 10:59 AM

OPA 90 PLAN for the Philadelphia Energy Solutions Complex Section 7: Procedures



Document Name: *PES Emergency Response Critique Procedure*
Document Number: ER 003

Control Tier:
3 –

Document Authorizer:
PES Plant Protection & Public Affairs Manager

Issuing Dept:
Plant Protection

Document Reviewer
Facility Emergency Response Supervisor

Revision Date:

Document Author:
PES Fire, Emergency Service Supervisor

Next Review Date:

Document Administrator:
Document Control Coordinator

1.0 Purpose/Scope

To evaluate, critique and initiate follow up actions if necessary from an emergency response to a emergency event.

2.0 Definitions

Critique- An act of discussing and or reviewing of an emergency response event to validate plans, procedures, actions, desired outcome and identify any need for follow up activity.

Emergency Event- An emergency response event that requires the response of more than the minimal requirement of preliminary individuals.

3.0 General Requirements

- 3.1 Emergency Response personnel shall be trained in the procedure.
- 3.2 The following shall be utilized as a guideline for significant events in need of critique;
 - 3.2.1 Any Emergency event requiring a first alarm response.
 - 3.2.2 Any Emergency event requiring a second alarm response, and or outside agency involvement.
 - 3.2.3 Any Environmental spill or release that has impacted a waterway.
 - 3.2.4 Any response requested by the Fire, Emergency Services Supervisor or the Supervisor of Fire and Emergency Response for review.
 - 3.2.5 Any emergency response training session, drill or exercise

4.0 Key Responsibilities

- 4.1 Emergency Response Shift Supervisor is responsible for convening necessary personnel and information for the completion of the critique. Conflict needs to be moderated so that the critique remains a productive learning experience
- 4.2 Facility Supervisor, Fire and Emergency Response shall at a minimum be involved by phone or post session contact with every critique. On any emergency response critique for second alarm incidents or incidents involving serious injury, the facility supervisor must actively participate and be present during the critique session. The supervisor shall review every critique with the PES Emergency Services Supervisor and assure placement into the proper file.
- 4.3 Plant Protection Shift Supervisor shall submit to the Facility Supervisor, Fire and Emergency Response a draft critique within thirty (30) days of the incident.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

- 4.4 Incident Commanders need to gather the list of responders or other individuals that would have been witness of the event to help ensure proper representation at the critique session.

5.0 Procedure

- 5.1 The Plant Protection Shift Supervisor shall convene necessary personnel for the critique. Participants include key responders, IC position holders, property stakeholders, external response agencies, communications center and hourly employees where applicable. When convening all participants at one time in the same location is not practical, telephone participation or personal solicitation is acceptable. Status of participation must be recorded.
- 5.2 The Facility Emergency Response Supervision shall participate at minimal, in any emergency response critique for second alarm incidents or incidents involving serious injury.
- 5.3 The following elements shall be discussed;
- 5.3.1 The type, date and time of the incident involved.
- 5.3.2 The summary of incident.
- 5.3.3 Assessment areas.
- 5.3.4 Recommendations and Follow up Action.
- 5.4 Names of the attendees, positions and attending status shall be recorded on the official Critique Document
- 5.5 The Critique shall be forwarded to the Facility Emergency Response Supervisor for review.
- 5.6 The Facility Emergency Response Supervisor shall review the critique with the PES Emergency Services Supervisor and assign needed action items and assure placement into the proper file.

6.0 Self Assessment

- 6.1 Drills and Exercises

7.0 Key Documents/Tools/References

- 7.1 Incident report detailing information of the incident in question.
- 7.2 Procedures that were initiated and any logged information for incident in question.
- 7.3 Any written statements supplied by witnesses of the event in question.

Appendix A:

[PES Drill Exercise Critique and Participant Form](#)

Appendix B

[Critique Input from External Response Agencies](#)

Appendix C

[PES Critique of Emergency Response Incidents](#)

Revision Log

<i>Revision Date</i>	<i>Document Authorizer</i>	<i>Document Reviewer</i>	<i>Document Author</i>	<i>Revision Details</i>

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures



Document Name: Decontamination Procedure

Document Number: ER 004

Control Tier:
3 – Philadelphia

Document Authorizer:
Fire, Security & Emergency Response Manager

Issuing Dept:
Fire & Security

Document Reviewer:
Fire, Security & Emergency Response Supervisor

Revision Date:
2/2013

Document Author:
Fire, Security & Emergency Response Supervisor

Next Review Date:
2/2015

Document Administrator:
Document Control Coordinator

1.0 Purpose/Scope

The purpose is to assure that any potentially harmful or dangerous residues, on persons, equipment or apparatus are confined within the Hot Zone at a hazardous material incident. Decontamination is intended to prevent the spread of contaminants beyond the already contaminated area, or other environments.

2.0 Definitions

- 2.1 **Cold Zone**- The area upwind or uphill from the warm zone.
- 2.2 **Contaminant** – A hazardous material that physically remains on or in people, animals, the environment, or equipment, thereby creating a continuing risk of direct injury or risk of exposure.
- 2.3 **Contamination** – The process of transferring a hazardous material from its source to people, animals, the environment, or equipment, which may act as a carrier.
- 2.4 **Decontamination (contamination reduction)** – The physical and/or chemical process of reducing and preventing the spread of contamination from persons and equipment used at a hazardous materials incident.
- 2.5 **Decontamination corridor** – The area usually located within the warm zone where decontamination procedures take place.
- 2.6 **Emergency decontamination** – The physical process of immediately reducing contamination of individuals in potentially life threatening situations with or without the formal establishment of a decontamination corridor.
- 2.7 **Exposure** – The process by which people, animals, the environment, and equipment are subjected to or come in contact with a hazardous material.
- 2.8 **Gross decontamination** – The initial phase of the decontamination process during which the amount of surface contaminant is significantly reduced.
- 2.9 **Hot Zone** – The area immediately surrounding the incident.
- 2.10 **Secondary contamination** – The process by which a contaminant is carried out of the hot zone and contaminates, people, animals, the environment or equipment.
- 2.11 **Technical Decontamination** – Is performed to remove contamination from personnel, protective equipment of responders, equipment, and facilities in a deliberate fashion.
- 2.12 **Warm Zone** – The area upwind or uphill of the hot zone in which decontamination shall take place with rescue, decontamination and medical personnel wearing designated PPE.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

3.0 General Requirements

- 3.1 Plant Protection and Emergency Response personnel shall be trained in the procedure.
- 3.2 The Incident Commander/On Scene Commander shall implement the procedure.

4.0 Key Responsibilities

- 4.1 The On Scene Incident Commander shall initiate decontamination procedures, and when possible assign a Decontamination Group Officer.
- 4.2 The Decontamination Group Officer shall be an individual trained in the appropriate methods of decontamination for hazardous materials.

5.0 Procedure

- 5.1 Rapid scene size up shall take place with appropriate PPE requirements established for rescue and decontamination personnel.
- 5.2 Determine need for Technical or Emergency Decontamination process.
- 5.3 **Technical Decontamination process for responders in Level A:**
 - 5.3.1 Establish a 3 step decontamination area in the "Warm Zone" consisting of Gross Rinse, Wash, and Rinse.
 - 5.3.2 Restrict ingress/egress and access of the incident scene.
 - 5.3.3 Communication with responders entering the decontamination line is essential to help ensure that proper decontamination is done, i.e. raising arms and turning around.
 - 5.3.4 Decontamination team members should assist personnel moving through stations to prevent falling due to limited visibility and mobility.
 - 5.3.5 Segregated Equipment Drop- Deposit equipment used on site (tools, sampling devices and containers, monitoring instruments, radios, clipboards, etc.) on plastic drop cloths or in different containers with plastic liners. Segregation at the drop reduces the probability of cross-contamination. During hot weather operations, cool down stations may be set up within this area.
 - 5.3.6 Responder steps into pool #1 which is a gross shower or rinse for removing the majority of contaminants. Communicate to the responder to raise arms and turn around slowly.
 - 5.3.7 Responder enters into pool #2 for rinse and scrubbing of contaminants. Decontamination team will scrub all areas including hands, feet, zippers, and any other area that may require additional attention. Perform a full rinse from the head down.
 - 5.3.8 Before moving to the next pool the responder will raise 1st leg to have the outer boot scrubbed by the decontamination team. When clean the team will remove the outer boot and discard into bag. The responder will then step the first leg out of the pool. Repeat steps for the 2nd leg. Team should assist responder for balance or use a device such as a walker or chair.
 - 5.3.9 The decontamination team will remove tape and outer gloves and discard into bag.
 - 5.3.10 Responder then steps into pool #3 for another wash and rinse. Decontamination team shall Scrub all area with decontamination solution to remove any remaining contamination.
 - 5.3.11 Responder shall raise 1st leg and have decontamination team scrub entire foot area then step 1st leg out of pool area, repeat step for 2nd leg. Team should assist responder for balance or use a device such as a walker or chair.
 - 5.3.12 The decontamination team can now begin to remove the Level A suit by unzipping and peeling or rolling the suit inside out to avoid any contact with the responder's body. Have the responder pull the sleeves inside out as he/she removes arms.
 - 5.3.13 Discard of suit into bag for later cleaning or disposal.
 - 5.3.14 The decontamination team can now assist the responder with removing the SCBA and placing to the side for additional use if it has not been contaminated.
 - 5.3.15 The responder then removes his/her face piece and sets it to the side for later cleaning/use.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

- 5.3.16 Responder now moves out of the Decontamination area into the colds zone and has medical monitoring and debriefing done.
- 5.3.17 When all responders have been decontaminated the team must execute self-decontamination.

5.4 Emergency Decontamination process:

- 5.4.1 Remove contaminated individuals from "Hot Zone"
- 5.4.2 Immediately remove outer garments, boots and gloves, carefully as to not contaminate responders.
- 5.4.3 Take into account modesty and the public eye.
- 5.4.4 Consider weather conditions.
- 5.4.5 Rinse and wash contaminated individuals utilizing appropriate cleaning agents with safety showers, hose lines, or maintenance showers.
- 5.4.6 Collect personal items and deposit in container or plastic bag.
- 5.4.7 Execute self-decontamination of responders, if exposed.

5.5 Decontamination of injured on backboard

- 5.5.1 Backboard will be handed to decontamination team and placed on horses or table in the Decontamination corridor.
- 5.5.2 Rinse and scrub outer surfaces of contaminated area of the patient with decontamination solution.
- 5.5.3 Cut and remove outer garments by peeling or rolling inside out.
- 5.5.4 Rinse and scrub patient with decontamination solution, rinse from mid line of body outward.
- 5.5.5 Take into account modesty and the public eye.
- 5.5.6 Consider weather conditions.
- 5.5.7 Collect personnel items and deposit in a container or plastic bag.
- 5.5.8 When decontamination of patient is complete, cover and hand over to cold zone for medical treatment

5.6 Decontamination Measures for Level B

- 5.6.1 Segregated Equipment Drop- Deposit equipment used on site (tools, sampling devices and containers, monitoring instruments, radios, clipboards, etc.) on plastic drop cloths or in different containers with plastic liners. Segregation at the drop reduces the probability of cross-contamination. During hot weather operations, cool down stations may be set up within this area.
- 5.6.2 Enter Gross shower and rinse off majority of contaminants in pool #1.
- 5.6.3 Move to pool #2 and Rinse and scrub with long handled brush and decontamination solution using copious amounts of water. Step out of pool #2.
- 5.6.4 Tape Removal- Remove tape around boots and gloves and deposit in container with plastic liner.
- 5.6.5 Boot Cover Removal- Remove boot covers and deposit in container with plastic liner.
- 5.6.6 Outer Glove Removal- Remove outer gloves and deposit in container with plastic liner.
- 5.6.7 Tank Change- If worker leaves exclusion zone to change air tank, this is the last step in the decontamination procedure. Worker's air tank is exchanged, new outer gloves and boot covers donned, and joints taped. Worker returns to duty.
- 5.6.8 Move to pool #3, Suit and Safety Boot Wash- Wash chemical-resistant splash suit, SCBA, gloves and safety boots. Scrub with long-handle scrub brush and decontamination solution. Wash backpack assembly with sponges or cloths. Rinse off with copious amounts of water from the top down
- 5.6.9 Safety Boot Removal- Remove safety boots and deposit in containers with plastic liner.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

- 5.6.10 SCBA Backpack Removal- While still wearing face piece, remove backpack and lace on table. Disconnect hose from regulator valve.
- 5.6.11 Splash Suit Removal- With assistance of helper, remove splash suit. Deposit in container with plastic liner.
- 5.6.12 Inner Glove Wash- Wash inner gloves with decontamination solution.
- 5.6.13 Inner Glove Rinse- Rinse inner gloves with water.
- 5.6.14 Face Piece Removal- Remove face piece. Deposit in containers with plastic liner.
Avoid touching face with fingers.
- 5.6.15 Inner Glove Removal- Remove inner gloves and deposit in container with liner.
- 5.6.16 Field Wash- Shower if highly toxic, skin-corrosive or skin-absorbable materials are known or suspected to be present. Wash hands and face if shower is not available.
- 5.6.17 Re-dress- Put on clean clothes.

5.7 Decontamination Measures for Level C

- 5.7.1 Segregated Equipment Drop- Deposit equipment used on site (tools, sampling devices and containers, monitoring instruments, radios, clipboards, etc.) on plastic drop cloths or in different containers with plastic liners. Segregation at the drop reduces the probability of cross-contamination. During hot weather operations, cool down stations may be set up within this area.
- 5.7.2 Boot Cover and Glove Wash- Scrub outer boot covers and gloves with decontamination solution or detergent and water.
- 5.7.3 Boot Cover and Glove Rinse- Rinse off decontamination solution using copious amounts of water.
- 5.7.4 Tape Removal- Remove tape around boots and glove and deposit in container with plastic liner.
- 5.7.5 Boot Cover Removal- Remove boot covers and deposit in container with plastic liner.
- 5.7.6 Outer Glove Removal- Remove outer gloves and deposit in container with plastic liner.
- 5.7.7 Suit and Boot Wash- Wash splash suit, gloves, and safety boots. Scrub with long handle scrub brush and decontamination solution.
- 5.7.8 Suit and Boot and Glove Rinse- Rinse off decon solution using water. Repeat as many times as necessary.
- 5.7.9 Canister or Mask Change- If worker leaves exclusion zone to change canister (or mask), this is the last step in the decontamination procedure. Worker's canister is exchanged, new outer gloves and boot covers donned, and joints taped. Worker returns to duty.
- 5.7.10 Safety Boot Removal- Remove safety boots and deposit in container with plastic liner.
- 5.7.11 Splash Suit Removal- With assistance of helper, remove splash suit. Deposit in container with plastic liner.
- 5.7.12 Inner Glove Wash- Wash inner gloves with decontamination solution.
- 5.7.13 Inner Glove Rinse- Rinse inner gloves with water.
- 5.7.14 Face Piece Removal- Remove face piece. Deposit in container with plastic liner.
Avoid touching face with fingers.
- 5.7.15 Inner Glove Removal- Remove inner gloves and deposit in container with liner.
- 5.7.16 Inner Clothing Removal- Remove clothing soaked with perspiration and place in lined container. Do not wear inner clothing off-site since there is a possibility that small amounts of contaminants might have been transferred in removing the fully-encapsulating suit.
- 5.7.17 Field Wash- Shower if highly toxic, skin-corrosive or skin-absorbable materials are known or suspected to be present. Wash hands and face if shower is not available.
- 5.7.18 Re-dress- Put on clean clothes.

6.0 *Self Assessment*

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

- 6.1 Critique of the incident shall be conducted utilizing the Philadelphia Critique procedure.
 6.2 Drills and Exercises

7.0 Key Documents/Tools/References

- 7.1 NFPA 471, Chapter 9 Decontamination
 7.2 OSHA 1910.120 SubPart Title; Hazardous Materials (K) Decontamination.
 7.3 Deceased Victims – Should be decontaminated after living victims because removing contaminated bodies from the scene could result in cross-contamination. Handling of the deceased must be coordinated with the Incident Commander/On Scene Commander and law enforcement personnel to preserve scene evidence.
 7.4 Equipment Decontamination – Initially isolate and hold potentially contaminated equipment for monitoring, decontaminating only that which is absolutely necessary. Given the nature of agents involved, additional guidance may be required.

Revision Log

<i>Revision Date</i>	<i>Document Authorizer</i>	<i>Document Reviewer</i>	<i>Document Author</i>	<i>Revision Details</i>
02/01/2013	Robert Tucker	Robert Tucker	William Kelly	Transferred all text from Sunoco to PES.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex Section 7: Procedures



Document Name: PES Emergency Response Team Rapid Evacuation Procedure
Document Number: ER 005

Control Tier:
3 – Philadelphia

Document Authorizer:
Fire, Security & Emergency Response Manager

Issuing Dept:
Fire & Security

Document Reviewer:
Fire, Security & Emergency Response
Supervisor

Revision Date:
2/2013

Document Author:
Fire, Security & Emergency Response
Supervisor

Next Review Date:
2/2015

Document Administrator:
Document Control Coordinator

1.0 Purpose/Scope

The purpose of this procedure is to provide guidelines to conduct the safe, organized and rapid evacuation of emergency personnel during an emergency incident. The potential for evacuation should be considered for all emergency incidents.

2.0 Definitions

- 2.0 **Communications Specialist-** An individual assigned to either the Communications Center or Incident Command Post responsible for the organized transmission of incident information.
- 2.1 **Incident-** An occurrence or event, either human caused or natural phenomena, that requires action by emergency personnel to prevent or minimize loss of life or damage to property/or natural resources.
- 2.2 **On Scene Incident Commander-** The individual responsible for the overall management of the incident operations.

3.0 General Requirements

- 3.1 Plant Protection and Emergency Response personnel shall be trained in the procedure.
- 3.2 The On-Scene Incident Commander shall implement the Emergency Personnel Evacuation Procedure.

4.0 Key Responsibilities

- 4.1 Line Organization personnel shall notify the On Scene Incident Commander immediately of any sudden change in condition of an emergency incident scene that can cause imminent danger to personnel.
- 4.2 The On Scene Incident Commander shall initiate the Emergency Personnel Evacuation Procedure.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

- 4.3 The Communications Specialist shall make clear and concise transmissions of information.
 4.4 Designated Officers shall be accountable for personnel assigned to their respective area.

5.0 Procedure

- 5.1 The On Scene/Incident Commander shall be notified immediately of any unsafe condition or situation that arises on an emergency incident scene.
 5.2 The On Scene/Incident Commander shall determine the need to evacuate, and order the evacuation if deemed necessary.
 5.3 The On Scene/Incident Commander shall notify the Communications Specialist to make an evacuation announcement providing clear and concise information to a designated area for roll call of personnel. Large geographic areas of operation such as storage tank fires need established evacuation areas or rally points established before operations are established.
 5.4 The Communications Specialist shall activate the "Alert Tone" and announce on the operating channel for all personnel to evacuate to the designated area.
 5.5 All staffed apparatus operating at the emergency incident scene shall upon hearing the evacuation announcement, sound their air horns continuously for a minimal of 10 seconds. In the absence of an apparatus air horn, a portable air canister shall be used.
 5.6 Upon completion of the air horn signal, the Communications Specialist shall repeat the evacuation announcement on the operating channel, and advise all units to "Hold radio traffic, except for emergency transmissions", and report to the designated area for accountability check.
 5.7 All designated officers on the emergency incident scene shall be responsible for accounting of personnel assigned to their respective area, and report to the On Scene Incident Commander or designee upon request.
 5.8 The On Scene Incident Commander shall account for all personnel and record every unit's position and status.
 5.9 The On Scene Incident Commander shall initiate a search for any unaccounted for personnel if safe to do so until the personnel are located.
 5.10 Personnel shall not re-enter any evacuated area until the On Scene Incident Commander has initiated the "All Clear".

6.0 Self Assessment

- 6.1 PES Critique Procedure (ER 003)
 6.2 Training Exercises

7.0 Key Documents/Tools/References

- 7.1 PES Incident Command Procedure

Revision Log

<i>Revision Date</i>	<i>Document Authorizer</i>	<i>Document Reviewer</i>	<i>Document Author</i>	<i>Revision Details</i>
2/2013	Robert Tucker	Robert Tucker	William Kelly	Modified to reflect ownership change.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex Section 7: Procedures



Document Name: *PES Fire, Explosion, Vapor Release Procedure*

Document Number: ER 008

Control Tier:
3 – Philadelphia

Document Authorizer:
Fire, Security & Emergency Response Manager

Issuing Dept:
Fire & Security

Document Reviewer:
Fire, Security & Emergency Response Supervisor

Revision Date:
2/2013

Document Author:
Fire, Security & Emergency Response Supervisor

Next Review Date:
2/2015

Document Administrator:
Document Control Coordinator

Purpose:

To describe procedures for response, control, and containment of a reported fire, explosion, or vapor release. This includes regulated and no-regulated DOT lines or appliances.

2.0 Definitions:

- **Aggressive Intervention** - The activity of controlling a fire, spill or leak of hazardous material substances that require a possible close or offensive approach to the substance or equipment involved.
- **Emergency Action** - For the purpose of this procedure are those actions that would be taken by personnel within the area, to an incidental release of hazardous substances can be contained by utilization of sorbents, neutralized, or otherwise controlled at the time of the release by employees in the immediate area, provided that " Imminent Danger " is not present to the employee, or others in the area.
- **Emergency Response** - An emergency response, or responding to emergencies for the purpose of this procedure means a response effort by employees specially trained from outside the immediate emergency incident area or by other designated responders, (e.g. mutual aid groups, fire departments, etc.) to an occurrence which results, or is likely to result in an uncontrolled release of a hazardous substance or fire requiring aggressive intervention efforts.
- **Fire** – Occurs when fuel has the proper amount of oxygen and necessary temperature to ignite the mixture. The five (5) classes of fire are;
 - Class A** - Combustible material such as wood, cloth and paper.
 - Class B** - Flammable / Combustible liquids and gases.
 - Class C** - Energized electrical equipment.
 - Class D** - Combustible metals
 - Class K** - Kitchen fires involving combustible cooking medium
- **Imminent Danger**- is a consequence of a release of a hazardous substance, fire or similar condition existing if one of the following conditions is present:
 1. High concentrations of toxic substances,
 2. Situation that is injury or life threatening,
 3. Imminent danger to life and health (IDLH) environments,
 4. Situation that presents an oxygen deficient atmosphere,
 5. Condition that poses a fire or explosion hazard,
 6. Situation that requires an evacuation of the area,
 7. A situation that requires immediate attention from the danger posed to employees in the immediate area.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

- **Incidental Release** - Is where the quantity or type of material released does not create an imminent danger and that operators and/or mechanics may come in contact with, or locate, through the course of their routine activities, and/or discover while investigating a specific problem.
- **Incipient Stage Fires** - A fire which is in the initial or beginning stage and which can be controlled or extinguished by portable fire extinguishers, Class II standpipe, or small hose systems without the need for protective clothing or breathing apparatus.
NOTE: Class II standpipe is a system that provides 1 ½ connections at designated locations throughout the facility.
- **Non Aggressive Intervention** - The activity of controlling a release or fire that includes closing valves, extinguishing fires or similar activity that does not present imminent danger to the employee, such as Incidental Releases and/or Incipient Fires.

3.0 General Requirements

- Plant Protection personnel shall be trained in the procedure.
- Plant Protection Department shall implement the Fire, Explosion and Vapor Release procedure upon notification of this type emergency.
- Management notifications will be made by the Communications Center as outlined in their procedure.

4.0 Responsibilities

- **Line Organization** – Shall notify the Communications Center of incidents involving Fire, Explosion or Vapor Release.
- **Communications Center** – Shall activate the Fire, Explosion, and Vapor Release procedure upon notification of an emergency or at the request of the Fire & Security Shift Supervisor.
- **Plant Protection Department**- Shall respond and secure the area, mitigating the incident to a safe closure.
- **Incident Command Team** – Shall respond to the emergency operations center, should the incident deem warranted.

5.0 Procedure:

- 5.1 Any personnel involved in, or have witnessed a fire, explosion or vapor release shall report the incident immediately by phone or radio to the Communications Center as outlined in ER-016.
- 5.2 The Communications Center shall immediately activate the appropriate Fire, Explosion, Vapor Release procedure.
- 5.3 The Emergency Response personnel on duty shall respond and assess the incident from upwind to identify material and source involved.
- 5.4 Emergency responders shall respond utilizing the appropriate PPE, placing the refinery incident command system into effect, establishing command and control of the emergency situation.
- 5.5 Upon designation of an "emergency scene", the refinery response team will function and utilize the incident command system. Entry into the emergency scene, as well as tactical and mitigation measures, will be controlled utilizing the incident command process. An operator and or mechanic with the PPE and instruction can participate with emergency responders during aggressive functions if there is a need to help identify specific valves or similar equipment to the responders.
- 5.6 The response team may utilize advanced fire equipment (e.g. mobile fire apparatus, portable water monitors and water / foam hose lines). The response team may utilize offensive strategies and tactics to mitigate the fire, explosion or vapor release developed by the incident command structure.
- 5.7 The " All Clear ", indicating that the area is safe for re-entry, will be declared through the Incident Command Organization, allowing normal operations to proceed.

6.0 Self Assessment

- 6.1 PH Critique Procedure (ER 003)
- 6.2 ERT Drills and Exercises

7.0 Key Documents/Tools/References

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

7.1 Roles and responsibilities for process operators and maintenance personnel;

Process operators and/or maintenance personnel - roles during incidental releases/ incipient fires - process operators or maintenance personnel working within a operating plant or unit, when encountering a condition on the plant or unit does need to make a determination as the potential of the fire, spill and/or release of hazardous substance. The operator or maintenance person may take limited or non aggressive response actions provided that they and others are not placed under imminent danger by the response actions deployed. These conditions prompting these response actions are often referred to as "incidental", and may not require emergency response operations. Operators and/or maintenance personnel engaging in these activities should communicate with the operations control room while taking these emergency actions. In conditions where imminent danger is present, operators may take limited or non-aggressive response actions, provided that these actions do not place themselves and/or others in danger. The emergency response team must be notified and requested to respond, and emergency response operations will be directed and controlled under the refinery incident command structure.

7.2 Emergency Action- Process Operators / Maintenance Personnel (Fire / Explosion)

1. Make notification to the Communications Center and request the assistance of the emergency response team.
2. Operators/mechanics can operate manual fire fighting equipment and attempt to suppress the fire. These systems are hand held or mobile cart fire extinguishers.
3. Operators/mechanics can activate fixed fire fighting systems in an attempt to extinguish the fire. These systems are water and dry chemical systems and fire water monitors placed throughout plant or unit areas.
4. Operators/mechanics can utilize small hose or hand line systems, (not exceeding 125 GPM or 1.5" hose line).
5. Operators may attempt to isolate product flow in the direct area of incipient level fires, provided imminent danger is not present.
6. Any conditions creating imminent danger, or a need to increase the level of PPE to the operator or mechanic, shall prevent further fire extinguishing efforts. In this case, advanced fire fighting control and tactics will be performed by the refinery emergency response team. Operators shall evacuate the affected area, and alert others within the area for their evacuation.

7.2.1 Emergency Actions – Process operators / Maintenance personnel for(incidental release)

1. Make notification to Communications Center and request the assistance of the emergency response team.
2. Operators can operate valves in the immediate area to isolate flow, providing imminent danger is not present to themselves or others within the area.
3. Operators or mechanics may increase their level of protection to mitigate, repair and/or replace equipment causing the leak or release, based on an evaluation indicating that imminent danger is not present potentially causing harm to themselves, or others in the area.
4. During such cases where the leak or release of hazardous material poses a threat to personnel in the area, operators shall evacuate the affected area, and alert others within the area for their evacuation. The emergency response team must be requested.

7.3 Procedure providing information on Fire ignition and control principles including;

- Fire Ignition Source Control
- Fire Control Principles
- General Fire Response
- Fighting Fires With Water
- Fighting Fires With Extinguishers
- Liquefied Petroleum Gas Fire & Vapor Control
- Process Unit Fire Control
- Truck Rack Fire Control
- Storage Tank Fire Control
- Ethylene Oxide Fire Control
- Manufactured (Trailer) Housing

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

- Waste Containers (Dumpsters)

7.3.1 **Fire Ignition Source Control**

1) Ignition of combustibles

- a. Combustion: The chemical action occurring when a fuel reacts with oxygen and rapidly release heat and light. This process also may produce flames, smoke and hot combustion gases.
- b. Ignition: The temperature, volume of heat or heat energy to initiate combustion.
- c. Temperature: The intensity of heat needed to ignite the fuel and oxygen mixture.
- d. Explosive range and auto-ignition temperature of combustible and flammable substances determine the heat energy required to ignite them.

2) Ignition sources

- a. Furnace , burners, flares, pilot lights, space heaters, welding and burning torches, automobile engines, matches, cigarette lighters, grinding sparks, static sparks and heated surfaces can ignite flammable vapors and gases.
- b. Adherence to hot work procedures and plant safety rules are required for effective control measures.

7.3.2 **Fire Control Principles**

1) Fire occurs when fuel has the proper amount of oxygen and necessary temperature to ignite the mixture.

2) The five classes of fire are:

Class A Combustible material such as wood, cloth and paper.

Class B Flammable / Combustible liquids and gases.

Class C Energized electrical equipment.

Class D Combustible metals.

Class K Kitchen fires involving combustible cooking media.

3) Types of combustion are:

- a. Auto-ignition occurs when a fuel reaches the lowest temperature at which its vapor will ignite without an outside source of ignition.
- b. Explosions occur when the energy produced during combustion is contained and resulting internal pressure causes rupture.
- c. Detonations occur when fuel ignites in certain types of containers resulting in a series of internal explosions

4) Basic fire control requirements deal with removing one or more elements in the fire tetrahedron such as:

- a. Remove the supply of fuel by stopping or diverting flow, or dispersing with water streams
- b. Reduce vaporization of liquid fuel by cooling it.
- c. Reduce the oxygen supply using inert gas or cover with foam.
- d. Stop the complex chain reaction that promotes combustion.
- e. Combined control actions are sometimes necessary but in all cases protect vessels, structures and similar involved equipment against failure with cooling water.

7.3.3 General Fire Response - Every fire emergency situation will be different and require assorted response techniques but several items must always be a priority.

1) The first priority in responding to a fire emergency situation is the safety of the emergency responders, employees and people in the surrounding communities.

- a. When life is in imminent jeopardy, rescue should be attempted if the risks are consistent with the potential for success.

2) The second priority is to determine the incident's impact on the surrounding equipment, environment and property, and to set a strategy to stabilize the situation and minimize the impact.

3) The third priority is the conservation or protection of property and the environment.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

7.3.4 Fighting Fires With Water - Water in direct application or used in making foam is our most important fire control and extinguishing agent. It is also effective when used as a supplement to dry chemical extinguishing agents. Water's heat absorption ability makes its use almost mandatory in cooling both involved and/or adjacent equipment in almost all refinery fires. There are some situations where water creates hazards. Some are crude oil boil over, heavy fuel slop over, where equipment is electrically energized, or on metal or water-reactive chemical fires.

1) Water as a Coolant

- a. Use water on hot metal. More fire damage is caused from heat induced failure than from water cooling failures. This includes flanges and piping.
- b. Water cooling assists load bearing metal and insulated supports to withstand heat induced failure.
- c. Spray cooling of the shell of high vapor pressure products guards against shell rupture.
- d. Water applied to tank shells shows heat level, protects shell from failure and helps cool at liquid level, thus aiding a foam blanket to reach the tank side.
- e. Water can be applied safely to furnace support and outside surfaces.
- f. Water spray can protect fire fighters from radiant heat.

2) Water as a Fire Extinguisher

- a. Effective on Class "A" fires of wood, paper, grass, etc.
- b. Effective on Class "B" fires where cooling will stop vaporization. This includes intermediate and high flash point products such as heavy naphtha and fuel oils. Also effective on Class "B" when used with dry chemical or foam concentrate.

3) Cautionary Items Regarding Water

- a. Water is a hazard when used on many chemicals and on metal fire of magnesium, sodium, potassium, etc.
- b. Water causes hot crude and heavy oils to boil or slop over.
- c. Water streams break down foam blankets.
- d. Water is not recommended for use on Class "C" (energized electrical equipment) fires.
- e. Water is not recommended for use on Class "D" (metals) except only in copious quantities.

7.3.5 Fighting Fires With Hose Lines / Monitors – There are various size hose lines available for direct application or supply of water for fire control or vapor suppression. Lines larger than 2 inch in diameter should not be used as hand lines due to their handling characteristics and difficulty with movement in a manual mode. 2.5" or 3" hose may be used on dedicated foam hand lines when fitted with aspirating low energy foam nozzles. Larger diameter hose lines should be used to supply pumpers or monitor nozzles to take advantage of the available water supply, flow and delivery requirements

1) Hand lines

- a. Water lines greater than 2" in diameter should not be used on deployed hose that requires movement of the hose team or maintenance of the hose during operation.
- b. Each line requires sufficient staffing to safely advance and control the pressure and nozzle reaction of the line. Except when lines are looped, stationary and operated by a single individual, a deployed active water line requires at minimum a nozzle person and one back up person. Additional hose handlers should be spaced at intervals to assist movement when lines need to be advanced or removed.
- c. The nozzle person is responsible to select appropriate hose patterns and direct the water flow on the target area.
- d. The backup person is responsible to alleviate the back pressure developed from the reaction when flowing.
- e. Hose handlers should be spaced at 10' to 15' intervals to assist with moving the line. Hose lines should not be suspended but handled in a straight line with the maximum linear length resting on the ground between handlers and the backup person.
- f. Flowing hand held water lines should be positioned so that the nozzle person, back up and handlers are on stable ground, approved elevated working surfaces or fixed stairways. Ladders or otherwise unstable areas should be avoided unless absolutely necessary. Operations that require the handling on unstable areas or ladders must be carefully reviewed prior to the operation to develop a safe work plan.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

- 2) Supply Lines and Portable Monitor Nozzles
 - a. Lines need to be positioned and completely attached to pumpers or appliances before charging.
 - b. Monitor nozzles should be secured against movement before lines are charged and continuous monitoring of the stability of portable devices needs to be maintained
 - c. Care needs to be exercised that large flow delivery devices are carefully aimed to avoid injury to personnel from water or potential debris moved by the energy of impact on objects.
 - d. Large diameter hose has the potential to release enormous energy if ruptured or disengaged from a fitting. Care and close monitoring of charged hose lines is needed and unnecessary activity by personnel near charged lines should be avoided.

- 3) Fixed Monitor Nozzles – There are various size and configurations of fixed monitor nozzles ranging from stand alone individually valved monitors and fixed monitors attached to fire hydrant appliances. Some underground valve configurations include post indicating and “T” handles. “T” handled valve box lids are covered with removable plates that are not designed to be stepped on. Serious injury can result from standing or walking on these valve box plates
 - a. Monitor nozzles need to be positioned towards the intended target before charging.
 - b. Stream direction delivery can be adjusted or realigned to procure the target but monitors must be secured in a final position of use. Care needs to be exercised that devices are carefully aimed to avoid injury to personnel from water or potential debris moved by the energy of impact on objects. Fixed monitors that are secured in position do not need to be constantly manned but should be observed from a safe area to ensure continued target acquisition.
 - c. Manual drains need to be closed during monitor operation and opened at the conclusion of usage.
 - d. Fixed monitor guns have the potential to release enormous energy depending on the static and residual water pressure of the attached underground fire lines. Care should be taken to avoid injury when opening and closing valves. Valves should be operated slowly and users need to avoid utilizing improper body mechanics to avoid strain or other injury.
 - e. Fixed guns need to be shut down and drained after use. Do not leave the monitor pressured after use. Monitors are not designed for continuous pressure and will freeze with static water conditions.

7.3.6 Fighting Fires With Extinguishers - Most fires start small and if the correct extinguisher is used quickly and correctly a major fire may be averted. Extinguishers are made in various types to remove heat, reduce oxygen or inhibit / interrupt the chemical chain reaction of combustion.

- 1) General Considerations
 - a. Make a quick evaluation to determine the type and size or number required.
 - b. When possible, approach the fire from upwind and uphill.
 - c. Do not enter a fuel spill area.
 - d. Never turn your back even if you believe the fire is out.
 - e. Never get close enough that a flash back can reach you.
 - f. If indoors, ventilate the room or building.
 - g. Always report used extinguishers immediately.

- 2) Dry Chemical Extinguishers
 - a. Use on Class "B" and "C" fires
 - b. Several sizes available
 - i. 10, 20 and 30 pound hand held containing either sodium bicarbonate, potassium bicarbonate or potassium bicarbonate powder.
 - i. 150 or 350 pound wheeled carts containing sodium bicarbonate or potassium bicarbonate.
 - c. How to use the hand held extinguisher
NOTE: 10, 20 and 30 pound extinguishers have an externally located CO2 cartridge.
 - i. Remove nozzle from holder.
 - ii. To activate, push down lever to puncture cartridge seal.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

CAUTION: Always activate extinguisher by lifting it off the ground and holding away from your face and body. Try the extinguisher first before approaching the fire.

iii Approach to within 15 feet of the fire (approach should be from upwind whenever possible). Be careful not to enter a fuel spill area.

iv. Squeeze nozzle handle and using a sweeping side to side motion direct the stream at the base of the fire source.

v. When extinguishment is complete, step back carefully being alert for possible re-ignition. Do not turn your back even if you believe the fire is out!

vi. Invert the extinguisher, squeeze the nozzle to clear the hose and bleed off all pressure.

d. How to use the wheeled cart

i. Wheel extinguisher to approximately 50 feet from the fire. Make sure that the extinguisher is standing in a full up right position.

ii. Run out hose full 50' length making sure hose is not restricted.

iii. Open cylinder valve completely. Try the extinguisher first before approaching the fire.

iv. Direct full stream of powder at base of fire or fire source.

v. Use maximum stream by staying back 18 to 25 feet and sweeping leading edge.

vi. When extinguishment is complete, close cylinder valve and invert extinguisher, then open nozzle to clear hose and bleed off all pressure.

3) Stored Pressure Water Extinguishers

a. Use on Class "A" fires.

b. Available only in 2 1/2 gallon size pressured with air.

c. How to use

i. Pull pin and squeeze trigger. Try the extinguisher first before approaching the fire.

ii. Direct stream to burning material.

iii. Distance of the solid stream is about 30 feet. If spray is desired, place thumb in water stream at nozzle to break up solid stream.

iv. DO NOT USE ON ENERGIZED ELECTRICAL EQUIPMENT FIRES.

4) Halon Extinguishers

a. Halon extinguishers are of the stored pressure type. Gauge located near the top of extinguisher will show the amount of pressure left in the extinguisher.

b. How to use

i. Pull pin and squeeze trigger. Try the extinguisher first before approaching the fire.

ii. Direct stream to burning material.

5) CO2 (Carbon Dioxide) Extinguisher

a. CO2 extinguishers are stored pressure and there are no gauges.

b. How to use

i. Pull pin and squeeze trigger. Try extinguisher before approaching fire.

ii. Direct stream to burning material.

iii. CO2 discharge is very cold, protect skin and other body parts from discharge and nozzle.

7.3.7 Liquefied Petroleum Gas Fire & Vapor Control - LPG fire control must be properly utilized to help minimize the occurrence of explosions, loss of life, or equipment damage. Immediate evacuation of the area, volume application of cooling water and efforts to isolate the leak head the list of actions to be taken. An approach from upwind and uphill should be utilized.

1) Fire Emergency

a. Apply cooling water to affected container to minimize occurrence of a BLEVE (Boiling Liquid Expanding Vapor Explosion)

b. Apply cooling water to exposures to prevent failure of other containers or structure.

Note: If metal is not shiny or steam appears, apply greater quantities of water.

c. Do not extinguish the fire if the gas source can not be secured.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

- d. Use unmanned monitors for prolonged operations, evacuate to a safe distance.
 - e. Any approach to secure equipment requires water spray protection of personnel.
- 2) Vapor Control
- a. Eliminate ignition sources.
 - b. Monitor the atmosphere and disperse or direct vapors with water streams. Fog streams will help to mix the vapor with air rapidly to achieve lean mixtures.
 - c. Stop source of leak .
 - d. Expect ignition and fire, prepare cooling lines for potential use.
 - e. The heat from water will help to boil LPG.

7.3.8 Process Unit Fire Control

1) General Fire Control

- a. Use all available remote means to stop or restrict the flow of either burning or un-ignited fuel
- b. Apply water streams to cover load bearing equipment supports and vessels that are exposed to heat or flame impingement. Water cooling is essential to prevent heat induced metal failure leading to the collapse or rupture of fuel containers.

7.3.9 Truck Rack Fire Control

1) Hatch Fire Control

- a. Stop loading all trucks in the area.
- b. Close hatch cover of all tanks including the one on fire if possible. Utilize water spray hose for protection if necessary.
- c. If closing the hatch is not possible, utilize a fire extinguisher.
- d. Use cooling water if necessary around the hatch area.

2) Overflow or Spill Fire

- a. Stop loading all trucks in the area.
- b. Remove any other truck that could be an exposure.
- c. Use cooling water to protect the truck, rack and other exposures.
- d. Extinguish any ground fire first before concentration on hatch area.
- e. Attempt to contain or control water / product run off.

7.3.10 Storage Tank Fire Control - Tank fires are complex events; fighting them requires planning and proper organization of resources.

1) Precautions

The answers to each of the following questions will help provide a safe effective plan and course of action:

- a. What size and type tank is involved?
- b. What material does it contain? How much?
- c. How long has it been burning?
- d. Where is the tank located?
- e. What is exposed?
- f. Where are the locations of fire water sources (i.e. hydrants or static sites)?
- g. Are there foam systems and are they in usable condition?
- h. What hazards are there to fire fighting personnel?
- i. What are the present and expected weather conditions

2) Strategy and tactics

Consider three strategies:

A **passive strategy** should be used when there is little chance of extinguishing the tank fire and the area may have to be evacuated because of the possibility of a boil over or for other reasons.

- a. Not enough personnel and materials (foam and water) are available for a safe and complete extinguishment attempt.
- b. Recommended application rates and times can not be met.
- c. There is imminent danger of a boil over, tank failure or other life threatening occurrence dictating immediate evacuation of the area.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

A **defensive strategy** should be used when there is little chance of extinguishing the tank fire but the area will not have to be evacuated. The fire fighters should remain and take action to confine the fire within the tank and minimize exposure damage.

- a. Not enough personnel and materials (foam and water) are available for a safe and complete extinguishment attempt. Request mutual aid if necessary
- b. Preserve the integrity of foam lines or systems.
- c. Do not over cool exposures and waste water and over burden sewer or run off.
- d. Do not over load floating roofs with water and cause roof submergence.

An **offensive strategy** should be used when sufficient foam supplies, equipment and personnel are available to give a reasonable chance of extinguishing the fire.

- a. When life is in imminent jeopardy - rescue should be attempted if the risks are consistent with the potential for success.
- b. When adequate personnel and materials are immediately available for a safe and complete extinguishment.
- c. Extinguish ground fires first.
- d. When fire involves multiple tanks, the first priority should be to extinguish the fires that can most easily be extinguished (for example the smallest) or ones that pose the greatest hazards to life or property (for example, a potential BLEVE or boil over). Cool all affected pressure tank shells and supports.

- 7.3.11 Manufactured Housing (Trailer) Fire Control** - The use of manufactured housing units can be found through out the facility. Some of them are long term placements and many are temporarily located for a shorter duration such as turn around activity or a special project. They can be found as single units or double and triple wide. Their use varies from office type occupancy to storage, change rooms etc. Regardless of the use, manufactured housing units require special precautions during fire emergencies. Every fire emergency situation will be different and require assorted response techniques but several inherent items of these units must be recognized.
- 1) Manufactured units utilize smaller nominal size framing in roofing, flooring and wall assemblies than site built structures
 - a. With any fire of consequence, the roof supports will fail early into the fire and should not be expected to hold the weight of a fire fighter. **STAY OFF THE ROOF.** If it is suspected that the fire may have damaged the roof support, it is also necessary that you stay out from under the roof.
 - b. Flooring can be weakened by the fire and holes or weak sections may be obscured by debris or furniture placement. Typically the floor will be within three feet of the ground, but serious injury can result to individuals that may step or fall through the flooring.
 - c. Walls both interior and exterior can be expected to fail earlier than expected with fire impact.
 - i. Exterior walls when exposed to fire can be expected to fail and collapse. This collapse could fold into or away from the trailer. Care should be taken to stay out of a potential collapse area including between the fire and surrounding exposures. The sheathing attached on the exterior is thin and torch type fires should be expected to result in areas where the fire burns through.
 - ii. Interior walls when exposed to fire conditions will not remain stable. The wall coverings utilized with this construction experiences rapid flame spread both vertically and horizontally. The interior wall and door will fail early and should not be expected to keep any fire compartmented
 - d. The trailers are placed on concrete block columns. During fire conditions, these columns could be dislodged and result in an unstable platform or the movement of the unit. Skirting attached to the base of the exterior walls can hide both column problems and fire spread in this area.
 - e. The storage of various combustible quantities and types of material can be found both under and in some trailers
 - f. Due to the construction design, all of the trailer units require steps to enter. Caution should be exercised with maintaining the integrity of these steps. Further caution needs to be exercised with maintaining a foot hold with steps that may be wood or aluminum construction.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

7.3.12 Waste Containers (Dumpster)Fire Control – Waste containers come in various styles and sizes and are used to hold waste on a temporary basis on site to be transported to a recognized approved remote transfer or recycling area. Waste containers are utilized for removal of all type of materials including class “A” and “B” combustibles, asbestos, metal and other industrial waste. All fires involving dumpsters require careful consideration for the safety of responders due to the nature of the material being disposed. Different hazards such as closed containers could become projectiles when involved in fire. Whenever possible, fires should be controlled by remote means or equipment to avoid unnecessary risk to responders. Personnel working on or in the containers should always be avoided.

- 7.4 PH Notification matrix
7.5 Communications Center Fire/Release Procedure

Revision Log

<i>Revision Date</i>	<i>Document Authorizer</i>	<i>Document Reviewer</i>	<i>Document Author</i>	<i>Revision Details</i>
2/2013	Robert Tucker	Robert Tucker	William Kelly	Modified to reflect ownership change.



Document Name: PES Emergency Response to Medical Emergency Procedure
Document Number: ER 010

Control Tier:
3 – Philadelphia

Document Authorizer:
Fire, Security & Emergency Response Manager

Issuing Dept:
Fire & Security

Document Reviewer:
Fire, Security & Emergency Response Supervisor

Revision Date:
2/2013

Document Author:
Fire, Security & Emergency Response Supervisor

Next Review Date:
2/2015

Document Administrator:
Document Control Coordinator

1.0 Purpose/Scope

The purpose is to describe emergency response to medical emergencies and to provide a coordinated response.

2.0 Definitions

- 2.1 **Decontaminate**-The process of removing or neutralizing containment materials that have accumulated on personnel and equipment.
- 2.2 **Emergency Medical Technician (EMT)**-An individual trained to provide basic life support for those whose lives are in danger.
- 2.3 **Emergency Response Personnel**-Individuals trained to respond with specialized equipment and resource to emergencies.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

2.4 **Medical Emergency**-An emergency involving a person or persons in need of medical attention.

3.0 *General Requirements*

- 3.1 Plant Protection and Emergency Response Personnel shall be trained in the procedure.
- 3.2 Plant Protection Department shall implement the Medical Emergency Procedure.
- 3.3 Management notifications shall be made by the Communications Center Personnel.

4.0 *Responsibilities*

- 4.1 **Line Organization**- Shall notify the Communications Center of a medical emergency as soon as the individual is made aware of such an emergency.
- 4.2 **Communications Center**- Shall activate the Medical Emergency Procedure at the notification of the emergency or at the request of the Fire & Security Shift Supervisor.
- 4.3 **Plant Protection Department**- Shall respond and administer medical care and secure the area.
- 4.4 **Facility EOC Command Team** – Shall respond to the Emergency Operations Center, should the Incident deem warranted.

5.0 *Procedure*

- 5.1 Any personnel involved in, or has witnessed a medical emergency shall report the incident immediately by phone or radio to the Communications Center.
- 5.2 The Communications Center shall immediately activate the appropriate Medical Emergency Procedure.
- 5.3 The Fire & Security Shift Supervisor and Emergency Response Technician (all certified EMT's) shall respond and assess the situation, administer medical care, and secure the scene keeping in mind life safety first.
- 5.4 If requested by the On-Scene Command, the Communications Center shall contact the Medical Department to alert the staff to get ready to go to the site of the emergency. The Medical staff shall respond to the scene if needed.
- 5.5 Depending on the nature of the emergency, additional Emergency Response personnel may also be requested to the scene to lend assistance as needed, i.e., air quality testing, lifting assistance, documentation etc.
- 5.6 If requested, a call will be placed through the Communications Center for Community EMS support at the direction of Command on site. If a chemical exposure is involved the injured/ill person(s) shall be decontaminated and an MSDS shall accompany the ill/injured person(s) to the community medical facility. The outside medical personnel shall be escorted by security personnel to the scene, and or facility Medical Department. Whenever possible the ill/injured person shall be transported to the facility Medical Department by Plant Protection to facilitate the patient transfer. Community resources are familiar with these fixed locations and avoids the need for escort to more remote locations in the facility. The Community Emergency Response Organizations are familiar with the safest and most advantageous routes and the status of local community medical facilities. The medical department location can also assist with more of any required decontamination.
- 5.7 The Medical Department follows the individual's condition by maintaining contact with the hospital and treating physician.
- 5.8 Employees who have been treated on an emergency basis must report back to the Medical Department after they have been released by the treating physician.

6.0 *Self Assessment*

Response Critiques

7.0 *Key Documents/Tools/References*

- 7.1 PH Notification Protocol
- 7.2 PH 1Day and Off Shift Medical Emergency Dispatch Procedures

OPA 90 PLAN for the Philadelphia Energy Solutions Complex Section 7: Procedures

Revision Log

<i>Revision Date</i>	<i>Document Authorizer</i>	<i>Document Reviewer</i>	<i>Document Author</i>	<i>Revision Details</i>
02/2013	Robert Tucker	Robert Tucker	William Kelly	Modified to reflect ownership change



Document Name: PES Emergency Responders Rehabilitation Procedure

Document Number: ER 011

Control Tier:

3 – Philadelphia

Document Authorizer:

Fire, Security & Emergency Response Manager

Issuing Dept:

Fire & Security

Document Reviewer:

Fire, Security & Emergency Response Supervisor

Revision Date:

2/2013

Document Author:

Fire, Security & Emergency Response Supervisor

Next Review Date:

2/2015

Document Administrator:

Document Control Coordinator

1.0 Purpose/Scope

The purpose is to ensure that the physical and mental condition of ERT members operating at the scene of an emergency or a training exercise does not deteriorate to a point that affects the safety of ERT members or that jeopardizes the safety and integrity of the operation.

The scope of the procedure shall apply to all ERT operations and training exercises where strenuous physical activity or exposure to heat or cold exists.

2.0 Definitions

- 2.1 **Logistics Officer** – The individual responsible for providing facilities, services, and material in support of the incident.
- 2.2 **Medical Officer** – The individual responsible for the treatment and care of employees and emergency responders for the duration of the incident.
- 2.3 **On Scene Incident Commander** – The individual responsible for insuring that on scene activities are coordinated and that impact to facility personnel and operations area minimized.
- 2.4 **Rehabilitation** – The action or process to restore an individual to their former health status.

3.0 General Requirements

- 3.1 **On Scene Incident Commander** - shall consider the circumstances of each incident and make adequate provisions early in the incident for the rest and rehabilitation for all ERT members operating at the scene. These provisions shall include: medical evaluation and treatment, monitoring food and fluid replenishment, mental rest, and relief from extreme climatic conditions

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

- and the other environmental parameters of the incident. The rehabilitation shall include the provision of Emergency Medical Services (EMS) at the Basic Life Support (BLS) level or higher.
- 3.2 Division Officers** - All division officers shall maintain an awareness of the condition of each member operating within their span of control and ensure that adequate steps are taken to provide for each member's safety and health. The command structure shall be utilized to request relief and the reassignment of fatigued crews.
- 3.3 ERT Members** - During periods of hot weather, members shall be encouraged to drink water and electrolyte replacement drinks throughout an emergency incident or training session. During any emergency incident or training evolution, all members shall advise their division officer when they believe that their level of fatigue or exposure to heat or cold is approaching a level that could affect themselves, their crew, or the operation in which they are involved. Members shall also remain aware of the health and safety of other members of their crew.
- 3.3.1 Plant Protection and Emergency Response Personnel** – Shall be trained in the procedure.

4.0 Key Responsibilities

- 4.1 On Scene Incident Commander** – Shall establish a rehabilitation area through the assigned Medical Officer when conditions indicate that rest and rehabilitation is needed for personnel operating at an emergency incident or training session.
- 4.2 Logistics Officer** – Shall supply the appropriate material for rehab requested by the Medical Officer.
- 4.3 Medical Officer** – Shall establish a location, medical requirements, and documentation for Rehab of ERT members. In the absence of a medical officer assignment, the safety officer position will serve in that capacity.

5.0 Procedure

- 5.1** The first arriving Medical Sector officer or crew shall establish rehab initially at the request of the On Scene Incident Commander. The site should be selected in the cold zone of any incident or training exercise.
- 5.2** O2, medical kits, and vital monitoring equipment shall be brought and staged in the rehab area.
- 5.3** Obtain water and/or Electrolytes replacement cups to rehydrate ERT members. Avoid giving ice cold drinks to hypothermia patients.
- 5.4** ERT members should cycle through the rehab as directed by their physical conditions or as Command directs them.
- 5.5** ERT members should spend a minimum of 30 minutes in rehab to rehydrate, warm, or cool themselves.
- 5.6** When ERT members report to rehab for heat related rehabilitation they should have the following done;
- 5.6.1** Remove all bunker gear
- 5.6.2** Given water and/or Electrolytes to drink.
- 5.6.3** Vitals taken, i.e. Blood pressure, pulse, respirations.
- 5.6.4** Cooled down utilizing water supply.
- 5.6.5** No ice should be placed down the neck or backs of ERT members unless a heat stroke is suspected, and then placed the following areas; neck, groin, and armpits.
- 5.6.6** Avoid all carbonated drinks, i.e. Coke, Pepsi.
- 5.6.7** ERT members presenting the following symptoms should receive aggressive cooling down measures; weakness, dizziness, altered mental status, disorientation, confusion, headache, nausea and/or vomiting, muscle cramps, exhaustion, fainting, rapid heartbeat, moist pale skin, abdominal cramping.
- 5.6.8** Give O2 as needed in accordance with local protocol.
- 5.6.9** After 30 minutes if ERT members still show symptoms of heat exhaustion then reevaluate their vital signs, and continue to cool with water externally and fluids internally.
- 5.6.10** If after 30 minutes ERT members have no symptoms of heat exhaustion or any other symptoms, and maintain a heart rate of less than 120 bpm, they may be released by rehab to return to ERT responsibilities.
- 5.6.11** If after 30 minutes no improvement is seen in the ERT member's condition, the member should be transported to a medical facility for further evaluation and treatment. This includes the on site medical department if available.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

- 5.6.12 The division officer in charge of rehab should periodically check in with Medical Command.
- 5.7 When ERT members report to rehab for **Cold Stress Rehabilitation** they should have the following done;
 - 5.7.1 Placed into a heated room or environment, and vital signs taken.
 - 5.7.2 Remove any wet gear or PPE and change into dry clothing.
 - 5.7.3 Have blankets placed around body and head so as to bring core body temperature to normal level.
 - 5.7.4 Should be monitored for, the onset of heavy shivering, minor frostbite, excessive fatigue, drowsiness, irritability, and euphoria.
 - 5.7.5 If after 30 minutes ERT members still show signs of cold stress, reevaluate their vital signs, and continue to warm utilizing blankets, warm fluids and warm environment.
 - 5.7.6 If after 30 minutes the ERT members condition does not improve the individual shall be transported to a medical facility for further evaluation and treatment. This includes the on site medical department if available.
- 5.8 **Accountability;** The medical officer or designee shall document the following;
 - 5.8.1 The entry and exit time of all ERT members who enter the rehab area.
 - 5.8.2 Any vital signs that have been taken.
 - 5.8.3 NOTE: No ERT member shall leave the rehab area until authorized to do so by the Medical Officer and/or Designee.

6.0 Self Assessment

- 6.1 PH Critique Procedure (ER 003)
- 6.2 Drills and Exercises

7.0 Key Documents/Tools/References

- 7.1 Guidelines
 - 7.1.1 Rehabilitation Division Establishment - The Incident Commander, during the initial planning stages of an emergency response or training session, should consider rehabilitation. However, the climatic or environmental conditions of the emergency scene/training session should not be the sole justification for establishing a rehabilitation area. Any activity/incident that is large in size, long in duration, and/or labor intensive will rapidly deplete the energy and strength of personnel and therefore merits consideration for rehabilitation. Climatic or environmental conditions that indicate the need to establish a Rehabilitation Area are a heat stress index above 90° F or wind chill index below 10° F.
 - 7.1.2 Hydration - A critical factor in the prevention of heat related disorders is the maintenance of water and electrolytes. Water must be replaced during exercise periods and at emergency incidents. During heat stress, the member should consume at least one quart of water per hour. The rehydration solution should be a 50/50 mixture of water and a commercially prepared activity beverage and administered cool. Rehydration is important even during cold weather operations where, despite the outside temperature, heat stress may occur during firefighting or other strenuous activity when protective equipment is worn. Alcohol and caffeine beverages should be avoided before and during heat stress because both interfere with the body's water conservation mechanisms. Carbonated beverages should also be avoided.
 - 7.1.3 Nourishment - Food should be provided at the scene of an extended incident when units are engaged for three or more hours. A cup of soup, broth, or stew is highly recommended because it is digested much faster than sandwiches and fast food products. In addition, foods such as apples, oranges, and bananas provide supplemental forms of energy replacement. Fatty and/or salty foods should be avoided.
 - 7.1.4 Rest - The "two air bottle rule," or 45 minutes of work time, is recommended as an acceptable level prior to mandatory rehabilitation. Members should re-hydrate (at least eight ounces) while SCBA cylinders are being changed. In all cases, the objective evaluation of a member's fatigue level shall be the criteria for rehab time. Rest shall not be less than 30 minutes and may exceed an hour as determined by the medical officer or designee. Fresh crews, or crews released from the rehabilitation area, shall be available in the staging area to ensure that fatigued members are not required to return to duty before they are rested, evaluated, and released by the medical officer.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

- 7.1.5 Recovery - Members in the rehabilitation area should maintain a high level of hydration. Members should not be moved from a hot environment directly into an air-conditioned area because the body's cooling system could shut down in response to the external cooling. An air-conditioned environment is acceptable after a cool-down period at ambient temperature with sufficient air movement. Certain drugs impair the body's ability to sweat and extreme caution must be exercised if the member has taken antihistamines, such as Actifed or Benadryl, or has taken diuretics or stimulants.

7.2 Cold Stress Guideline;

Estimated Wind Speed in (mph)	Actual Temperature Reading (°F)											
	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
	Equivalent Chill Temperature (°F)											
calm	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
5	48	37	27	16	6	-5	-15	-26	-36	-47	-57	-68
10	40	28	16	4	-9	-24	-33	-46	-58	-70	-83	-95
15	36	22	9	-5	-18	-32	-45	-58	-72	-85	-99	-112
20	32	18	4	-10	-25	-39	-53	-67	-82	-96	-110	-121
25	30	16	0	-15	-29	-44	-59	-74	-88	-104	-118	-133
30	28	13	-2	-18	-33	-48	-63	-79	-94	-109	-125	-140
35	27	11	-4	-20	-35	-51	-67	-82	-98	-113	-129	-145
40	26	10	-6	-21	-37	-53	-69	-85	-100	-116	-132	-148
(Winds speeds greater than 40 mph have little added effect.)	Little Danger			Increasing Danger Danger from freezing of exposed flesh within one minute.				Great Danger Flesh may freeze within 30 seconds.				

7.3 Heat Stress Guideline;

Relative Humidity	Air Temperature (Degrees in Fahrenheit)									
	70°	75°	80°	85°	90°	95°	100°	105°	110°	
0%	64°	69°	73°	78°	83°	87°	91°	95°	99°	
10%	65°	70°	75°	80°	85°	90°	95°	100°	105°	
20%	66°	72°	77°	82°	87°	93°	99°	105°	112°	
30%	67°	73°	78°	84°	90°	96°	104°	113°	123°	
40%	68°	74°	79°	86°	93°	101°	110°	122°	137°	
50%	69°	75°	81°	88°	96°	107°	120°	135°	150°	
60%	70°	76°	82°	90°	100°	114°	132°	149°		
70%	70°	77°	85°	93°	106°	124°	144°			
80%	71°	78°	86°	97°	113°	136°	157°			
90%	71°	79°	88°	102°	122°	150°	170°			
100%	72°	80°	91°	108°	133°	166°				

HEAT INDEX 90°-100°

Sun stroke, heat cramps and and heat exhaustion are possible with prolonged exposure and physical activity.

HEAT INDEX 101°-129°

Sun stroke, heat cramps and heat exhaustion are likely. Heat stroke is possible with prolonged exposure and physical activity.

HEAT INDEX 130° or higher

Heat stroke or sun stroke are imminent.

Revision Log

Revision Date	Document Authorizer	Document Reviewer	Document Author	Revision Details

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

02/2013	Robert Tucker	Robert Tucker	William Kelly	Modified to reflect ownership change.



Document Name: *PH Emergency Response to a Spill/Leak on Land Procedure*

Document Number: ER 12

Control Tier:
3 – Philadelphia

Document Authorizer:
Fire, Security & Emergency Response Manager

Issuing Dept:
Fire & Security

Document Reviewer:
Fire, Security & Emergency Response Supervisor

Revision Date:
2/2013

Document Author:
Fire, Security & Emergency Response Supervisor

Next Review Date:
2/2015

Document Administrator:
Document Control Coordinator

1.0 Purpose/Scope

To describe the procedure for the response, containment, confinement and clean up of a reported spill or leak on land. This procedure includes response to non-regulated and Department of Transportation regulated lines or equipment.

2.0 Definitions

- 2.1 Confinement** – Stopping the hazardous material flow away from an initial spill/leak area.
- 2.2 Containment** – Stopping the hazardous material flow from the shipping container.
- 2.3 Diking** – Use of a barrier, which prevents passage of the material to an area of potential harm.
- 2.4 Diversion** – Controlled movement of the material to an area where the effects will produce less harm.
- 2.5 Leak** – To allow a substance by fault or mistake to either enter or escape through an opening.
- 2.6 Retention** – Temporary confinement of material in an area where it can be absorbed, neutralized, diluted, or picked up.
- 2.7 Spill-** To cause or allow, especially accidentally or unintentionally to fall, flow or run out so as to be lost or wasted; to spread profusely or beyond bounds.

3.0 General Requirements

- 3.1 Plant Protection and Emergency Response personnel shall be trained in the procedure.
- 3.2 Plant Protection Department shall implement the Spill/Leak on land Procedure, and secure the effected area.
- 3.3 Required notifications shall be made by the Communications Center personnel.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

4.0 Responsibilities

- 4.1 Line Organization** – Shall notify the Communications Center when a spill/leak to land has impacted the community or a NER facility.
- 4.2 Communications Center**- Shall activate the appropriate Spill/Leak on land Procedure upon notification of any land spill or leak.
- 4.3 Plant Protection Department** – Shall respond, assist with securing areas that are impacted from a spill/leak, initiate command and ensure a mitigation process.

5.0 Procedure:

- 5.1 Personnel that is involved with, or has witnessed a spill/leak to land shall immediately report the incident to the Communications Center either by phone or radio.
- 5.2 The Communications Center shall immediately activate the appropriate Spill/Leak on Land procedure.
- 5.3 The Community Emergency Response Center shall be notified of any spill/leak where the community is or potentially impacted.
- 5.4 The Emergency Response personnel on duty shall respond and assess the incident, approaching from upwind to identify the material and source of the spill/leak while securing the area.
- 5.5 Once the material is identified air quality testing shall be conducted, along with safety zones and PPE standards established.
- 5.6 Emergency Responders shall respond utilizing the appropriate PPE, placing the facility Incident Command System into effect, to establish command and control of the incident.
- 5.7 Immediately begin measures of containment or confinement; (i.e. Shut down of transfer operations).
- 5.8 Effect measures for confinement by means of diking, diversion and retention.
- 5.9 All measures of containment and confinement shall be taken where possible to prevent material from entering a waterway or drainage area leading to a waterway.
- 5.10 If needed, contractors shall be summoned to assist and or effect with proper clean up measures.
- 5.11 Notify the Environmental Department to ensure notification and reporting consistent with Federal, State and Local Environmental regulations.

5.0 Self Assessment

- 6.1 PES Critique Procedure (ER 03)
- 6.2 Drills and Exercises

7.1 Key Documents/Tools/References

- 7.2 PES Notification Protocol
- 7.3 PES OPA 90
- 7.4 Communications Center Dispatch Procedure
- 7.5 PES Incident Command Procedure (ER 01)

Revision Log

<i>Revision Date</i>	<i>Document Authorizer</i>	<i>Document Reviewer</i>	<i>Document Author</i>	<i>Revision Details</i>
02/2013	Robert Tucker	Robert Tucker	William Kelly	Modified to reflect ownership change.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex Section 7: Procedures



Document Name: PES Emergency Response to a Spill/Leak on Water Procedure

Document Number: ER 13

Control Tier:
3 – Philadelphia

Document Authorizer:
Fire, Security & Emergency Response Manager

Issuing Dept:
Fire & Security

Document Reviewer:
Fire, Security & Emergency Response Supervisor

Revision Date:
2/2013

Document Author:
Fire, Security & Emergency Response Supervisor

Next Review Date:
2/2015

Document Administrator:
Document Control Coordinator

1.0 Purpose/Scope

To describe the procedure for response, containment, confinement and clean up of a reported spill or leak in a waterway. This procedure includes response to leaks from non-regulated and Department of Transportation regulated lines or equipment.

2.0 Definitions

- 2.1 **Boom**- A floating barrier placed in the path of a spill/leak for the purpose to confine or divert material.
- 2.2 **Confinement** – Stopping the hazardous material flow away from an initial spill/leak area.
- 2.3 **Containment** – Stopping the hazardous material flow from the shipping container.
- 2.4 **Diversions** – Controlled movement of the material to an area where the effects will produce less harm.
- 2.5 **Leak** – To allow a substance by fault or mistake to either enter or escape through an opening.
- 2.6 **Retention** – Temporary confinement of material in an area where it can be absorbed, neutralized, diluted, or picked up.
- 2.7 **Spill** – To cause or allow, especially accidentally or unintentionally to fall, flow or run out so as to be lost or wasted; to spread profusely or beyond bounds.

3.0 General Requirements

- Plant Protection and Emergency Response personnel shall be trained in the procedure.
- Plant Protection Department shall implement the Spill/Leak in water procedure, and secure the effected area.
- Required notifications shall be made by the Communications Center personnel.

4.0 Key Responsibilities

- **Line Organization**—Shall notify the Communications Center when a spill/leak into a waterway has occurred
- **Communications Center**—Shall activate the appropriate Spill/Leak in water dispatch procedure.
- **Plant Protection Department**—Shall respond and assist with securing areas that are impacted from a spill/leak, initiate command and ensure a mitigation process.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

5.0 Procedure

- 5.1 Any person that is involved with, or has witnessed a spill/leak into a waterway shall immediately report the incident to the Communications Center either by phone or radio.
- 5.2 The Communications Center shall immediately activate the appropriate Spill/Leak in Water dispatch procedure.
- 5.3 The Community Emergency Response Center shall be notified of any spill/leak where the community is or potentially impacted.
- 5.4 Emergency Response personnel on duty shall respond and assess the incident, approaching from upwind to identify the material and source of the spill/leak while securing the area. Note; if in tidal waters, tide times shall be accessed for the purpose of product movement.
- 5.5 Material shall be identified either by sample or visual from known source. Air quality testing shall be conducted along with safety zones and PPE standards established.
- 5.6 Emergency responders shall respond utilizing the appropriate PPE, placing the facility Incident Command System into effect to establish command and control of the incident.
- 5.7 Immediately begin measures of containment or confinement; (i.e. shut down of transfer operations).
- 5.8 Effect measures for confinement by means of boom for retention or diversion.
- 5.9 If needed, contractors shall be summoned to assist and or effect with proper clean up measures.
- 5.10 Notify the Environmental department to ensure notification and reporting consistent with Federal, State and Local Environmental regulations.

6.0 Self Assessment

- 6.1 PES Critique Procedure (ER 03)
- 6.2 Drills and Exercises

7.0 Key Documents/Tools/References

- 7.1 PES Notification Protocol
- 7.2 PES OPA 90
- 7.3 Communications Center Dispatch Procedure
- 7.4 PES Incident Command Procedure (ER 01)

Revision Log

<i>Revision Date</i>	<i>Document Authorizer</i>	<i>Document Reviewer</i>	<i>Document Author</i>	<i>Revision Details</i>
02/2013	Robert Tucker	Robert Tucker	William Kelly	Modified to reflect change of ownership.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex Section 7: Procedures



Document Name: PES Staging of Emergency Response Equipment / Personnel Procedure

Document Number: ER 14

Control Tier:
3 – Philadelphia

Document Authorizer:
Fire, Security & Emergency Response Manager

Issuing Dept:
Fire & Security

Document Reviewer:
Fire, Security & Emergency Response Supervisor

Revision Date:
2/2013

Document Author:
Fire, Security & Emergency Response Supervisor

Next Review Date:
2/2015

Document Administrator:
Document Control Coordinator

1.0 Purpose/Scope

The purpose of this procedure is to provide guidelines to conduct the safe, organized and consistent staging of emergency responders and equipment prior to assignment during an emergency incident. The staging of resources needs to be implemented for all emergency incidents. Effective utilization will:

- Prevent excessive apparatus congestion at the scene.
- Allow time for command to evaluate conditions prior to assigning resources.
- Place resources in an uncommitted location close to the immediate scene to facilitate more effective assignment.
- Allow Command to formulate and implement a plan without undue confusion and pressure.

2.3 Definitions

- 2.4 **Communications Specialist-** An individual assigned to either the Communications Center or Incident Command Post responsible for the organized transmission of incident information.
- 2.5 **Incident-** An occurrence or event, either human caused or natural phenomena, that requires action by emergency personnel to prevent or minimize loss of life or damage to property/or natural resources.
- 2.6 **Incident Commander-** The individual responsible for the overall management of the incident operations.
- 2.7 **Level One Staging** – An area near or adjacent to the emergency scene that provides a safe zone where initial responders can gather and be available for commitment to the emergency by the on-scene commander. This area would be in the determined “cold zone”.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

- 2.8 **Level Two Staging** – An established area away from an emergency scene that provides a collection point of resources of equipment and responders for availability to respond into an emergency scene when requested by the on-scene commander
- 2.9 **On Scene Commander** – The individual responsible for insuring that on scene activities are coordinated and that impact to facility personnel and operations is minimized.
- 2.10 **Staging Officer** – The individual responsible to manage the Level Two staging area. Request by on – scene command for resources from Level Two Staging are coordinated by the staging officer

3.3 General Requirements

- 3.4 Plant Protection and Emergency Response personnel shall be trained in the procedure.
- 3.5 The On-Scene Commander shall implement level one staging at every emergency incident.
- 3.6 Level Two Staging shall be implemented by on-scene command at incidents where multiple resources are responding. A staging officer will be assigned by on-scene for coordination at the staging area. Level Two Staging should be away from the command post and from the emergency scene in order to provide adequate space for assembly and for safe and effective apparatus movement
- 3.7 Level two staging officer is responsible for the following functions:
- Coordinate with security / law enforcement to control roadways or access to Staging.
 - Ensure that apparatus is parked in an appropriate manner.
 - Maintain a log of resources available in staging including specialized units.
 - Maintain contact with Command with status of resources.
 - Assume a position that is visible and accessible to incoming units / resources and staged resources.
 - Coordinate the dissemination / presentation of information relating to special or specific hazards presented by the emergency situation to responders.
- 3.5 Level two Staging areas are pre-designated however it may be necessary for the staging officer to scout and relocate staging if the designated area is impacted by the emergency or otherwise unavailable.

4.5 Key Responsibilities

- 4.6 The On Scene Commander shall establish and advise the communications specialist the location of Level One staging. On-Scene Command shall designate a staging officer/sector for Level Two staging areas
- 4.7 The Communications Specialist shall make clear and concise transmissions of the Level One staging area.
- 4.8 Line Organization / Responders shall be aware and utilize the procedure when implemented.
- 4.9 Staging Division Officers shall coordinate level two areas and communicate with the On-Scene Commander

5.11 Procedure

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

- 5.12 The On Scene Commander shall determine and advise the communications specialist the location of level one staging.
- 5.13 The Communications Specialist shall make clear and concise transmissions of the level one staging area.
- 5.14 Line Organization / Responders shall assemble at the staging area and don appropriate PPE for the incident.
- 5.15 Incoming apparatus operators shall stage any non committed vehicles at the staging area for assignment. Care needs to be exercised to avoid blocking egress of other needed equipment.
- 5.16 The On Scene Commander shall determine the need to implement level two staging.
- 5.17 The On Scene Commander shall appoint a staging sector officer for level two.

6.0 Self Assessment

- 6.1 Drills and exercises
- 6.2 PH Critique

7.0 Key Documents/Tools/References

- 7.1 PES Incident Command Procedure
- 7.2 Guidelines for Level Two Staging Areas
 - 7.2.1 Philadelphia Complex
 - 7.2.1a Incidents occurring on the Point Breeze North Yard or Propane Terminal shall utilize Level Two staging in the area at N-7A Gate.
 - 7.2.1b Incidents occurring in the Point Breeze South Yard shall utilize Level Two staging at the lot on the South side of the Central control Room
 - 7.2.1c Incident occurring in Girard Point shall utilize Level Two staging along 6th Street and Pennypacker Avenue.
 - 7.2.1d Incidents occurring in the Schuylkill River Tank Farm (SRTF) shall utilize Level Two staging on Mingo Lane

Revision Log

<i>Revision Date</i>	<i>Document Authorizer</i>	<i>Document Reviewer</i>	<i>Document Author</i>	<i>Revision Details</i>
02/2013	Robert Tucker	Robert Tucker	William Kelly	Modified to reflect a change in ownership.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex Section 7: Procedures



Document Name: PES Guidelines for Incident Commanders to Summon Additional Resources Procedure

Document Number: ER 15

Control Tier:
3 – Philadelphia

Document Authorizer:
Fire, Security & Emergency Response Manager

Issuing Dept:
Fire & Security

Document Reviewer:
Fire, Security & Emergency Response Supervisor

Revision Date:
2/2013

Document Author:
Fire, Security & Emergency Response Supervisor

Next Review Date:
2/2015

Document Administrator:
Document Control Coordinator

1.0 Purpose/Scope

The purpose of this procedure is to provide guidelines to conduct the safe, organized and rapid summoning of additional resources during an emergency incident. The potential for summoning additional resources should be considered for all emergency incidents.

2.11 Definitions

- 2.12 **Communications Specialist-** An individual assigned to either the Communications Center or Incident Command Post responsible for the organized transmission of incident information.
- 2.13 **Incident-** An occurrence or event, either human caused or natural phenomena, that requires action by emergency personnel to prevent or minimize loss of life or damage to property/or natural resources.
- 2.14 **On Scene Incident Commander-** The individual responsible for the overall management of the incident operations.

3.8 General Requirements

- 3.9 Plant Protection and Emergency Response personnel shall be trained in the procedure.
- 3.10 The On-Scene Incident Commander shall implement the Summon Additional Resources procedure.

4.0 Key Responsibilities

- 4.10 Line Organization personnel shall notify the On Scene Incident Commander immediately of any potential or sudden change in condition of an emergency incident scene that can cause the need for additional resources.
- 4.11 The On Scene Incident Commander shall initiate the summoning of additional resources Procedure.
- 4.12 The Communications Specialist shall summon or notify additional resources as per procedure or at the direction of the On Scene Incident Commander.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

5.18 Procedure

- 5.19 The On Scene Incident Commander shall be notified immediately of any potential or sudden change in condition of an emergency incident scene that can cause the need for additional resources.
- The On Scene/Incident Commander shall rapidly size-up, and determine the need to summon the appropriate resources needed.
 - The On Scene Incident Commander shall notify the communications specialist to make notification of needed additional resources.
 - Additional resources shall be summoned when an actual or potential emergency situation exists and the life hazard exceeds the rescue or EMS capabilities of initial responders.
 - Additional resources shall be summoned when the number, location and conditions of actual victims exceeds the rescue/removal/treatment capabilities of responders.
 - Additional resources shall be summoned when an actual or potential emergency situation exists and the property protection demand exceeds the control capabilities of initial responders.
 - Additional resources shall be summoned if fire or other emergency conditions become severe or the situation deteriorates significantly.
 - Additional resources shall be summoned if all resources (equipment or personnel) have been committed and the situation is not under control.
 - Additional resources shall be summoned if response forces are depleted due to exhaustion, injury, trapped or missing.
 - Additional resources shall be summoned if there is evidence of a significant fire but responders are unable to determine the location and extent.
 - Additional resources shall be summoned if the commitment of responders is not effective or that they cannot effectively perform early or timely loss control operations.
 - Additional resources shall be summoned if the weather is or has the potential to have a particularly exhausting effect on resources or increase magnitude of the emergency situation.
 - Additional resources shall be summoned if the situation becomes so widespread or complex that command can no longer effectively cope with the situation or the effective management of the situation requires a larger command organization.
 - Additional resources shall be summoned if command instinctively feels the need to summon additional resources.
 - On Scene Incident Commanders must be aware that immediate response of additional resources will be based on time distance considerations and summon assistance early to allow for proper deployment.

6.0 Self Assessment

- 6.1 Drills and exercises
- 6.2 PES Critique Procedure (ER 003)

7.0 Key Documents/Tools/References

- 7.1 PES Incident Command Procedure
-

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

Revision Log

<i>Revision Date</i>	<i>Document Authorizer</i>	<i>Document Reviewer</i>	<i>Document Author</i>	<i>Revision Details</i>
02/2013	Robert Tucker	Robert Tucker	William Kelly	Modified to reflect change in ownership.



Document Name: PES Calling for Emergency Assistance Procedure

Document Number: ER 16

*Control Tier:
3 – Philadelphia*

*Document Authorizer:
Fire, Security & Emergency Response Manager*

*Issuing Dept:
Fire & Security*

*Document Reviewer:
Fire, Security & Emergency Response Supervisor*

*Revision Date:
2/2013*

*Document Author:
Fire, Security & Emergency Response Supervisor*

*Next Review Date:
2/2015*

*Document Administrator:
Document Control Coordinator*

1.0 Purpose/Scope

The purpose of this procedure is to provide guidelines to those in need of or witnessing an emergency incident with obtaining prompt and correct help. All employees should be alert to detect unusual signs which may indicate an actual emergency. Some emergency needs could include fire, vapor release, spills or other environmental situation, medical, rescue and security. The organized and prompt response may be directly related to the skill of reporting emergencies correctly.

2.15 Definitions

- 2.16 **Communications Specialist-** An individual assigned to either the Communications Center or Incident Command Post responsible for the organized transmission of incident information.
- 2.17 **Incident (Emergency)** An occurrence or event, either human caused or natural phenomena, that requires action by emergency personnel to prevent or minimize loss of life or damage to property/or natural resources.
- 2.18 **On Scene Incident Commander** – The individual responsible for insuring that on scene activities are coordinated and that impact to facility personnel and operations is minimized.

3.11 General Requirements

- 3.12 Plant Protection and Emergency Response personnel shall be trained in the procedure.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

3.13 Line Organization personnel shall be trained in the procedure.

4.13 Key Responsibilities

- 4.14 Line organization personnel shall notify the Communications Center.
- 4.15 The communications specialist shall ascertain all pertinent information as to the type and location of the emergency incident
- 4.16 The communications specialist shall make clear and concise transmissions of information and verify the response of the appropriate Plant Protection Group.
- 4.17 Plant Protection will respond to the scene and take the necessary steps to mitigate the emergency. This will include establishing On Scene Command

5.20 Procedure

- 5.21 An employee that needs emergency assistance or has witnessed the need for assistance shall immediately contact the Communications Center. The contact should only be completed when the caller has removed themselves from any imminent danger.
- 5.22 The notification can be completed by telephone. The emergency contact in-plant number is 5400. As a secondary contact number or outside of the facility, personnel can contact the Communication Center by dialing 215-339-5400.
- 5.23 The notification can be made by radio. The emergency radio channel is 12.
- 5.24 In Point Breeze, the Gamewell Pull Box Alarm system can be utilized to summon assistance
- 5.25 The Communications Specialist shall collect the information on the nature and location of the emergency and initiate the appropriate response procedure.
- 5.26 Callers whenever possible should maintain the connection until the Communications Specialist ends the conversation. This will ensure that all of the proper and pertinent information is gathered. Callers should try to be clear and concise with their needs. Providing specific information on the nature and location will expedite the proper assistance.
If you utilize a radio, try to stay available on the reporting channel until help arrives. This will allow the Plant Protection responders to gather more information or a better location if needed from you during the response.

6.0 Self Assessment

- 6.1 Drills and exercises
- 6.2 PES Critique Procedure (ER 03)
- 6.3 PES Annual Risk Training

7.0 Key Documents/Tools/References

- 7.1 PES Incident Command Procedure
- 7.2 Employee Role and Responsibility

Revision Log

<i>Revision Date</i>	<i>Document Authorizer</i>	<i>Document Reviewer</i>	<i>Document Author</i>	<i>Revision Details</i>
02/2013	Robert Tucker	Robert Tucker	William Kelly	Modified to reflect ownership change.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex Section 7: Procedures



Document Name; Philadelphia Evacuation Procedure

Document Number: ER 019

*Control Tier:
3 – Philadelphia*

*Document Authorizer:
Fire, Security & Emergency Response Manager*

*Issuing Dept:
Fire & Security*

*Document Reviewer:
Fire, Security & Emergency Response
Supervisor*

*Revision Date:
2/2013*

*Document Author:
Fire, Security & Emergency Response
Supervisor*

*Next Review Date:
2/2015*

*Document Administrator:
Document Control Coordinator*

1. Purpose/Scope

The purpose of this procedure is to provide a framework for a safe and orderly evacuation of personnel, emergency alerting, evacuation routes, and safe places of refuge/muster (assembly points). Due to the complexity of emergencies, within the facility, this guide may not cover all associated issues. This procedure is designed to be an outline of data, directions and responsibilities but human logic can not be discounted while safely performing the intent of this procedure. The On-Scene Incident Commander determines the need to evacuate and orders the evacuation; however, local evacuations may be initiated by employees that become aware of emergencies. All employees should be alert to detect unusual signs which may indicate an actual emergency or potential for a dangerous situation. Emergencies could include fire, vapor release, spills or other environmental situations, medical, rescue and security incidents. Once notified, the Communications Center will announce the evacuation. There are established assembly points and the Communications Center can provide more information if the situation dictates.

2. Definitions

- 2.1. **Assembly Point** – pre-determined identified reporting areas for accountability.
- 2.2. **Communications Coordinator**- An individual assigned to either the Communications Center or Incident Command Post responsible for the organized transmission of incident information.
- 2.3. **Essential Personnel** – Personnel critical to plant or facility operations.
- 2.4. **Incident (Emergency)** - An occurrence or event, either human caused or natural phenomena, that requires action by emergency personnel to prevent or minimize loss of life or damage to property/or natural resources.
- 2.5. **On Scene Incident Commander** – The individual responsible for insuring that on scene activities are coordinated and that impact to facility personnel and operations is minimized.
- 2.6. **Local Evacuation** – The evacuation of personnel from specific operating areas or buildings to an identified assembly point.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

- 2.7. **Non Essential Personnel** – Personnel who would not be required to remain and operate critical refinery operations
- 2.8. **Regional Intermediate Evacuation** – The evacuation of non-essential personnel in situations where the emergency condition may impact multiple areas, requiring a larger scale evacuation of operating units and/or administrative areas. Site specific regional assembly locations are referenced on facility Point of Work Cards.
- 2.9. **ERPG 3 (Emergency Response Planning Guideline)** – The maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to 1 hour without experiencing or developing life-threatening health effects.
- 2.10. **General Evacuation** – The evacuation of personnel in situations where the emergency condition may require a further evacuation from local assembly points or a larger scale evacuation.
- 2.11. **Shelter in Place** – Non evacuation of an area but remaining in a safe location. In place sheltering is considered when:
- The hazardous material has been identified as having a low or moderate level of health risk.
 - The material has been released from its container and is now dissipating.
 - Leaks can be controlled rapidly and before evacuation can be completed.
 - Exposure to the product is expected to be short-term and of low health risk.
 - Individuals can be adequately protected by staying indoors

(b) (7)(F)

2.13. **Captains** - Responsible for conducting an audit of all individuals at their assigned assembly point and reporting information on their status.

3. *General Requirements*

- 3.1. Plant Protection & Emergency Response personnel shall be trained in the procedure.
- 3.2. Line Organization personnel shall be trained in the procedure.

4. *Key Responsibilities*

- 4.1. Line Organization personnel shall notify the Communications Center.
- 4.2. The Communications Coordinator shall ascertain all pertinent information as to the type and location of the emergency incident.
- 4.3. The Communications Coordinator shall make clear and concise transmissions of information and verify the response of the appropriate Plant Protection Group.
- 4.4. Plant Protection will respond to the scene and take the necessary steps to mitigate the emergency. This will include establishing On Scene Command.
- 4.5. All employees, contractors and visitors shall be familiar with the “Point of Work” card for the unit they are working or visiting. If a building does not have a point of work card, employees, contractors and visitors should examine posted egress / assembly points. Additionally, if in doubt they should question a resident employee of the building as to the evacuation route and designated assembly area.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

- 4.6. Captain – (Group) are responsible for maintaining accountability of personnel in their group or immediate area of a building and reporting the status of their area to the Building Captain.
- 4.7. Captain – (Building) are responsible for maintaining accountability of personnel in their group or immediate area of a building, receiving reports from Group captains for that specific area or building and reporting the accountability status of the entire area or building to the Communications Center.
- 4.8. Lead Operators- are responsible for maintaining accountability of essential and non-essential personnel that are working on the unit or have an open work permit outside of the unit (ex-tank farm). Accountability status shall be reported to the Communications Center.

5. Procedure

5.1. Building Evacuation

5.1.1. Local Evacuations Involving Occupied Buildings

- 5.1.1.1. In the event of an emergency, within a building, the fire or building evacuation alarm in the building should be sounded and the building evacuated. Any person discovering an emergency within a building has the responsibility for notifying other occupants. This notification can be accomplished by sounding an alarm utilizing a fire alarm pull station, if available, or verbally alerting an alarm to others in the area. After sounding the alarm, proceed to a safe area and immediately call for help as outlined in ER-016, calling for emergency assistance.
- 5.1.1.2. In the event of an audible fire alarm or the verbal order to evacuate a building:
 - All persons in the building will immediately evacuate by using the closest unobstructed exit and proceed to the building's assembly area. See table (1) below or appendix "A" for identified radiant heat effected API 752 siting).
 - Visitors shall be escorted from area by the host employee.
 - Persons evacuated shall report to their Captain in the assembly area for accountability purposes.
 - The Building Captain shall report any missing persons to the Communications Center.
 - The On Scene Incident Commander shall initiate an organized search of the building, if feasible, for any missing persons.

*****All personnel should become familiar with routes of evacuation.*****

Designated Assembly Areas for Philadelphia Facility Buildings (Table 1)

<u>Building</u>	<u>Assembly Area</u>
PB Main Office	Roadway east of Quality Control Lab

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

PB Main Office Annex	Parking lot south of building	
PB Quality Control Lab	Parking lot east of building	
PB Maintenance Shops	Roadway north of building	
PB Change Building	Roadway south of building PB	#14
Service Building	Parking lot north of building	
PB Central Warehouse	Parking lot west of building	
GP Main Office	South of building under Platt Bridge	
GP Training Building	South of building under Platt Bridge	
GP Plant Lab	Gravel area northwest of building	
GP Maintenance Building	Parking lot west of building	
GP E&I Shop – 450 Building	On lot east of building at smoking stand	
GP Light Oil Office	Parking lot west of Maintenance building	
GP Maintenance 3rd St. Office	On roadway east of building	
GP #2 Warehouse	On roadway north of building	
GP Blending & Shipping Office	Parking lot west of building	
GP 24 Gate locker house/Canteen	Roadway south of building	
GP 24 Gate Ops. Office and Trailer	Parking lot east of building	

5.2. Process Operating Area Evacuation

5.2.1. Local Evacuations Involving Process Operating Areas (Non-Essential)

- 5.2.1.1. Emergencies in operating areas may include, but are not limited to fires, releases, spills, process upsets, and security or other emergencies.
- 5.2.1.2. If a gas alarm sounds on a unit or the operators activate the unit evacuation alarm or the Communications Center announces via radio, all non-essential personnel shall evacuate the unit immediately, gather at the local assembly point and await further instructions. Non-essential personnel would include: maintenance, administrative, technical, contractor, and other visitors. Essential personnel should prepare to follow their operating unit guideline for emergency shutdown procedures if necessary.
- 5.2.1.3. Immediately after sounding the evacuation alarm, the operators shall notify the Communications Center of the emergency while following ER-016.
- 5.2.1.4. Upon hearing a unit evacuation alarm, gas alarm, radio broadcast, the non-essential personnel shall evacuate the process area and monitor facility radios for any special instructions. Prior to evacuation, maintenance or contract personnel will, when possible, shut down any equipment they were using such as welding machines, pumps, cranes, etc.
- 5.2.1.5. Persons evacuating an operating area should take a route to the upwind side of the operating area a safe distance from the incident to an assembly area. When evacuating, personnel should use refinery roads where possible and avoid going through other operating units.
- 5.2.1.6. The lead operator is responsible to ensure evacuation of non-essential

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

personnel to the assembly point and ensure all personnel are accounted for. The status of accountability shall be reported to the Communications Center.

5.2.2. Local Evacuations Involving Process Operating Areas (Essential)

5.2.2.1. In the unusual event that would require essential personnel to evacuate an Operating area, operations personnel when possible will follow the emergency process control procedure and take whatever steps are possible to secure the process following their operating procedures before evacuation.

5.2.2.2. The On Scene Command or EOC Commander can order a total unit(s) evacuation.

5.2.2.3. All operating personnel shall proceed to the designated staging area for accountability purposes by their lead operator.

Plant Protection shall initiate a search for any missing personnel if feasible. The Incident On-Scene Commander shall decide when it is safe for the operating personnel to go back in to an evacuated operating area.

5.3. General Evacuations

5.3.1. General Evacuations can involve larger number of personnel and/or affect a larger area. General Evacuations would be considered when local evacuations are not practical or more than one operating unit is impacted and needs to be evacuated. It is expected that evacuation completion times will be somewhat longer than a local evacuation, but generally rapid. People may remain out of the area for several hours.

5.3.2. The Incident On Scene Commander shall size up and determine what areas and what personnel are to be evacuated. The Communications Center shall announce on all radio channels to advise the need for evacuation. Upon hearing the announcement, all persons shall remain calm, inform co-workers, and shall stand by for further Communications Center announcement. The On Scene Incident Commander shall instruct the Communications Center on what message to broadcast over the plant radio channels. The message will include:

- *What areas are to be evacuated*
- *What groups of people shall evacuate*
- *Where they shall evacuate to*
- *What route to take (if known transportation routes are untenable)*

5.3.3. Employees who do not have their own transportation, should use the “buddy system” and share transportation when necessary with co-workers

5.3.4. Evacuated persons shall go to the designated area and report to their Lead Operator for accountability purposes.

5.3.5. The supervisors of both employee and contractor shall notify the Communications Center on the status of accountability.

5.3.6. Plant Protection shall initiate a search for any missing personnel if feasible.

5.3.7. All essential and non essential personnel should follow the procedure steps outlined in the local evacuation procedure

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

Designated Assembly Areas for Philadelphia General Evacuations

GP Refinery	Shopping Center (61 st & Passyunk)
PB Refinery	Shopping Center (61 st & Passyunk)
Contractors	Process Center Lot

5.4. Evacuation Duration

- 5.4.1.** The evacuations should be sustained as long as the risk continues in the evacuated area. Caution should be taken when deciding to allow occupants to return to ensure that the situation is truly under control. Re-evacuating is difficult to complete and can cause confusion.
- 5.4.2.** The Incident On-Scene Commander shall decide when it is safe for individuals to go back in to an evacuated operating area.

6. *Self Assessment*

- 6.1 Drills and exercises
- 6.2 PH Critique Procedure

7. *Key Documents/Tools/References*

- 7.1 ER Incident Command Procedure (ER 001)
- 7.2 ER Employee Role and Responsibility (ER 017)
- 7.3 NER Point of Work Card
- 7.4 Facility list of Captains
- 7.5 PSG-PSM-STD-001 Implementation of the American Petroleum Institute's Recommended Practice 752 for Facility Siting

Revision Log

<i>Revision Date</i>	<i>Document Authorizer</i>	<i>Document Reviewer</i>	<i>Document Author</i>	<i>Revision Details</i>
02/2013	Robert Tucker	Robert Tucker	Steve Pelna, Jerry Hudak	Modified to reflect a change in ownership.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex Section 7: Procedures



Document Name:

**Document Number: Emergency Equipment Inspection / Maintenance Schedule
Procedure- ER 035**

Control Tier:
3 – Philadelphia

Document Authorizer:
Fire, Security & Emergency Response Manager

Issuing Dept:
Fire & Security

Document Reviewer:
Fire, Security & Emergency Response
Supervisor

Revision Date:
2/2013

Document Author:
Fire, Security & Emergency Response
Supervisor

Next Review Date:
2/2015

Document Administrator:
Document Control Coordinator

1.0 Purpose/Scope:

The purpose of this procedure is to identify the types of emergency equipment and the expected maintenance inspection schedule

2.0 Definitions:

- 2.1 Automatic External Defibrillators
Portable electronic device applied external to the body designed to adjust the electric heart rhythms for defibrillation
- 2.2 Carbon Dioxide Systems
High pressure or low pressure cylinders of CO2 connected to fixed pipe and nozzles designed for total flooding of the compartment.
- 2.3 Clean Agent Systems
Cylinder of Halon replacement gas connected to fixed pipe and nozzles designed for total flooding of the compartment
- 2.4 Deluge Systems
Deluge system piping is similar to wet or dry pipe system with two major differences. Standard sprinklers are used, but they are all open. The deluge valve is normally closed and is opened by the activation of a separate fire detection system.
- 2.5 Dry Chemical Systems
Cylinder of dry chemical connected to fixed pipe for application to target surface area through nozzle or hose
- 2.6 Dry Pipe Sprinkler Systems
Piping network with closed heads and filled with air or nitrogen. The air pressure keeps the main valve closed until the pressure is released by a fused head.
- 2.7 Fire Detection Systems
A system that monitors and alarms from conditions caused by smoke or heat production
- 2.8 Fire Fighting Foam
Chemical concentrate designed to be mixed with water and aerated to produce finished foam for fire extinguishment
- 2.9 Fixed Fire Pumps

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

- 2.10 Stationary fire pumps that are designed to increase pressure on the fire water system
- 2.10 Fire Hose
- 2.11 Portable and flexible tube to supply or deliver fire water
- 2.11 Fire Hydrants
- 2.11 Devices attached to the fire water main to supply continuous flow of water for fire departments or brigades
- 2.12 Fixed Monitor Guns
- 2.12 Devices attached to the fire water main to supply continuous flow of water for target hazards
- 2.13 Fixed Standpipes
- 2.13 Pipe network used to supply hose lines at elevated or remote locations
- 2.14 Foam Systems
- 2.14 Pipe network and delivery devices to deliver foam to target hazards
- 2.15 Fully Encapsulated (Level "A") Chemical Suits
- 2.15 Chemical protective clothing ensemble used to protect wearers against vapor and splash hazards from chemicals
- 2.16 Halon Systems
- 2.16 Tanks and piping network with open heads to discharge Halon gas in a target. Control valves for activation are activated by a separate detection system
- 2.17 Hydrant with Monitor Gun Combination
- 2.17 Devices attached to the fire water main to supply continuous flow of water for fire departments or brigades or target hazards
- 2.18 Isolation Block Valves
- 2.18 Underground / above ground valves installed in the fire water system to isolate or segregate areas of the line
- 2.19 Ladders
- 2.19 Mechanical device consisting of beams and rungs that are used for climbing
- 2.20 Nozzle and Monitor assembly designed to deliver water or finished foam streams in excess of 2000 gpm
- 2.21 Life Ropes
- 2.21 Rope lines used for rescue work only
- 2.22 Marine Craft
- 2.22 Water craft used for spill response or fire fighting activity
- 2.23 Mobile Fire Apparatus
- 2.23 Dedicated Fire / Rescue vehicles used to pump or carry hose, concentrate or rescue /hazmat equipment
- 2.24 Portable Fire Extinguishers
- 2.24 Hand held or wheeled cylinders containing suppression agents used for fire
- 2.25 Portable Monitor Guns
- 2.25 Portable nozzle and monitor assembly designed to deliver water or finished foam streams greater than 300 gpm but less than 2000 gpm
- 2.26 Reaction Sprinkler Systems
- 2.26 Closed head sprinkler system that requires fusion and detection by separate system for activation. The control valve is normally closed and operated by a separate detection system
- 2.27 SCBA
- 2.27 Self contained breathing systems that consist of cylinders and regulators designed to supply breathing
- 2.28 Spray Systems
- 2.28 Piping network and nozzles that are similar to deluge systems except they use a nozzle that provides a definite water application pattern to a precisely defined area
- 2.29 Spill Response Boom
- 2.29 Portable and reusable boom used for spill response to contain or divert spills
- 2.30 Structural Fire Fighting Protective Ensemble
- 2.30 Multiple elements of a protective clothing ensemble when worn together provide some protection from some risks, but not all risks, of emergency incident operations. Ensemble elements include coats, trousers, helmets, gloves, footwear, hood and interface components.
- 2.31 Utility Trailers
- 2.31 Trailers used for delivery of boats, spill equipment or other emergency response equipment

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

- 2.32 Utility Vehicles
Vehicles used to carry personnel or tools but not classified as mobile fire apparatus
- 2.33 Wet Pipe Sprinkler System
Piping network with closed heads attached to a water supply. Fusion of one head activates the flow in the system

3.3 General Requirements:

- 3.4 Fire & Security personnel shall be trained in the procedure.

4.3 Key Responsibilities:

- 4.4 Facility Fire & Security Supervisor shall ensure the frequency schedule is implemented and inspections are documented.

5.0 Procedure:

The equipment shall be inspected at the following intervals:

- 5.1 Automatic External Defibrillators
Weekly Inspection for portable units
Monthly Inspection for fixed units
- 5.2 Carbon Dioxide Systems
Annual Inspection
- 5.3 Clean Agent Systems
Annual Inspection
- 5.4 Deluge Systems
Annual Inspection
- 5.5 Dry Chemical Systems
Annual Inspection
- 5.6 Dry Pipe Sprinkler Systems
Annual Inspection
- 5.7 Fire Detection Systems
Annual Inspection
Semi-annual visual inspection
- 5.8 Fire Fighting Foam
Annual random inspection
- 5.9 Fixed Fire Pumps
Weekly exercise
Semi annual preventative maintenance
Annual performance testing and certification
- 5.10 Fire Hose
Annual Inspection and pressure test
- 5.11 Fire Hydrants
Annual inspection / pvm
- 5.12 Fixed Monitor Guns
Annual inspection / pvm
- 5.13 Fixed Standpipes
Annual inspection
- 5.14 Foam Systems
Annual inspection
- 5.15 Fully Encapsulated (Level "A") Chemical Suits
Before Use (visual)
Annual Inspection
- 5.16 Halon Systems
Semi annual inspection
- 5.17 Hydrant with Monitor Gun Combination

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

- 5.18 Annual inspection / pvm
 - Isolation Block Valves
 - Annual Exercise
 - Annual pvm for rising stem valves
- 5.19 Ladders
 - Before use (visual)
 - Annual Inspection
- 5.20 Large Foam Delivery Devices
 - Annual inspection
- 5.21 Life Ropes
 - Before use (visual)
 - Annual inspection
- 5.22 Marine Craft
 - Weekly inspection
 - Quarterly inspection, exercise and maintenance service
- 5.23 Mobile Fire Apparatus
 - Weekly inspection
 - Annual pump test and certification
- 5.24 Portable Fire Extinguishers
 - Monthly inspection
 - Annual maintenance
 - Six year maintenance for stored pressure
 - Hydrostatic testing per NFPA 10
- 5.25 Portable Monitor Guns
 - Annual inspection
- 5.26 Preaction Sprinkler Systems
 - Annual inspection
- 5.27 SCBA
 - Monthly inspection
 - Annual regulator flow test
 - Hydrostatic testing per NFPA 1981
- 5.28 Spray Systems
 - Annual inspection
- 5.29 Spill Response Boom
 - Annual inspection
- 5.30 Structural Fire Fighting Protective Ensemble
 - Before Use (visual)
 - Annual Inspection
- 5.31 Utility Trailers
 - Weekly inspection
 - Annual DOT registration / inspection
- 5.32 Utility Vehicles
 - Weekly inspection
 - Annual DOT registration / inspection
- 5.33 Wet Pipe Sprinkler System
 - Annual inspection

6.0 Self Assessment

- 6.1 Internal and external audits of inspection records

7.0 Key Documents/Tools/References

Revision Log

Paper copies are uncontrolled. This copy is only valid at time of printing. The controlled version can be found on the company intranet.

Revision Date: 02/01/13

Next Revision Date: 02/01/18

Last printed 5/9/2013 10:59 AM

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

<i>Revision Date</i>	<i>Document Authorizer</i>	<i>Document Reviewer</i>	<i>Document Author</i>	<i>Revision Details</i>
02/2013	Robert Tucker	Robert Tucker	William Kelly	Modified to reflect a change in ownership.



Document Name: PES Emergency Response Rapid Intervention Team Procedure

Document Number: ER 041

Control Tier:
3 – Philadelphia

Document Authorizer:
Fire, Security & Emergency Response Manager

Issuing Dept:
Fire & Security

Document Reviewer:
Fire, Security & Emergency Response Supervisor

Revision Date:
2/2013

Document Author:
Fire, Security & Emergency Response Supervisor

Next Review Date:
2/2015

Document Administrator:
Document Control Coordinator

1.0 Purpose/Scope

The purpose of this procedure is to define the objective and function of a rapid intervention team as it pertains to interior structural fire fighting and help ensure that a team is available. All Incident Commanders need to be alert to detect signs circumstances or conditions which may indicate a need for RIT establishment or deployment. This decision to initiate RIT needs to be completed early in the incident as possible. The objective and function of a rapid intervention team is to locate and rescue lost, trapped, and /or injured firefighters on the fire ground.

2.19 Definitions

- 2.20 **Aggressive Intervention-** The activity of controlling a fire, spill or leak of hazardous material substances that require a possible close or offensive approach to the substance or equipment involved.
- 2.21 **Communications Specialist-** An individual assigned to either the Communications Center or Incident Command Post responsible for the organized transmission of incident information.
- 2.22 **Emergency Actions -** The activity or those actions that would be taken by personnel within the area, to an incidental release of hazardous substances that can be contained by utilization of sorbents, neutralized, or otherwise controlled at the time of the release by employees in the immediate area, provided that " Imminent Danger " is not present to the employee, or others in the area.
- 2.23 **Emergency Response -** An emergency response, or responding to emergencies is a response effort by employees specially trained from outside the immediate emergency incident area or by other designated responders, (e.g. mutual aid groups, fire departments, etc.) to an occurrence which results, or is likely to result in an uncontrolled release of a hazardous substance or fire requiring aggressive intervention efforts.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

- 2.24 **Imminent Danger** - a consequence of a release of a hazardous substance, fire or similar condition existing if one of the following conditions is present;
1. High concentrations of toxic substances,
 2. Situation that is injury or life threatening,
 3. Imminent danger to life and health (IDLH) environments,
 4. Situation that presents an oxygen deficient atmosphere,
 5. Condition that poses a fire or explosion hazard,
 6. Situation that requires an evacuation of the area,
 7. A situation that requires immediate attention from the danger posed to employees in the immediate area.
- 2.25 **Incident (Emergency)** - An occurrence or event, either human caused or natural phenomena, that requires action by emergency personnel to prevent or minimize loss of life or damage to property/or natural resources.
- 2.26 **Incidental Release** - Is where the quantity or type of material released does not create an imminent danger and that operators and/or mechanics may come in contact with, or locate, through the course of their routine activities, and/or discover while investigating a specific problem.
- 2.27 **Incipient Stage Fires** - A fire which is in the initial or beginning stage and which can be controlled or extinguished by portable fire extinguishers, Class II standpipe or small hose systems without the need for protective clothing or breathing apparatus.
- 2.28 **Initial Rapid Intervention Crew (IRIC)** – Two members of the initial attack crew who are assigned for rapid deployment to rescue lost or trapped members
- 2.29 **Interior Firefighting** – The physical activity of fire suppression, rescue, or both inside of buildings or enclosed structures which are involved in a fire situation beyond the incipient stage
- 2.30 **Non Aggressive Intervention** - The activity of controlling a release or fire that includes closing valves, extinguishing fires or similar activity that does not present imminent danger to the employee, such as Incidental Releases and/or Incipient Fires.
- 2.31 **Rapid Intervention Crew (RIC)** – A dedicated crew of firefighters that is assigned for rapid deployment to rescue lost or trapped members. This is the same as RIT.
- 2.32 **Response Action** – The activity by personnel within the area, to an incidental release of hazardous substances where the substance can be contained by utilization of sorbents, neutralized, or otherwise controlled at the time of the release by employees in the immediate incident area, or by maintenance personnel, are not considered to be an emergency response where there is no potential safety, health hazard, or "imminent danger" to the employee. These response actions deployed by personnel within the area, such as process operators, are often taken to prevent the incident from increasing in severity. The training and background of our operators, provides them with the critical knowledge to recognize, and determine if the situation has the potential to become life threatening, and pose "Imminent Danger" to themselves and others in the area. If during this response action, the situation or incident continues to escalate, personnel within the area must limit their actions, and begin control measures in a more remote fashion, while Emergency Response personnel arrive, and begin containment, suppression, and/or mitigation activities.
- 2.33 **On Scene Commander** – The individual responsible for insuring that on scene activities are coordinated and that impact to facility personnel and operations is minimized.

3.0 General Requirements

- 3.14 Emergency Response personnel shall be trained in the procedure.

4.0 Key Responsibilities

- 4.18 Emergency Response personnel shall understand and utilize the initiatives identified in the procedure.
- 4.19 Emergency Scene Incident Commanders shall initiate or take the necessary steps to implement when deemed necessary.

5.27 Procedure

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

- 5.28 All firefighters engaged in interior structural firefighting must use self-contained breathing apparatus.
- 5.29 Initial Rapid intervention Crew (IRIC) shall be established by the incident commander at the start of any aggressive intervention (beyond incipient) of interior structural fire attack.
- At least two fire fighters will enter the immediately dangerous to life and health (IDLH) atmosphere and remain in visual or voice contact with one another at all times. Due to potential for mechanical failure or reception failure, radio communications is not considered an acceptable form of communication between the two or more interior firefighters for “remaining in visual or voice contact”. Radios can and should be used for communications on the fire ground, including communications between the interior firefighter team(s) and exterior firefighters. They cannot, however, be the sole tool to account for one’s partner in the interior of a structure.
 - At least two fire fighters are located outside of the IDLH atmosphere. The two firefighters must always be stationed outside the IDLH and be prepared to enter should the need arise. One of these individuals may be assigned to an additional role, such as incident commander, pump operations, outside hose advancement or safety officer, so long as the individual is able to perform assistance or rescue activities without jeopardizing the safety or health of any firefighter working at the incident. One of the outside firefighters must monitor the status of the interior firefighters.
- 5.30 Exception to the establishment of an IRIC can be taken if, upon arrival at the scene, firefighters find an imminent life threatening situation where immediate action may prevent the loss of life or serious injury. Such action shall be permitted when conducted in accordance with sound risk management principles.
- 5.31 Rapid Intervention Crew (RIC) shall be established when an incident escalates beyond an initial alarm assignment or when significant risk is present to fire fighters due to the magnitude of the incident. Incident commanders shall upgrade the IRIC to a full rapid intervention crew(s) that minimally consists of four fully equipped and trained firefighters.
- 5.32 During incidents involving unified command, the community emergency response RIT resources can be utilized to satisfy the requirement of establishing RIC. Separate Sunoco teams need not be created.
- 5.33 The Incident Commander shall assign an individual to command RIT functions. This RIT officer shall:
- Review the situation status with the Incident Commander
 - Confirm the chain of command (i.e. to whom does the RIT report)
 - Verify radio channels for fire ground operation and monitor radio traffic
 - Continuously perform incident size-up. This includes type, size, condition and age of structure, roof construction, possibility of collapse, number of floors, points of access and egress, stairwells and elevators, building contents and interior finish, extent of fire development, water supply, and basement or any other overall hazard or relevant details.
 - Assess the structural stability of the building and the progression of the fire attack
 - Secure and stage appropriate staffing, tools and equipment to perform the task that may be required (i.e. forcible entry, prying tools, cutting tools, power tools, striking tools, rope, ladders, hose lines, radios, scba, thermal imaging cameras). Initial staging for deployment should be in the vicinity where interior fire crews made entry but outside of any collapse zone
 - Consider organizing multiple RIT as the incident’s magnitude and complexity requires
- 5.7 RIT shall stay active until all hazards that could cause lost or trapped firefighters are mitigated. This includes overhaul activities.

6.0 Self Assessment

- 6.1 Drills and exercises
- 6.2 PH Critique Procedure (ER 003)

7.0 Key Documents/Tools/References

- 7.1 PH Incident Command Procedure (ER 001)
- 7.2 29 CFR 1910.134
- 7.3 NFPA 1710

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 7: Procedures

Revision Log

<i>Revision Date</i>	<i>Document Authorizer</i>	<i>Document Reviewer</i>	<i>Document Author</i>	<i>Revision Details</i>
02/2013	Robert Tucker	Robert Tucker	William Kelly	Modified document to reflect change of ownership.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

STANDARD 2402

INSPECTION OF ATMOSPHERIC STORAGE TANKS

Purpose: The purpose of this standard is to provide PES and other affiliates of PES with an inspection program for atmospheric storage tanks (AST's) which have experienced service, to ensure that they are in condition to provide safe and reliable continued service.

Table of Contents

- A. Scope
- B. Inspection Program
 - 1. Monthly In Service Inspection
 - 2. In Service Comprehensive Inspection
 - 3. Out of Service Comprehensive Inspection
 - 4. Check List - Monthly Above Ground Storage Tank Inspection Report (B4)
 - 5. Check List - Inspection Report (B5) Comprehensive Above Ground Storage Tank
- A. SCOPE: This program outlines levels and frequency of inspection and provides check lists for the various required inspections. It provides a methodology and documentation of the inspection to assure:
 - 1. Structural integrity of the AST's to prevent catastrophic failure.
 - 2. Prevention of content leakage from the tank and content containment that may cause an environmental concern.
 - 3. Structural integrity of the safety related equipment.

Note: This Inspection Program will evaluate the safety equipment for it's structural integrity. This program is not intended to determine if the system works or that it is adequate to do the job it was designed to do. That is beyond the scope of this inspection program. That is either an engineering, safety, or operating function and shall be covered in other procedures. Where government regulations differ from this standard, the more stringent requirements shall apply.

Associated Standards: Sunoco Standard 2401, API Standard 650, and API Standard 653.

B. INSPECTION PROGRAM

The Inspection Program consists of three (3) levels (or degrees) of inspection. These levels were developed to meet the above purpose and the requirements of API Standard 653 "Tank Inspection, Repair, Alternation, and Reconstruction".

A basic premise of this Inspection Program is the existence and maintenance of a permanent record file for each AST. This file, maintained by the Owner/Operator, shall include design data, construction drawings, hydro test records, inspection records, bench marks, repair documents, a listing of stored products and other important documents and information.

The three (3) levels of inspection are:

- 1. Monthly In Service Inspection
 - 2. In-Service Comprehensive Inspection
 - 3. Out of Service Comprehensive Inspection
- 1. Monthly In Service Inspection
 - 1.1 All tanks shall be given a visual in service inspection on a monthly basis.
 - 1.2 The inspection may be done by the owner/operator or his designated representative.
 - 1.3 The routine inspection shall consist of a visual inspection of the exterior of the tank for leaks, shell distortion, damage or other potential problems.
 - 1.4 A written record of inspection shall be maintained by the responsible operations/terminal manager. Leaks, concerns, or potential problems shall be reported to the applicable maintenance, inspection or engineering organization for action. Section B-4 of this Standard contains a suggested inspection form.

This inspection record shall be maintained in a running 12-month file or until the next comprehensive inspection.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

2. In Service Comprehensive Inspection
 - 2.1 All AST's shall be given an external comprehensive inspection at a minimum of every 5 years. It is preferable that the AST be in operation during the inspection.
 - 2.2 A qualified inspector (as defined in API 653) shall perform the inspection.
 - 2.3 The inspection shall be performed as outlined in Section B-5 of this Standard. The completed inspection report shall be maintained in the permanent record file. A completed In Service Inspection Report must include pages 1-4, Summary of Inspection and Recommendations (page 7), and Attachment 1 (page 8).
 - 2.4 All applicable PES and local regulatory safety procedures and requirements must be complied with while performing these inspections.

3. Out of Service Comprehensive Inspection
 - 3.1 All AST's shall be given an out of service comprehensive inspection at least every 20 years. The actual inspection interval shall be governed by the measured or anticipated corrosion rate on the bottom, unless more frequent inspections are dictated by government or regulatory requirements. API 653 provides procedures for determining AST inspection interval.
 - 3.2 A qualified inspector, as defined in API 653 shall perform this inspection.
 - 3.3 The comprehensive out of service inspection shall be performed as outlined in Section B-5 of this Standard. The completed inspection form shall be maintained in the permanent record file. A complete out of service Inspection Report shall include all pages of Section B-5.
 - 3.4 All applicable PES and regulatory safety procedures and requirements must be complied with while performing these inspections.

MONTHLY ABOVE GROUND STORAGE TANK INSPECTION REPORT (B4)

	Date of Inspection	
Location	Tank Numbers	
Inspected By		
Instructions: Access the condition of the following items (numbered items) for the areas of concern (lettered items)		
	Condition	Remarks
1 Ladders, Stairways, Platforms and Walkways		
a. Corrosion	<input type="checkbox"/> SAT	
b. Broken or missing parts, supports or anchor bolts		
c. Cracked, spalled, or deteriorated concrete pedestals and foundations	<input type="checkbox"/> UNSAT	
2 Foundations		
a. Build up or erosion of soil around tank bottom, tank foundation or ringwall	<input type="checkbox"/> SAT	
b. Excessive settlement of one side of the tank with respect to another		
c. Cracked, spalled, or deteriorated foundations and ringwalls	<input type="checkbox"/> UNSAT	
d. Water accumulation around the tank		

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 7: Procedures

3	Piping & Shell Connections i.e. nozzles, manways, valves and grounding connections a. Cracks b. Corrosion c. Distortions d. Leakage e. Operational malfunctions	<input type="checkbox"/> SAT <input type="checkbox"/> UNSAT	
4	Tank Shell, Roof and Bottom a. Corrosion b. Leaks c. Cracks d. Bulges e. Board Gauge f. High level alarm g. Underbottom leaks h. Visual inspection of underbottom leak detection (if it exists)	<input type="checkbox"/> SAT <input type="checkbox"/> UNSAT	
5	Dikes a. Erosion b. Drainage and general condition c. Operation of drains d. Cracks in masonry firewalls e. Access f. Housekeeping	<input type="checkbox"/> SAT <input type="checkbox"/> UNSAT	
6	Other Comments		

Sun-42446-A

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 8: Training Procedures

Level of Training

The three basic levels of training in the facility which are incorporated from our facility 1910.120 (HAZWOPER) Emergency Response Plan are awareness, operational and technician.

Awareness:

For general personnel, they are trained annually. The training will include an understanding of the emergency systems, notification procedures, and recognition of hazards, their responsibilities under the response plan, the name and address of, and the procedure for contacting the operator on a 24-hour basis, and the name of and procedures for contacting the qualified individual on a 24-hour basis.

Operational:

For operating and maintenance personnel, they have a minimum of 8 hours and an annual refresher. This training could include an understanding of hazardous materials and associated hazards, identifying and determining the response necessary, respiratory protection, personal protective equipment, and decontamination procedures, the content of the information summary of the response plan, and the toll free phone number of the National Response Center (1-800-424-8802) and the notification process.

Technicians:

For emergency response personnel, they have a minimum of 24 hours of training and an annual refresher. This training will include special handling procedures, decontamination operations, special hazard awareness, emergency operations process and procedures, fire and rescue training, spill and leak control, spill mitigation, and understanding the Incident Command structure.

Specialist:

The refineries employ a variety of personnel with special qualifications or specialties such as Metallurgists, Railroad and Rail Car Specialists, Product Specialist and Chemical Engineers. They will be working directly with trained emergency response personnel and be involved for a particular reason. Generally, these personnel will work outside the "hot zone".

Refinery Staff- Incident Command

The facility management staff that operates in functions identified in the Emergency Operations Center (EOC) (ER-001) participate in a table top exercise on an annual basis.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex Section 8: Training Procedures

TRAINING PROCEDURES FOR REFINERY RESPONSE PERSONNEL AND EMPLOYEES THROUGHOUT FACILITY

Emergency Response Team

The Emergency Response Team (ERT) consists of the Plant Protection Shift Supervisors, the Fire, Security & Emergency Response Manager, Emergency Response Technicians, Health and Safety Engineers and approximately 100 volunteer members. Volunteer members participate in Emergency Response Team activities in addition to their regular job duties in the refinery such as process operator, maintenance mechanic, or administrative support personnel. Management of the Emergency Response Team is provided by the Fire, Security and Emergency Response Manager or Plant Protection Shift Supervisors in the tactical command role and the Fire, Security and Emergency Response Manager as an overall emergency scene manager.

Training of ERT members is conducted both internally and externally. Internal training in the area of tactical operations is coordinated by the Plant Protection Shift Supervisor and is conducted by the Plant Protection Shift Supervisor and Emergency Response Technicians. Other internal sessions in the area of safety, industrial health, security or environmental issues are conducted by members of the Health, Safety, Security or Environmental staffs within the refinery. Specialists also conduct special internal sessions on topics such as oil spill response, confined space rescue or high-angle rescue. External training consists of a wide variety of topics conducted by specialists at numerous off-site sessions at established, nationally recognized schools.

Facility Discharge Prevention Meetings

Facility employees are assigned a computer based learning assignment consisting of the Spill Prevention Containment and Countermeasure module. Additionally, incidents involving oil spill and/or discharges are discussed at Facility Weekly Communication Briefings. During the employee briefing sessions, oil spill/discharge incidents are discussed including corrective and preventative measures for incidents of similar kind.

SPCC and Environmental Incident relevant weekly communication meeting training log are maintained by the facility training department. Weekly communication forum meeting agendas are available on the company intra-net site.

Operation Department Training

Instruction and training of Operation Department personnel begins when an employee first enters the department. All Operations Department personnel complete an Apprenticeship Training Program. This fundamental of refining training includes:

1. Refinery safety orientation and introduction to safety procedures, covering the following topics:
 - Emergency Procedures
 - Emergency Equipment
 - Communication and Alarm Systems
 - Responses to Fires and Emergencies

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 8: Training Procedures

- Site Evacuation
- 2. Personal protective equipment
- 3. Hazardous communications
- 4. Environmental awareness
- 5. Overview of refinery processes
- 6. Training on prevention of oil, toxic or hazardous substances discharges is heavily emphasized

Upon successful completion of the training, apprentices are assigned to a specific process area within the refinery. Each apprentice is required to:

Train and successfully demonstrate proficiency on all duty stations in their assigned area within a specific period. There are required written and skill demonstration tests, conducted by supervision and must be completed satisfactorily.

Recordkeeping

All training is documented and recorded electronically in each refineries training database. Training records will include:

- Date of each session
- Duration of the session training
- Description of the training
- Attendance list

Training records and program material are kept by the PES Training Department. Records will be kept for a minimum of three (3) years and be available for inspection and review.

Oil Spill Response Organizations (OSRO's)

Training conducted by Oil Spill Response Organizations for their employees are assured by contractual agreements as well as Philadelphia Energy Solutions's audit process.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 9: Drill Procedures

Definitions

- Drill:** A periodic activity for perfecting skills in specific operations, announced and unannounced.
- Exercise:** An activity designed to promote emergency preparedness; test or evaluate emergency operations plans, procedures, or facilities; train personnel in emergency response duties; and demonstrate perceptual capability.
- Tabletop Exercise:** An activity in which emergency response officials and key staff are presented with simulated emergency situations without time constraints. It is usually informal, in a conference room environment, and designed to elicit constructive discussion by the participants as they attempt to examine and then resolve problems based on existing emergency operations plans. The purpose is to resolve questions of coordination and assignment of responsibilities in a non-threatening format and under minimum stress.
- Functional Exercise:** An activity designed to test or evaluate the capability of an individual function or a complex activity within a function. It is applicable where the activity is capable of being effectively evaluated in isolation from other emergency management activity. For example, *A Direction and Control Function Exercise* is an activity designed to test and evaluate the centralized emergency operations capability and timely response of one or more units under a stress environment. It is centered in an Emergency Operations Center, and simulates the use of outside activity and resources.
- Unannounced Drills:** A drill or exercise activity, other than QI Notifications, conducted annually. Credit can be taken for an unannounced drill if the exercise participants do not have prior knowledge of the exercise.

COMPARISON OF EXERCISE ACTIVITY

	TABLE TOP	DRILL	FUNCTIONAL EXERCISE
SCOPE	PROBLEM SOLVING (SMALL)	SPECIFIC ACTIVITY (SMALL)	COMPLEX ACTIVITY (LIMITED)
DURATION	2-4 HOURS	BRIEF (REPETITIVE)	1-8 HOURS
TIME	NONE	REAL	REAL SKIP
PLAYERS	KEY	OPERATORS	VARIABLE
SIMULATION	N/A	NONE	VARIABLE
CRITIQUE	FACILITATOR/SELF	DRILL LEADER/SELF	SUPERVISOR OBJECTIVE STAFF
FOLLOW UP	MINUTES, NOTES, & PRACTICE	STUDY	CRITIQUE/STAFF ASSIGNMENTS

Once the various elements of the exercise program have been defined, minimum standards of implementation should be established. This is critical to a balanced program since all exercises should

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 9: Drill Procedures

build logically on one another. While there are definite constraints, it must be argued that exercise activity need not be expensive in terms of time or "added" costs in excess of budgeted day-to-day salaries and expenses. They really should be considered as part of the normal function of any organization with emergency operations responsibilities.

Philadelphia Energy Solutions utilizes the National Preparedness for Response Exercise Program (PREP) as a guide for conducting the Drill and Exercise Program. In addition, oil spill drills and exercises have been integrated with the Port Security Program and a separate drill exercise activity plan is maintained by the PES. The PES Drill and Exercise plan encompasses all types of required drill and exercise activities including port security and spill response.

Philadelphia Energy Solutions conducts equipment deployment exercises on a semi-annual basis with the OSRO participating in at least one of the exercises on an annual basis. The objective of the exercises is to demonstrate the ability of response personnel to deploy and operate facility owned and operated response equipment identified within the response plan and to exercise with the OSRO. Equipment inspections are conducted by the facility's OSRO on an annual basis.

Below is an example of a 3 year Exercise schedule.

YEAR 1 EXERCISE SCHEDULE

Event	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Tabletop Exercises							X					
Announced Drills							X					
Functional Exercises				X					X			
Notification Drill	4	4	4	4	4	4	4	4	4	4	4	4
Deployment Drill						X	X					
Unannounced Drill									X			
OSRO Drill				X								

YEAR 2 EXERCISE SCHEDULE

Event	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Tabletop Exercises							X					
Announced Drills							X					
Functional Exercises				X					X			
Notification Drill	4	4	4	4	4	4	4	4	4	4	4	4
Deployment Drill						X	X					
Unannounced Drill						X						
OSRO Drill									X			

YEAR 3 EXERCISE SCHEDULE

Event	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Tabletop Exercises						X						
Announced Drills											X	
Functional Exercises				X					X			
Notification Drill	4	4	4	4	4	4	4	4	4	4	4	4
Deployment Drill							X				X	
Unannounced Drill							X					
OSRO Drill				X								

Paper copies are uncontrolled. This copy is only valid at time of printing. The controlled version can be found on the company intranet.
Revision Date: 02/01/2013 Next Revision Date: 02/01/2018 Last printed 5/9/2013 11:00 AM

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 9: Drill Procedures

SPILL MANAGEMENT TEAM TABLETOP EXERCISE

Applicability - This applies to PES Spill Management Team.

Frequency: Spill Management - Annual
Worse Case Scenario - Triennial

Initiating Authority - Security, MTSA, OEMS and Emergency Response Supervisor

Participating Elements - Spill Management Team

Scope - Exercise the Spill Management Team organization, communication and decision making in managing a spill response.

Objectives – Table top exercises are scheduled on an annual basis and include elements to evaluate simulated spill response strategic and tactical planning measures, response / asset deployment and resource management.

Triennial worse case scenario exercises will involve simulation of a worst case discharge scenario. Triennial exercises, when possible, for scheduling, time management and budgetary purposes, shall be developed, where possible, to include exercise components that meet worse case scenario exercise requirements of the USCG, EPA and DOT Pipeline and Hazardous Materials Safety Administration (PHMSA).

One PHMSA worse case scenario exercise shall be conducted within the refining and supply northeast regional zone to meet the PHMSA triennial exercise requirement.

Exercises components may include:

- Knowledge of the response plan.
- Proper notification.
- Communications system.
- Ability to access Oil Spill Removal Organization (OSRO).
- Coordination of organization/agency personnel with responsibility for spill response.
- Ability to effectively coordinate spill response activity with National Response System Infrastructure.
- Ability to access information in Area Contingency Plan for location of sensitive areas, resources available within the area, unique conditions of area, etc.

Certification - Self certification shall be accomplished by utilization of "Drill Certification Log".

Verification - Verification to be conducted by responsible oversight agency.

Records - 3 years for USCG, 5 years for EPA, Records shall be maintained at the facility.

Evaluation - Self evaluation shall be done utilizing the Drill Certification Log.

Credit - Credit for this drill may be taken in conjunction with other exercises or for an actual spill response when the objectives are met and a proper record is generated.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 9: Drill Procedures

Note: Unannounced drills are conducted annually. This activity can also be conducted as an **unannounced drill**. Credit can be taken for an unannounced drill if the exercise participants do not have prior knowledge of the exercise.

EQUIPMENT DEPLOYMENT DRILLS

Applicability - This applies to PES Refineries with owned response equipment.

Frequency - Semi-annually

Initiating Authority - Security, MTSA, OEMS and Emergency Response Supervisor

Participating Elements - Company personnel and oil spill removal organizations

Scope - Deploy and operate facility owned response equipment. Only a representative sample of each type of equipment that is necessary to respond to an average most probable discharge need be deployed.

The remainder of the equipment not deployed must be included in a training and maintenance program. Credit will be given for deployment conducted during training. The maintenance program must ensure that the equipment is periodically inspected and maintained in good operating condition in accordance with the manufacturer's recommendations and accepted practices. All inspection and maintenance must be documented.

Objectives - Demonstrate ability of facility personnel to deploy and operate equipment. Ensure equipment is in proper working order. Equipment in need of repair should be repaired or replaced within 30 days.

Certification - Self certification shall be accomplished by utilization of Exercise Records and Spill Response Equipment Maintenance Log.

Verification - Verification to be conducted by responsible oversight agency.

Records - 3 years for USCG, 5 years for EPA, Records shall be maintained at the refinery facility

Evaluation - Self evaluation shall be done utilizing the Drill Certification log

Credit - Credit for this exercise will be given when conducted in conjunction with other drills as long as all objectives are met and a proper record has been generated. Likewise, credit may be taken for an actual spill response when these objectives are met and a proper record has been generated. **Note:** If a facility with facility owned equipment also identifies oil spill removal organization equipment in their response plan, the oil spill removal organization equipment must also be deployed and operated in accordance with the equipment deployment requirements for oil spill removal organization owned equipment.

Unannounced drills are conducted annually. This activity can also be conducted as an **unannounced drill**. Credit can be taken for an unannounced drill if the exercise participants do not have prior knowledge of the exercise.

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
Section 9: Drill Procedures**

**PES Exercise Certification Log
Plant Protection - Fire / Emergency Response
Attachment A**

Type: Live Exercise Table Top Exercise Un-Announced Drill
 Equipment Deployment Drill

Date of Drill:
 Drill Event: Drill Coordinator:

The following areas must be tested:

	Satisfactory / Unsatisfactory
<input type="checkbox"/> Knowledge of Plan	<input style="width: 40px; height: 15px;" type="text"/>
<input type="checkbox"/> Notification of Staff / Resources	<input style="width: 40px; height: 15px;" type="text"/>
<input type="checkbox"/> Able to Access OSRO / Other	<input style="width: 40px; height: 15px;" type="text"/>
<input type="checkbox"/> Assessment / Event Size-Up	<input style="width: 40px; height: 15px;" type="text"/>
<input type="checkbox"/> Containment / Control Measures	<input style="width: 40px; height: 15px;" type="text"/>
<input type="checkbox"/> Recovery Operations	<input style="width: 40px; height: 15px;" type="text"/>
<input type="checkbox"/> Coordinate Response w/Local/State/Federal Authorities	<input style="width: 40px; height: 15px;" type="text"/>
<input type="checkbox"/> Other Considerations (E.g. Sensitive Area's)	<input style="width: 40px; height: 15px;" type="text"/>

RESPONSE SUPPORT

<input type="checkbox"/> Communication	<input style="width: 40px; height: 15px;" type="text"/>
<input type="checkbox"/> Transportation	<input style="width: 40px; height: 15px;" type="text"/>
<input type="checkbox"/> Shelter	<input style="width: 40px; height: 15px;" type="text"/>
<input type="checkbox"/> Rehabilitation / Decontamination	<input style="width: 40px; height: 15px;" type="text"/>
<input type="checkbox"/> Equipment Operation / Maintenance	<input style="width: 40px; height: 15px;" type="text"/>
<input type="checkbox"/> Procurement of Supplies	<input style="width: 40px; height: 15px;" type="text"/>

RESPONSE RESOURCES

Personnel
 Equipment

Were Objectives Met? YES NO (Other - Explain)
 Was Plan Effective? YES NO (Other - Explain)

If no, explain:

Corrective action and/or follow up action:

Remarks:

Supporting Documentation (Where Applicable) Critique Lesson Plan /Objectives
 Participant Log Reference Materials / Other

Signature
 (Security, MTSA, OEMS and Emergency Response
 Supervisor, Plant Protection)

Date

Signature

Date

(Compliance Supervisor, Plant Protection)

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 10: Plan Review and Update

10.0 PLAN REVIEW AND UPDATE

At least once each year, the OPA 90 Plan will be reviewed and updated, where necessary. The appropriate modifications will be made to reflect changes in plant operations or material handling procedures.

The response plan will be reviewed immediately and modified if required, to address the following changes in DOT pipeline operating conditions. PHMSA shall be notified within 30 days of making such a change:

1. An extension of an existing pipeline or construction of a new pipeline in a response zone not covered by the previously approved plan.
2. Relocation or replacement of the pipeline in a way that substantially affects the information included in the response plan such as a change to the worst case discharge volume.
3. The type of product transported if the type affects the required response resources.
4. The name of the oil spill removal organization.
5. Emergency response procedures
6. The qualified individual.
7. A change in the NCP or ACP that has significant impact on the equipment appropriate for response activities.
8. Any other information relating to circumstances that may affect full implementation of the plan.

The Fire, Security and Emergency Response Manager will be responsible for conducting the review and for ensuring that the plan is modified as required. Further, this plan will be used as support for a tabletop exercise each year and areas of improvement identified during exercises or actual incidents will be added to the plan. Each plan will contain an identifying number to ensure Plan Maintenance and follow up.

ALL OPA PLAN INQUIRIES SHOULD BE DIRECTED TO THE FOLLOWING:

1. Fire, Security and Emergency Response Manager 215-339-2286

POST INCIDENT REVIEW AND CRITIQUE

Critique of an emergency response will follow the "Incident Critique" procedure which requires a review following the incident and will involve personnel having a role in the response, i.e. Emergency Response Shift Supervisor, Emergency Response Technician, Plant Protection, ERT Personnel, and others, where appropriate.

The Critique Format provides for an assessment of the following areas:

- Control & Command
- Tactical Operations
- Procedures & Planning
- Communications/Notifications
- Recommendations & Follow up Actions

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

Section 10: Plan Review and Update

It will be the responsibility of either the Response Operations Officer or Incident Commander to conduct the critique session. On occasion, the length or duration of the incident may prohibit the critique personnel from gathering immediately. However, the critique is required to be completed in 5 days.

The critique session will be documented using the Emergency Response Critique format. The Fire, Security and Emergency Response manager has the responsibility to review each critique and assign, as necessary, items requiring action and follow-up.

Critique information is shared with Emergency Response Team members.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

APPENDIX A: Facility Specific Information

Dock Facilities - Dock Facility information is dynamic and updated quarterly and available on-line. Printed sheet is accurate at time of printing.

Philadelphia Energy Solutions has three areas within this plan:

- Point Breeze Process Area
- Girard Point Process Area
- Schuylkill River Tank Farm

The Point Breeze Process Area is located at the juncture of the Schuylkill River and the Passyunk Avenue Bridge in south Philadelphia, approximately 2.75 miles north of the Delaware River. This process area consists of approximately 672 acres.

The Point Breeze Process Area is an integrated fuels refinery with a crude throughput of 140,000 barrel per day. Crude is brought into the facility by pipeline from Sunoco Logistics Fort Mifflin ship unloading facility and stored in tanks. The facility has approximately 175 large storage tanks with a total storage capacity of approximately 12 million barrels of petroleum products at any one time.

The facility loads fuel oil, gasoline, diesel, and kerosene at four barge loading facilities on the Schuylkill River which is open on a 24-hour basis. These loading facilities are equipped for barges up to a (b) (7)(F) [REDACTED]. The Point Breeze Process Area loads liquefied petroleum gases and heavy fuels onto truck and railcars at loading facilities located in the North Yard.

The Girard Point Process Area covers approximately 373 acres. It is located at the base of the Platt Bridge (Penrose Avenue). The process area is located on the east bank of the Schuylkill River. The 211-acre tank farm is located on the west bank of the Schuylkill River, directly opposite the Girard Point Process Area. The facility is approximately one mile above the confluence with the Delaware River.

The Girard Point Process Area is a petroleum refinery. It has a crude throughput of 200,000 barrels per day. Crude oil is processed into three grades of gasoline, home and industrial heating fuels, kerosene, jet fuel, liquefied petroleum gas (LPG), benzene, toluene, cumene, and sulfur. Processing units in operation include atmospheric and vacuum crude distillation, catalytic reforming, fluid catalytic cracking, distillate desulfurization, alkylation, amine scrubbing, sulfur recovery, petrochemical complex, and gasoline treating and blending.

The Schuylkill River Tank Farm is a petroleum bulk storage facility and a gasoline blending facility. Intermediate and finished products are stored in approximately 50 tanks. There are no underground storage tanks and no refining units at the Schuylkill River Tank Farm.

Facility diagrams are located in Appendix J. For clarity on the facility diagrams, The Tank List in Section 6, pages 13-18 should be used with the diagrams to determine materials stored and the capacities of the storage tanks and the secondary containment areas.

Description of Dock Facilities

Girard Point

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX A: Facility Specific Information**

#2	Product Transfer Type: ULSD1, #6 Fuel Oil, COMP. (>4# RVP), COMP. (<4# RVP), CSO/MFB, Cumene, Jet/AV1K, LSD & LCO, VGO
	Draft: 26.0 feet
	Size: 600 feet (LOA); 105 Max. Beam
#6	Product Transfer Type: #6 Fuel Oil, Benzene, COMP. (>4# RVP), COMP. (<4# RVP), CSO/MFB, Cumene, Gasoline, Jet/AV1K, LSD & LCO, Naptha (HVY), Naptha (LT), VGO
	Draft: 27 feet
	Size: 650 feet (LOA); 105 Max. Beam
#7 and #8	Product Transfer Type: #6 Fuel Oil, Benzene, COMP. (>4# RVP), COMP. (<4# RVP), CSO/MFB, Cumene, Jet/AV1K, LSD & LCO, VGO
	Draft: 27 feet
	Size: 650 feet (LOA); 105 Max Beam
#9, #10 & #11	Product Transfer Type: ULSD1, #6 Fuel Oil, #2 Fuel Oil, Butane, COMP. (>4# RVP), COMP. (<4# RVP), CSO/MFB, Jet/AV1K, LSD & LCO, Naptha (HVY), Naptha (LT), VGO
	Draft: 25.6 feet
	Size: 750 feet (LOA); 130 Max. Beam

Point Breeze

Short	Product Transfer Type: COMP. (>4# RVP), COMP. (<4# RVP), Gasoline, MTBE, Naptha (HVY), Naptha (LT)
	Draft: 26 feet
	Size: 850 feet (LOA); 65 Max. Beam
Deloach	Product Transfer Type: : ULSD1, #2 Fuel Oil, Jet/AV1K, LSD & LCO
	Draft: 26 feet
	Size: 850 feet (LOA); 65 Max. Beam
Fuels	Product Transfer Type: #6 Fuel Oil, CSO/MFB, VGO
	Draft: 10 feet
	Size: 900 feet (LOA); 75 Max. Beam

Note: For both Girard Point and Point Breeze, seven (7) vessels, from small barges to 900' length ships, can transfer simultaneously.

Storage Units Descriptions

The Tank List (Section 6, pages 13-18) presents detailed information regarding the storage and use of oil and hazardous materials at this facility. The list has been cross referenced in the facility diagram showing the locations of each tank storage area and its related secondary containment. The list identifies:

- Petroleum storage which includes the storage of "oil", as defined in 40 CFR 112.2(a) including tank and drum storage of raw products and waste oils; and,
- Non-petroleum storage, which includes the storage of hazardous materials.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX A: Facility Specific Information

The list also includes relevant information and characteristics for both tanks and material storage areas.

There are no surface impoundments.

There have been no tank failures that resulted in a loss of tank contents.

The Point Breeze Process Area is the only area that has underground storage tanks. The underground storage tanks for gasoline and diesel are double-walled fiberglass tanks. These tanks are used for vehicle maintenance. A leak detection system for these tanks is connected to the tank database maintained by the Blending and Shipping Department. The steel underground storage tank for the #2 heating oil is used for building heat. This tank is exempted from PA PPC tank requirements.

<i>UST Tank #</i>	<i>Service</i>	<i>Capacity (gal)</i>	<i>Installation Date</i>
1	(b) (7)(F)		10/93
2			10/93
3			1982

Girard Point and Schuylkill River Tank Farm

As of December 31, 1997, the Schuylkill River Tank Farm no longer has any underground storage tanks.

Pipeline volumes are listed in Table D-2.

Point Breeze

Pipeline volumes are listed in Table D-2.

Secondary Containment

All storage tanks at PES facility have secondary containment. The tank list provides the type and characteristics of the secondary containment for each of the oil storage units (tanks or other type of storage area) at this facility. Containment areas for oil storage units are constructed so that drainage (i.e., collected rainwater) is controlled by valves in order to prevent any unauthorized release from the containment area. The operators conduct daily visual inspections of the secondary containments so that repairs or upgrades can be scheduled and completed. All secondary containment is sufficiently impervious to retain spilled product.

Diversions structures are designed to direct spilled oil products away from storm drains and other off-site outlets and toward containment areas, where they can be cleaned up. Diversions structures for aboveground tanks include earth berms, drainage trenches.

Diversions structures for drum storage areas may include sloped floors, trenches, berms, curbs, and sumps. Absorbent materials are located in some of the oil/chemical storage areas, as well as locations without diversions structures.

SECONDARY CONTAINMENT CAPACITY FOR FACILITY		
<i>Facility</i>	<i>Total Secondary Containment (bbl)</i>	<i>Total Storage (bbl)</i>

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX A: Facility Specific Information

Girard Point	(b) (7)(F)
Schuylkill River Tank Farm	
Point Breeze	

TABLE D-2
Line Volumes for OPA - GIRARD POINT WHARF

<i>Drawing Name</i>	<i>Line Length (Feet)</i>	<i>Line Diameter (Inches)</i>	<i>Line Volume (Gals.)</i>	<i>Line Volume (Barrels)</i>	<i>TOTAL LINE VOLUME (GALLONS)</i>	<i>TOTAL LINE VOLUME (BARRELS)</i>
1 BALLAST	1360	18	(b) (7)(F)			
2 HEPTANE	906	6				
	1190	4				
3 TOLUENE	2209	6				
4 BENZENE	1926	6				
5 CUMENE	2436	8				
6 RUL/MUL	3408	12				
<i>See Note (1) below.</i>	4700	12				
7 PREMIUM UNLEADED	3408	12				
	4700	12				
8 BUTANE	1360	12				
	4079	10				
<i>See Note (1) below.</i>	4700	12				
9 JET-A-SYSTEM	3172	8				
see note (1) below	4700	12				
10 JP5	3172	8				
<i>See Note (1) below.</i>	4700	12				
11 MARINE GAS OIL	1133	6				
	1813	8				
12 BO/CUTTER	1133	8				
	1926	10				
13 #2 F.O.	3408	12				
<i>See Note (1) below.</i>	4700	12				
14 CAT. CHARGE	3408	12				
<i>See Note (1) below.</i>	4700	12				
15 #6 F.O. + #23 LINES	3408	12				
<i>See Note (1) below.</i>	4700	12				
16 #6 F.O. #4, #9 & OLD 12	3408	12				
<i>See Note (1) below.</i>	4700	12				

(1) The volume for line fill for product going to SRTF is calculated from the GP side of the river to the furthest tank in SRTF assuming a 12" line.

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX A: Facility Specific Information**

**TABLE D-2
Line Volumes for OPA - POINT BREEZE**

<i>Drawing Name</i>	<i>Line Length (Feet)</i>	<i>Line Dia. (Inches)</i>	<i>Line Volume (Gals.)</i>	<i>Line Volume (Barrels)</i>	<i>TOTAL LINE VOLUME (GALS.)</i>	<i>TOTAL LINE VOLUME (BARRELS)</i>
NORTH YARD DOCK						
1	#6 FUEL OIL, GAS OIL	3714	12	(b) (7)(F)		
2	#6 FUEL OIL	3361	12			
SOUTH YARD DOCK						
3	DIESEL/#2 FUEL OIL	6293	8	(b) (7)(F)		
4	KEROSENE	2560	8			
5	GASOLINE COMPONENTS/ MTBE	1320	12			
6	P-114 GASOLINE	1813	12			
7	P-115 GASOLINE	1813	12			
8	P-117 GASOLINE	1813	12			

Material Inventory (154.1035 (e)(1)(iv))

HAZARD COMMUNICATION PROGRAM

For materials that are handled, stored, or transported in bulk, MSDS's are readily available on-line through the PES Communication Center. In addition, a backup listing is also maintained at the Communications Center.

Since refinery inventories change rapidly, PES maintains product inventories on a daily basis. In addition, chemical surveys have been completed for each refinery and an inventory of chemical is part of the hazard communications program. Information on the daily material inventory in storage tanks is available in electronic and paper format.

The facility also maintains electronic and/or paper copies of material safety data sheets (MSDS) for materials handled at that location.

At a minimum, the information on an MSDS includes:

1. Generic or chemical name of the substance
2. Physical description of the appearance and odor
3. Physical and chemical characteristics of the substance
4. Hazards involved in handling the material
5. Firefighting procedures and extinguishing agents effective with fire involving the substance

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
1989	04/08/89	Crack in separator effluent line allowed oily ground water to enter Schuylkill River.	Oil	2	Gallons	No. 8 Separator at GPW
1989	05/06/89	Oil leaked into river through bulkhead at GPW in the area of #11 Spillway.	Oil	7	Gallons	11 Berth at GPW
1989	05/19/89	Improper unloading hose used in unloading Benzene from a ship. Hose deterioration led to a leak.	Benzene	20	Gallons	#6 Berth at GPW
1990	02/16/90	Barge Operator was in the process of changing from Tank 1&2 to Tank 3&4 when Tank #1 starboard overflowed.	#2 heating oil	1	Barrel	#2 Berth at GPW
1990	08/25/90	WWTP Head operator found the thermowell leaking and approx. 97 gallons of acid has spilled inside the dike.	Sulfuric Acid	97	Gallons	Utilities WWTP
1991	01/31/91	U.S. Mechanical was called into test our 4,000 gallon tank. During the test fuel was leaking out of the manhead joint.	Diesel Fuel	400	Gallons	Diesel Fuel storage tank at Maintenance Facility
1991	04/22/91	Line from high press flash tower had a pinhole leak. Operator got a high benzene reading from #18 point on the benzene monitor.	Cumene/Benzene	186	Pounds	1733 Unit
1991	05/29/91	Operator noticed 226 Tank leaking at the base of the tank.	#6 Fuel Oil	2	Barrel	226 Tank - South Tank Field
1991	08/09/91	The loading hose on an acid delivery truck ruptured unexpectedly. The incident occurred while receiving a load of fresh acid into our sulfuric acid tank.	Sulfuric Acid	1491	Gallons	HF Unit
1992	04/28/92	Flange leak on the O.N.T. line.	Cat Charge Stock	10	Barrel	North Tank Field
1992	06/26/92	Hole in line to 1086 and 1087 Tanks leaked at WWTP.	Spent Caustic	100	Gallons	WWTP at "L" Avenue
1992	06/30/92	Bleeder line split open and was leaking heavy naphtha.	Heavy Naphtha	2	Barrel	North Tank Field – 240 Tk.
1993	03/18/93	Operator discovered that oil was leaking from a concrete spill pan at #10 Berth.	#6 Fuel Oil	10	Gallons	#10 Berth at GPW
1993	09/03/93	Gasket on an 8" transfer line failed.	#2 Fuel Oil	30	Barrel	8" Transfer Line behind #4 Boilerhouse
1993	09/25/93	Mixer leaking on 284 Tank.	#6 Fuel Oil	20	Gallons	284 Tank - North Tank Field
1993	10/14/93	During off-loading the spill pan at 11 Spillway overfilled and leaked into the river.	Jet Fuel	5	Gallons	Girard Point Wharf #11 & #6 Spillway
1993	10/29/93	Operator discovered a leak on the 24" crude surge line. A ¼" sample line had split.	Crude Oil	20	Barrel	24" Crude Surge Line at "M" Ave. between 272 Tank and 137 Unit
1993	11/11/93	Operator discovered a leak on a flange from piping at 272 Tank.	Crude Oil	3	3 BBLS. Crude Oil	Piping at 272 Tank

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
1994	02/15/94	Operator checking area found a flange on the spent caustic line leaking.	Spent Caustic	1	Barrel	Spent Caustic line behind #2 Treating Plant
1994	02/21/94	FSS noticed Naphtha leaking from the 8" line.	Naphtha	100	Barrel	8" Line to 251 Tk. At 5 th Street
1994	04/13/94	During Hydrotesting of fuel oil line the fire hose ruptured. The excess H2O carried oil through the bulkhead.	Cutter Oil	1	Gallons	North of Platt Bridge at Bulkhead Pipeline River Crossing
1994	06/23/94	Operator noticed oil leaking from line.	#6 Fuel Oil	5	Gallons	Line from 677 Tk. Behind #3 Boilerhouse
1994	06/23/94	Operator checking area found gasket leaking on Caustic Line.	Spent Caustic	25	Gallons	Spent Caustic line at "J" Ave. & River
1994	07/03/94	Operators discovered fuel oil leaking from the flange of the fuel oil line block valve.	Fuel Oil	30	Gallons	Line to 676 Tk. & 677 Tk. Next to #3 Boilerhouse
1994	07/15/94	During severe rain storm an oil sheen was noticed in the Schuylkill River adjacent to #4 Separator.	Oily Water	2	Gallons	Bulkhead by #4 Separator
1994	11/13/94	Operator checking mixer on 225 Tank found that the bleeder below the mixer had vibrated open.	#6 Fuel Oil	160	Barrel	225 Tank - South Tank Field
1995	02/08/95	Freeze up of line caused gasket to fail allowing 1 pint of light cycle oil to enter the Schuylkill River.	Cycle Oil, Lt	1	Pint	GPW #8 Berth
1996	01/16/96	Operating upset caused oil laden with solids to be released to the river causing sheening for 5 days.	Oil		Sheen	WWTP
1996	08/23/96	An expansion joint leak on the wharf allowed a small amount of oil to drip through into the river.	Oil, Light	1	Gallons	GPW
1997	03/26/97	Spill pan on wharf overflowed due to a plugged drain line.	Oily Water	5	Gallons	GPW
1999	02/26/99	Spill pan leaked.	Oil	40	Gallons	GPW #2 Berth
2000	01/31/00	During the month: plant fuel at #3BH.	Plant Fuel	8	Barrels	3BH
2000	01/31/00	Naphtha when dead leg off 137 split.	Naphtha	4	Barrels	137
2000	01/31/00	During the month: Ten gallons of VGO spilled behind 1332.	VGO	10	Gallons	1332
2000	01/31/00	During the month: cutter oil spilled from thermal relief valve	Cutter Oil	10	Gallons	
2000	01/31/00	During the month: pf SR Naptha released NW of TANK 181.	Naphtha	30	Gallons	NW of Tank 181
2000	02/01/00	Three minor spills at #8 Berth, 868 Pipe Rack, and TK835.	Heating Oil	1	Gallons	
2000	02/07/00	Demo of 2476 Tank was not hydrocarbon free.	Crude	1	Barrels	
2000	02/10/00	GP Tank 250 had 5 gallon FO leak.	Heating Oil	5	Gallons	Tank 250
2000	02/24/00	Drain line from spill pan leaked.	Oil	20	Gallons	GPW #8 Berth
2000	03/16/00	Inside Tank 843 dike was 15 bbls of crude. The 210A charge line was taken OOS. The oil was flowing to a sewer and then to Guard Separator.	Oil	15	Barrels	
2000	03/20/00	Oil discovered on road north of 181 Tank near 16 PH manifold.	Oil	15	Gallons	
2000	03/22/00	Heavy rains caused the process/storm sewer to overflow at 2nd and J Ave (200+ bbls).	Oil	200	Barrels	2nd & J Ave
2000	03/31/00	1) Belt line leak west of 15PH. 2) Operator discovered underground leaking flange on APL pump manifold near 14th Street. 3) 1232 Light Waste Oil Line in rack at 3rd and L Ave.	Oil	2	Gallons	1232
2000	04/18/00	During unit upset, an accumulator drum level went high.	Other	250	Gallons	
2000	04/24/00	55 gal drums with spent cat dust from 12R-1 with CO2 pellets expanded due to ice vaporizing.	Other	50	Gallons	

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
2000	05/02/00	Standing oil in drain leaked thru a crack in the drain.	Oil	1	Pint	GPW #8 Berth
2000	05/02/00	Sheen at #8 Spillway. Investigation description: At approximately 15:30, Dock Operators noticed an oily-water mix leaking into the Schuylkill River from the area upriver of #8 Berth. The Dock Operators believed that the source of the spill was a 4-in	Heating Oil	0.1	Gallons	#8 Spillway
2000	07/25/00	The sewer at #9 Berth backed up with water/oil due to repairs to pumps.	Oil	5	Gallons	#9 Berth
2000	08/05/00	Underground leak on belt line east of 152 Tank.	Crude	10	Barrels	
2000	09/01/00	Heavy rains caused sewer to overflow.	Diesel	30	Gallons	Sewer
2000	09/05/00	Approx 5 barrels of main frac. bottoms released from PB-145 Tank due to leaking steam coil.	Main frac bottoms	5	Barrels	PB-145
2000	09/10/00	Approx 2 barrels of gas component from PB-128 Tank due	od gas	2	Barrels	PB-128
2000	09/16/00	Approx 5 bbls of gas oil released from 669 TANK due to leaking steam coil.	Gas Oil	5	Barrels	669 Tank
2000	09/03/00	Heavy rains	Sheen		Sheen	Final Outfall #015
2000	09/29/00	Corroded section of line leaked estimated 15,000 gallons of oil.	#6 Fuel Oil		#6 Fuel Oil	Along bulkhead by #2 Separator
2000	09/29/00	Approx 350 bbls of #6 FO from the production line (behind 3BH separators) leaked. Investigation Description: On 9/29/00 #6 Fuel Oil was being sent to 227 Tank in the South Tank Field via the production line.	#6 Fuel Oil	350	Barrels	3BH Separators
2000	10/02/00	Flange leak on 12" line.	#6 Fuel Oil	200	Gallons	2 nd Street by #53 Gate
2000	10/02/00	Flange leak on 12" OVS line long the west side of 2nd Street under Platt Bridge. Investigation Description: On October 2, 2000, a #6 fuel leak on the OVS line was discovered at 2pm. The section of pipe is on 2nd St. under the Platt Bridge. The line	Heating Oil	5	Barrels	2nd St under Platt Bridge
2000	10/15/00	Leak on 6" Naphtha line.	Naphtha	160	Gallons	5 th & Pennypacker Avenues
2000	10/15/00	Underground naphtha line leak between 242 Tank and 5th Street.	Gasoline	4	Barrels	242 Tank & 5th St
2000	10/17/00	Break in bulkhead.	Sheen		Sheen	River behind 2A Separator
2000	10/17/00	Friday 9/29/00 - #6 Fuel Oil leak was found along the bulkhead behind #2 Separator. Boom was placed in the river as a precaution in case any oil leaked into the river. 9/29/00 through 10/9/00 - Allstate Power Vac (APV) worked on cleaning up the spill w	Heating Oil	1	Barrels	
2000	11/07/00	unknown	#6 Fuel Oil	2	Quarts	GP Wharf #8 Spillway
2000	11/27/00	Leak from 6inch elbow	#6 Fuel Oil	10	Gallons	GP Wharf #2 Spillway
2000	11/30/00	Two (2) sheening incidents occurred during the month. (a) 11/7/00 Sheening at north end of #8 Spillway; (b) 11/27/00 Sheen discovered under docks at Berths #1 and #2.	Oil	0.25	Gallons	
2000	12/20/00	Vehicle broke nipple off of skim line from 2B Separator. Recovered oil sprayed on 2A separator.	Oil	1	Barrels	
2000	12/31/00	1) 12/1/2000 Barge crushed boom at Bio Outfall (est. 2 gallons of Bio Solids and Lt. Oil) 2) 12/14/2000 Pollock Street Sewer sheen	Oil	2	Gallons	
2001	01/04/01	#5 North Line leaking sample tap. (TSO1 Filed)	Other	1	Gallons	
2001	01/23/01	Leaking sample tap on TANK DC-34 (TSO1 Filed).	Oil	10	Gallons	
2001	01/31/01	01/16/2001 Five gallons of naphtha leaked from a service line during demolition of TANK 549. 01/31/2001 Five gallons of gasoline released due to a pump seal failure.	Oil	5	Gallons	
2001	02/10/01	Five (5) gallons of oil spilled at South Flare sump (TSO1 Filed).	Crude	5	Gallons	
2001	02/12/01	Pump Seal on 18P-1005B pump for "Belmont Terminal" failed. Sprayed 14 gallons of #2 Heating Oil.	Heating Oil	14	Gallons	

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
2001	03/06/01	Flange Leak on 8" Line from 821 Tank (TSO1 Filed).	Oil	10	Gallons	
2001	03/22/01	Line leak at 2nd and L Ave (TSO1 Filed).	Oil	2	Gallons	
2001	04/02/01	Leak at mixer on TANK 227 (TSO1 Filed).	Oil	10	Gallons	
2001	04/09/01	The 27 Pump House Line developed a flange leak at 3rd and J Ave. The flange leaked about 2 gallons of LCO due to thermal pressure.	Oil	2	Gallons	3rd & J Ave
2001	04/09/01	Flange leak at shell valve while cleaning TANK 884 (TSO1 Filed).	Oil	10	Gallons	
2001	04/13/01	Safety leak on LIGHT SULFUR DIESEL LINE AT 51 Pump House near TANK 85 (TSO1 Filed).	Diesel	2	Gallons	
2001	04/17/01	Safety Leak of 2 gallons of jet fuel (TSO1 Filed).	Jet Fuel	2	Gallons	
2001	04/23/01	Safety line leak at TANK 272 (4th Street). (TSO1 Filed)	Oil	4	Gallons	4th St
2001	04/24/01	Out of service crude line was over pressurized due to ambient heat (TSO1 Filed).	Oil	5	Gallons	
2001	04/24/01	Steam coil failed. Three (3) bbls of oil released (TSO1 Filed).	Oil	3	Barrels	
2001	05/31/01	05/03/2001 - flange leak on 8" cat gas line southwest of 181 TK pipe rack. 05/04/2001 - tank 1007 overflow. 05/11/2001 - line leak west of 270 TK. 05/12/2001 - line leak on OOS #6 line. 05/15/2001 - leaking flange on fuel line @ Bio Plant. 05/20/2001	Oil	0.5	Barrels	
2001	06/11/01	Back up at a sewer in North Yard Tank Farm.	Crude	10	Gallons	
2001	06/13/01	Pin hole leak in line	Gasoline		Sheen	GP Wharf #10 Spillway
2001	06/15/01	Sheening at GP Dock from #10 Berth to #2 Berth due to line leak.	Other	1	Gallons	#10 Berth to #2 Berth
2001	06/18/01	On 06/18/2001, at approximately 10:00 hrs, a contractor employee working on 834 tank notified operations that something was coming out of 835 tank. Upon arrival at 835 tank, jet stock was observed running down the side of the tank. All flow of material	Jet Fuel	100	Barrels	
2001	08/17/01	Leak of six (6) barrels of distillate on 12" charge line to 231 unit.	Other	6	Barrels	231 Unit
2001	10/05/01	Crude line leak on 4th St. in the area of 271 TANK. Apprx. 140 gallons spilled and 138 gallons recovered.	Crude	140	Gallons	
2001	10/24/01	Leaking Pump from PB TANK 38 to PB TANK 204 (TSO1 Filed)	Gasoline	4	Gallons	
2001	12/05/01	Small leak (5 gal of cutter) on HGO line at 22 Pump House header.	Other	5	Gallons	22 Pump House
2001	12/28/01	Crude leaked from 882 Tank manifold. All but 5 gallons was recovered. (TSO 1 Filed)	Crude	5	Gallons	
2002	01/02/02	Two (2) gal spill of crude at Hog Island Wharf.	Crude	2	Gallons	Hog Island Wharf
2002	01/06/02	Flange leak	#6 Fuel Oil	4	Gallons	GP Wharf #8 Spillway
2002	01/09/02	Line leak in area of TK 152 of LCO. Apprx. 10 gallons. (TSO1 Filed)	Oil	10	Gallons	#7 Berth
2002	01/16/02	Line leak while pressure testing for TK 882 (TSO1 Filed)	Oil	20	Gallons	
2002	01/22/02	Line leak of three (3) gallons of naphtha at 3rd and J Ave (TSO1 Filed)	Plat Charge Naphtha	3	Gallons	3rd & J Ave
2002	01/29/02	Flange leak (LCO) on #9 line SY	Oil	20	Gallons	
2002	01/29/02	Flange leak (LCO) near P204 pump in NYOM.	Oil	20	Gallons	
2002	02/06/02	Safety lifted at PB In-Line Blender area. Apprx. 2 bbls of gas released. (TSO1 Filed)	Gasoline	2	Barrels	
2002	02/26/02	Sheening at Pollock Street Sewer (TSO1 Filed).	Oil	1	Gallons	
2002	03/03/02	Heavy rains caused motor oil to surface at Jkson St. Sewer Outfall.	Oil	20	Gallons	
2002	03/08/02	Leak at pipe rack near 284 TK (TSO1 Filed)	Oil	115	Gallons	
2002	03/14/02	Hydrochem vac truck had a valve leak, about 5 gallons near 3rd and J Ave.	Other	5	Gallons	3rd & J Ave
2002	03/14/02	Leak found on plant fuel line at PGW on River Road LCO, 2 gallons).	Other	2	Gallons	
2002	03/15/02	Jackson Street Sewer Outfall being investigated due to sheening (TSO1 Filed)	Oil	2	Gallons	
2002	03/16/02	Short Pier/Casement Wharf - investigating possible line leak on S-2 line (TSO1 Filed)	Oil	20	Gallons	

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
2002	03/18/02	US Coast Guard issued an NOV for the Case Wharf (naphtha pipeline leak which occurred Fall 2001).(\$1,000.00)	Other	100	Gallons	
2002	03/20/02	Oil discovered behind boomed area GP #2 Spillway by barge operator (3gallons). USCG notified.	#6 Fuel Oil	3	Gallons	#2 Spillway
2002	04/14/02	Rich DEA line leak at north end at 867. Exceeded RQ fro DEA & H2S.	Other	100	Gallons	
2002	04/29/02	Line Leak at #4 Tank Farm (next to 844 Tank).	Oil	5	Gallons	
2002	05/01/02	Spill at 15 Pumphouse due to leaking belt line.	Crude	1	Barrels	
2002	05/07/02	Spill near GP WWTP due to line leak.	Crude	1	Barrels	WWTP
2002	05/07/02	Paid fine for line leak on 03/20/02 at GP #2 Berth Spill Pan. (\$250)	Oil	10	Gallons	
2002	05/07/02	Paid fine for line leak on 03/20/02 at GP #2 Berth Spill Pan. (\$250)	Oil	3	Gallons	
2002	05/08/02	Oil found in excavation near PB 15 pump house. Vac truck called in.	Oil	5	Gallons	
2002	05/16/02	Approximately 30 gal of oil form underground leak discovered at PB east of 152 tank.	Oil	30	Gallons	
2002	05/29/02	Recovered oil spill from Tank 846. Tank bottom leak (81 bbls).	Crude	81	Barrels	
2002	06/05/02	Asphalt/resid type material found near Case Wharf (3 gals).	Other	3	Gallons	
2002	06/06/02		Other	1	Gallons	
2002	06/12/02	About 20 gal of cutter oil/LCO leaked from Baker tank manhead at GP NTF. Vac truck called in.	Other	20	Gallons	NTF
2002	06/26/02	APL safety north of 832 tank was leaking LSD (1 gal). Maint. Called in.	Diesel	1	Gallons	
2002	06/26/02	Spill of 5 gal VGO at back pressure controller for 833 tank.	Oil	5	Gallons	833 tank
2002	06/30/02	Line leak at PB east of 844 tank (about 2 gal Crude oil). Vac truck removed free oil and oil dry in place.	Crude	2	Gallons	
2002	07/11/02	Crude found by asphalt road east of 844 tank. Underground leak of about 3 gallons. Line was isolated.	Crude	3	Gallons	844 Tank
2002	07/13/02	Jet product filter relief valve lifted at unit 865 when product outlet valve was restricted for about five minutes on 7/13. About 250-600 gallons spilled into diked containment and grade. 50% recovered.	Jet Fuel	400	Gallons	
2002	07/20/02	Oil backed out of sewers around Klondike area in the North Yard on 7/20. About five(5) gallons collected after cleanup job completed.	Other	6	Gallons	
2002	08/05/02	About 3,000 gallons of bleach (Sodium hypochlorite) spilled to ground after hose clamp failed. Baker Petrolite (owner) notified agencies.	Other	3000	Gallons	
2002	08/26/02	Oil stains found on ground at NY by 1937 tnk and #7 toolhouse after heavy weekend rain.	Other	10	Gallons	
2002	09/06/02	Liquid butane leak on line from unit 864 off piperack at NW end of unit 862.	Other	10	Gallons	
2002	09/07/02	About 50 gallons of decanter oil/ #6 fuel oil spilled due to mixer leak at 225 tank. Vac truck in for clean up.	Oil	50	Gallons	225 Tank
2002	09/08/02	10 gal spill from #6 oil / plant fuel line at 2nd tank near 495 tank at GP. Rpl'd gasket.	Oil	10	Gallons	495 Tank
2002	09/09/02	10 gal spill from #6 oil / plant fuel line from flange downstream of previous days release near 495 tank at GP.	Oil	10	Gallons	495 Tank
2002	09/23/02	Two (2) barrel leak of recovered / waste oil from 291/292 tank skimmer line.	Oil	2	Barrels	291/292 Tank Skimmer
2002	09/28/02	Cleaned up oil at 57ph sewer box. Vac truck removed oil and water.	Other	5	Gallons	
2002	09/30/02	Approx 2 bbl of oil found at 2ND &H (GP) . Vac truck cleanup conducted.	Oil	2	Barrels	2nd & H
2002	10/15/02	Oil was found leaking from an open ended line in the North Yard by old asphalt plant area. Blind flange to be installed.	Oil	1	Gallons	
2002	10/22/02	PSV 134 lifted at 210 Crude Unit.	Crude	10	Gallons	
2002	11/01/02	PSV 1874 on gas oil side ofE-8 exchanger at 137 crude unit lifted. About 2 gallons of oil spilled and recovered.	Crude	2	Gallons	137

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
2002	11/03/02	About 5 gallon LCO spill off 4 flanges at West yard manifold during line wash of FM-1.	Oil	5	Gallons	
2002	11/08/02	Caustic spill at 1232 unit during transfer from portable tank to on-site tank. About 10 gallons unrecovered.	Caustic	250	Gallons	1232
2002	11/12/02	THIS CELL WAS EMPTY	Oil	1	Gallons	
2002	11/12/02	About 50 gallons of Poly (BPB 55715) was spilled to the ground and sewer system due to tank overflow during delivery by Baker Petrolite personnel.	Other	50	Gallons	
2002	12/06/02	Frozen drain hose at 862 unit that was not fully closed thawed and discharged 150 gal of lube oil out of storage tank. Concrete area was sausage-boomed and a vacuum truck recovered all oil.	Oil	150	Gallons	
2002	12/09/02	Oil found in excavation east of 152 tank. Clamp on line found to be leaking. Vac truck called in.	Oil	1	Barrels	
2002	12/31/02	Pin-hole leak of about 1 gallon on 137 grude unit 8 inch gas oil transfer line.	Oil	1	Gallons	137
2003	01/07/03	Recovered oil overflowed from excess oil drum for diesel pump during transfer from 822 tank to 885 tank. About 5 gallons spilled. Vacuum truck requested for cleanup.	Oil	5	Gallons	
2003	01/08/03	Fire water leak from underground line near short dock overflowed 13 sump and washed away dirt near bulkhead. Clean Venture and dock operators boomed area. F&B, USCG and NRC notified.	fire water containing dirt	0	Gallons	
2003	01/23/03	About 15 gallons of oil found outside of boom containment at Pollack St. sewer. Clean Venture used a tug to break the ice in the area so as to install a new boom. Will try to recover the material as the ice melts. NRC, PA F&B, USCG and PADEP notified.	Oil	15	Gallons	
2003	01/24/03	Low Sulfur Diesel loading pump 18P 102A at PB B&S blew outboard seal and spilled about 15 gallons. Vacuum truck called in and recovered material. Removed and replaced stones around the pump.	Diesel	15	Gallons	
2003	01/28/03	Drain line from RM 93 at 867 unit blocked. About 25 gallons of oil leaked to ground.	Oil	25	Gallons	
2003	01/28/03	Wash oil line at 210 unit split and released approximately 30 gallons of furnace oil material to concrete surface, which washed down to the sewer system with water.	Oil	30	Gallons	
2003	01/31/03	About 30 gallons of recovered oil leaked from waste oil line to 270 tank at 4th and L. Sts. Line was blocked in and a vacuum truck recovered 95% of material.	Oil	30	Gallons	4th & L St
2003	02/12/03	Small oil leak from slop oil line at #2 separator at NTF. Work order written for clean up.	Oil	2	Gallons	NTF
2003	02/20/03	Flange opened at gasket on LSD line to Belmont. LSD was pumping from 823 Tk - 85 Tank. Leak was contained and flange repaired. Roadway was closed until safe to work.	Diesel	10	Gallons	
2003	02/24/03	Heavy Rains and Snow Melt	Sheen		Sheen	Final Outfall #015
2003	02/24/03	About 2 gallons of oil observed near 57 pH at PB N. yard after sewer back-up during heavy rain / snow melt event. Clean up complete.	Oil	2	Gallons	
2003	02/25/03	About 20 gallons of crude oil leaked from P-50 East line near 191 Tank. Line isolated and vacuum truck cleaned up.	Crude	20	Gallons	
2003	02/26/03	A faulty pressure transmitter raised backpressure at 03:00 hrs. on 137 Crude Still Desalters causing one or both safety valves to lift to high pressure sewer box. Some 378 gallons of material sprayed to the ground.	Crude	378	Gallons	137
2003	02/27/03	Leak of about 20 gallons from 6" heavy Naptha #1 line East of 1332 unit Control room. A clamp was installed and Vacuum truck service called for recovery.	Plat Charge Naphtha	20	Gallons	1332
2003	02/27/03	Leak of about 20 gallons from 6" heavy Naptha #1 line East of 1332 unit Control room. A clamp was installed and Vacuum truck service called for recovery.	Plat Charge Naphtha	20	Gallons	

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
2003	02/28/03	Discovered some 15 gallons of oil mixed with water around the A311 manifold located N. of 832 tank and S of 867 SRU. Vac truck cleaned up and monitoring will continue to establish source.	Oil	15	Gallons	
2003	03/02/03	An estimated 50 gallons of oil was observed at Pollack St Sewer coming from the coffer dam doors and flowing under the booms that are in place at the sewer. Refinery spill boats boomed area and Clean Venture was called in for further containment and clean up.	Oil	50	Gallons	
2003	03/07/03	Leak of about 10 gal of 87 CG found on 4" dead leg on 16" pump suction line for the APL #4 line. Pump s/d, line secured and area cleaned up w/ vac truck.	Gasoline	10	Gallons	
2003	03/19/03	Discovered about 40 gallons of oil in an excavation area east of 843 tank in the PB S. Yard. Vac truck cleaned up area.	Oil	40	Gallons	
2003	03/25/03	Oil found coming out from under a pipe rack north of GP MOB. Vac truck picked up about 10 gallons of the estimated 15 gallons found. Source of leak still under investigation.	Oil	15	Gallons	
2003	03/31/03	Flange on Reformer Stock line at PB S. Yard on S. side of 117 Tank leaked an estimated 2 gallons of oil-water mixture. Vac truck cleaned up.	Plat Charge Naphtha	2	Gallons	
2003	04/01/03	During HES audit on the S. Side of the GP carpenter shop, an estimated 25 gal Of oil was found in the pipe conduit behind the shop.	Oil	25	Gallons	GP Carpenter Shop
2003	04/01/03	Seal leak on tank SR-34 mixer leaked about 20 gallons of #6 fuel oil into containment berm. Vac truck removed all the oil and tank was stripped to SR-33.	Oil	20	Gallons	
2003	04/02/03	Dresser coupling leak on 18" transfer line west of tank SR-18 occurred with continued weeping on 4/4, 4/5 and 4/6, spilling about 38 gallons of premium gasoline.	Gasoline	38	Gallons	
2003	04/15/03	Underground leak (about 10 gal of crude oil) discovered just south of 191 tank on 15th street. 883 tank had just been set to 210B on the P-50 crude line.	Crude	10	Gallons	
2003	04/16/03	Valve on old equalizing line on the APL #4 was discovered to have leaked about 15 gallons of gasoline after odors were detected. Line was s/d and all material was contained.	Gasoline	15	Gallons	
2003	04/20/03	82 sump overflowed to a sewer after pressure relief valve discharge in the SYOM. About 10 gallons of oil then flowed to the Guard separator where a vac truck performed cleanup.	Diesel	10	Gallons	
2003	04/24/03	About 10 gallons of residual crude oil leaked from flange at 826 tank 16" charge line. Vac truck on site cleaned up all material.	Crude	10	Gallons	
2003	04/28/03	Thermal safety on barge line N. of 832 tk lifted and 3/4 " union downstream leaked about 3 gallons of LSD. Line depressurized and union tightened. 75% of material recovered.	Diesel	3	Gallons	
2003	05/01/03	OOS 8" Reformer Stock line leaked about 10 gallons of water (w/ Naptha odor) east of Case Wharf. Absorbent pads used for cleanup. Air testing for Hydrocarbons negative.	Oil	10	Gallons	
2003	05/06/03	Thermal safety on barge line N. of 832 tk lifted and 3/4 " union downstream leaked about 4 additional gallons of LSD on 5/5 and 5/6. Line depressurized and union tightened. Material recovered.	Diesel	4	Gallons	
2003	05/06/03	Two flanges leaked about 30 gallons of heavy gas oil during transfer from 210 crude unit to 152 tank. Transfer s/d and line depressurized. Glasgow cleaning material off ground.	Oil	30	Gallons	
2003	05/07/03	Distillate oil pooling (about 4 gallons) around A-311 manifold north of 832/833 tank. Vac truck service recovered 95% oil.	Oil	4	Gallons	

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
2003	05/14/03	Approximately 10 gal of oil leaked from the 2B separator waste oil line at 2nd and J Ave at GP by grated bridge. All contained within concrete conduit and vac truck called in for cleanup.	Oil	10	Gallons	2B Separator
2003	05/17/03	Operator at SYOM discovered about 30 gal of recovered oil on the roof of 191 tank. Vac trucks diverted to 270 tk and unit oily water sumps were set to 822 tk while 191 tk was locked out and idled. Oil removed via hose to vac truck.	Oil	30	Gallons	
2003	06/02/03	Crude oil discovered coming in ground valve box at 137 AVU and onto road at 2nd and M St. 25 of about 50 gallons recovered after vacuuming and use of drying agent.	Crude	50	Gallons	137 AVU
2003	06/02/03	About 10 gallons of LCO and water discovered in conduit W. of 2nd Street and S. of Carpenters shop under Platt bridge. ONT line suspect. Vac truck to clean up and insulation to be pulled for leak detection.	Oil	10	Gallons	2nd St south of Carpenter Shop
2003	06/06/03	About one-half gallon of kerosene discovered on roadway on NE corner of 869 unit due to leaking flange.	Kerosene	.5	Gallons	
2003	06/10/03	Packing on reciprocating pump P-228 near 4th and Pennypacker blew out during waste oil transfer to 137 Crude unit. % gallons spilled, pump secured and area cleaned up.	Oil	5	Gallons	4th & Pennypacker
2003	06/12/03	About 4 gallons of LCO / Cutter Oil in 209 line leaked from Knocker valve bonnet near 9th and Gallows Streets. Line was depressurized to 672 tank and leak stopped. Oil dry applied to road.	Oil	4	Gallons	9th & Gallows Sts
2003	06/13/03	Spilled approximately 10 gallons of 87 Reformulated Gasoline due a seal leak on pump J100C (Belmont 87 RFG pump).	Gasoline	10	Gallons	
2003	06/15/03	About 15 gallons of gasoline material was relieved from a thermal safety N. of P-114 pump in the S. Yard into an in ground sump. Vac truck called in to clean out sump. Thermal relief isolated, line depressurized.	Gasoline	15	Gallons	
2003	07/07/03	Spilled an estimated three (3) barrels of #6 fuel oil due to a mixer seal failure on SR-90 tank. The reportable quantity for spills from aboveground storage tanks is 25 gallons.	Oil	120	Gallons	
2003	07/08/03	Tank 552 was demolished in March of 2003. Since this tank was > 10% underground a site assessment was performed. The sample results indicate that the soil within the tank dike is contaminated. Due to the level of naphthalene in the soil samples Sunoc	naphthalene	0	Barrels	
2003	07/17/03	Underground leak (about 10 gal of distillate oil) discovered within PB-84 tank dike area. PB-42 tanks prep runs in vicinity. Excavation to be performed to investigate.	Oil	10	Gallons	
2003	07/30/03	While working at the Point Breeze E Line Pig Station in #4 Tank Farm, a Sun Pipeline Instrument Technician noticed a slight drip coming from the bottom of the Pig Trap hatch. At the time, Heavy Naptha was being transferred on the E Line from a ship at Fo	Plat Charge Naphtha	2	Gallons	
2003	08/01/03	Gas oil spill from open ended (cut off) pipe where 669 tank was demolished. This occurred after flowing 672 tk into 666tk and blowing out the lines.	Oil	0	Gallons	
2003	08/01/03	Leaked about 5 gallons oil from sump line from 210/HDS units near P04 Tank at the Point Breeze Bio Plant. Pump isolated and maintenance to evaluate for repairs.	Oil	5	Gallons	
2003	08/02/03	Overflowed about 5 ? 10 gallons of clear additive at the PB gasoline blender additive holding tank (RM-100) while adding additive to 34 Tank Blend. The material drained and was washed to the blender sump then pumped to recovered oil tank 204.	Gasoline	10	Gallons	
2003	08/20/03	Approximately 15 gallons of crude oil found to have leaked from a gasket on 850 tank's belt line. The tank was Closed In Place in Feb-03. Area was cleaned up and the gasket replaced.	Crude	15	Gallons	
2003	08/23/03	About 25 gallons of vacuum gas oil found on the ground beneath pipe conduit on L Ave, between 4th and 5th Streets. Under investigation. Vac truck cleaned up.	Oil	50	Gallons	4th & 5th Sts

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
2003	08/25/03	Naphtha leak of < 1 gallon from P-3 strainer pressure gauge nipple at 16 Pump house.	Plat Charge Naphtha	1	Gallons	
2003	08/26/03	Flange leaked about 25 gallons of heavy Cat gasoline from line east of the PB Blender. Absorbent placed around sewer line and the gasket was replaced.	Gasoline	25	Gallons	
2003	09/05/03	Thermal relief valve on the Point Breeze APL line lifted and spilled about 3 gallons of gasoline onto ground by the Gas House manifold (B&S) near PB Bio plant.	Gasoline	3	Gallons	
2003	09/16/03	Sewer box NW of RM78 backed up during the heavy rain and overflowed. About 45 gallons of VGO/Resid oil spilled. Contractor hired to Vacuum out box and clean up area. 95% recovered.	Oil	45	Gallons	
2003	09/20/03	FOUND SAFETY LIFTING ON 5-APL AT THE GAS HOUSE MANIFOLD. CALLED SUN PIPE LINE AT THE CONTROL CENTER AND TALKED WITH RON JACKSON. I TOLD HIM WE NEEDED TO RELIEVE THE PRESSURE ON THE 5APL. HE STATED THAT HE COULD NOT HELP US. I EXPLAINED TO HIM THAT WE	Gasoline	20	Gallons	
2003	09/27/03	After unloading the benzene ship ?Bow Prosper? the dock operators were freeing the dock cargo hose of benzene. The cargo hose must be liquid free before disconnect. This is accomplished by pressuring the hose with nitrogen and blowing the line back to the	Benzene	1	Pounds	Dock
2003	09/27/03	Spilled about one (1) barrel of Resid oil onto the ground at the 210 Crude unit while cutting in 13E2F. Boomed area Rpr'd leak and transferred material into Ha Waste drums.	Oil	42	Gallons	
2003	10/30/03	2 flange leaks found on the continuous system line in the pipe rack west of 1332 unit just south of 3rd and J Av. Lost about 5 gallons of LSD.	Diesel	5	Gallons	1332
2003	11/03/03	On the weekend of Nov 1st and Nov 2nd, SR-34 was found to have a small mixer leak. The weekend crew pumped the oil level down and reported to the maintenance planner the need for repairs on Monday 11-03-03. On Monday 11-03-03, Mike Popelak, the ops plan	Oil	30	Barrels	
2003	11/04/03	Isolated Godwin pump hose leaked about 1 gal of Cumene at its flange due to heat of the day. Lines were depressured into 1216 tk which stopped the weeping.	Cumene	1	Gallons	
2003	11/17/03	Leaking line spool pice found at GP 272 tank. About 2 gal Crude oil leaked. Line isolated and replaced and about 1.8 gallons recovered.	Crude	2	Gallons	272 Tank
2003	11/21/03	Mixer leak of about 10 gallons on SR-90 tk. Pan placed under mixer and laborers cleaning up. Product in tank was shipped, tank stripped and mixers pulled and seals replaced.	Oil	10	Gallons	SR-90
2003	11/26/03	Spilled approximately 8 1/2 barrels of Cat Gasoline from the 1-4 line by 4th Street between GP271 and GP272 tanks on 11/26. Vacuum truck called in and recovered about 99% of the material. Lost about 4 gallons. The line has been clamped.	Gasoline	357	Gallons	4th St
2003	12/23/03	On the afternoon of 12/03/2003, the Scot TGU at 867SRU experienced an unintentional shut down caused by the loss of the combustion air blower (6K-402). Also noticed during the operator response to this event was that the North Claus MOV's did not open to	Other	1	Gallons	867 SRU
2003	12/26/03	Operator was pumping out the hydrocarbons from 1V-101 using the 1P-115B pump when the valve packing on the discharge valve failed. Hydrocarbons sprayed all over the operator and surrounding area and into the sewer.	hydrocarbons	20	Gallons	
2004	01/09/04	Underground leak of about 20 gallons of Naphtha/Distillate from 22 PH line at GP between Y Av. and Pennypacker on 5th Street on 1/9. Transfer s/d and line secured. Vac truck cleaned up.	Plat Charge Naphtha	20	Gallons	Y Ave & Pennypacker
2004	01/12/04	Water and slop oil leak of about 10 gallons from a failed gasket discovered N. of 14SB in PB by operator on 1/12. Gasket replaced.	Oil	10	Gallons	

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
2004	01/12/04	Valve flanges on OOS Butane transfer line at 3rd and J Av. in GP leaked about 10 gallons of material on 1/12. 95% recovered. Scaffold erected and line drained.	Butane	10	Gallons	3rd & J Ave
2004	01/12/04	OOS section of #2 Naphtha line on 5th Street found to have a split having released about 2 gallons of material. Block valves were tightened and leak stopped. Blank to be installed to isolate the OOS section of the line.	Plat Charge Naphtha	2	Gallons	5th St
2004	01/18/04	Dresser coupling release of an estimated 9.5 barrels of Naphtha from OOS crude line on L Ave. between 2nd and 3rd. Vacuum truck recovered and cleaned the area up.	Plat Charge Naphtha	9.5	Barrels	L Ave
2004	01/22/04	Multiple crude oil leaks on the "D" crude line on the west side of 881 tk and 883 tk on 1/22 (Class II), 1/29(Class III), , 2/7(Class III) and 2/10 (Class III), 2004.	Crude	30	Barrels	
2004	01/22/04	About 20-30 gallons of a waste oil/water mix leaked from the off test line at the back-pressure controller manifold for 833 tank. Vacuum truck cleaning up site and recovered oil to be transferred to waste oil tank.	Oil	30	Gallons	833 Tank
2004	01/29/04	We were bringing in a ship with this tank line up. Line wash to 866 tank, fill 882 tank and balance to 883 tank. When we went to set up to the ship, the "E" on 883 would not open electrically or manually. It was decided to manifold the ship to 882 tank	Crude	40	Gallons	
2004	02/04/04	A flange leak of less than 2 gallons of heavy naphtha was found at the #3 Station from the Inline Blender. Vac truck was used to drain the line and clean up the area. The flange gasket was then replaced.	Plat Charge Naphtha	2	Gallons	
2004	02/04/04	Operators found a flange leak on the 250 Stock Line. Less than 5 gallons of Recovered oil was spilled. Vac truck cleanup performed and the flange gasket was replaced.	Oil	5	Gallons	
2004	02/07/04	The Crude D line had a small pin hole leak releasing about 50 gallons of material on 2/7 and 2/10. Vac truck sent to the area performed cleanup and pumped the material back to Recovery tank.	Crude	50	Gallons	
2004	02/07/04	Heavy rain throughout the day, at a time when our handling capacity was limited, due to broke down equipment, causing our flow rates through our WWTP/BIO Plant to be almost cut in half. Steps were taken to prevent discharging water/oil to the river as a	Process Water/Sewer	0	Gallons	
2004	02/12/04	Three leaking flanges found on Sour water line from 1700/1300 Units near 4th and L St. at GP. About 3 gallons lost. Lines blocked in and repaired. No H2S detected by IH.	Sour Water	3	Gallons	
2004	02/16/04	About 2 gallons of furnace oil was released to the ground while pulling a heat exchanger at the 231 Unit during t/a. Speedy dry placed on the ground, material to be transferred to haz drum.	Heating Oil	2	Gallons	
2004	02/20/04	De minimis tetra ethyl glycol leak at the 1732 Cumene Unit stripping steam line.	Tetra Ethyl Glycol	1	Pounds	
2004	02/25/04	At 07:00, a report was made toH.Q. that a Sunoco Vac Truck was leaking oily water mix from the rear valve. This Sunoco Vac Truck was located in the rear of the PB automotive garage. Approximately 20 gallons of oil leaked out of this truck approximately	Oil	20	Gallons	
2004	02/29/04	A blown pump seal (2P-10B) at the North Complex resulted in the release of about 10 gallons of Reformate into pump basin. Some material may have gotten into the storm drain. Bio plant notified.	Gasoline	10	Gallons	
2004	03/03/04	Valve bonnet on the #1 line to the P-500 pump discharge line leaked about 3 gallons of Cutter Oil. Line isolated.	Oil	3	Gallons	
2004	03/05/04	Leak of about 1 gallon of benzene found by Dock operator at GP 6 Berth dock manifold. Ship s/d valve, blew mline out with N2 to BWON sump and the gasket was changed out.	Benzene	1	Gallons	
2004	03/08/04	11V-11 tank at the 864 Unit overflowed Pour Depressant after failure of the tank relief valve and product line check valve. About 5 gallons released to the environment.	Pour Depressant	5	Gallons	

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
2004	03/09/04	Operator found material under the #6 fuel oil manifold behind the STF pumphouse. Looks like the oil backed out of sump. Vac truck used to pick up material.	Oil	3	Gallons	
2004	03/13/04	A leak developed on the 1/2" fuel oil line to #31 burner at 137 Still. Approximately 14 gallons of # 6 fuel oil ran down the duct work and onto the ground on the northeast corner of F-1 heater. Oil lines to the burners were secured to stop the leak.	Oil	14	Gallons	
2004	03/18/04	A leak developed on the middle sour water stripper relax control valve elbow at 867 SRU while taking the valve out of service. Block valve would not hold completely. Took the stripper OOS and replaced the control valve and valve elbow. Estimated 23.8 l	Other	20	Gallons	
2004	03/19/04	Small amount of furnace oil, approx. 3 gallons was observed after the S-13 sump at the PB Short Pier overflowed during rain/snow storm. Vac truck recovered material.	Heating Oil	3	Gallons	
2004	03/19/04	Sewer at 4th Street near bundle pad at GP burped an estimated 8 gallons of a water and dark oil mixture. Cleanup to be performed.	Oil	8	Gallons	
2004	03/23/04	Diesel feedstock leak from clamp on the Come and Go line in the North Tank field near GP MOB. About 20 gallons released and recovered by vacuum truck. Seal Tech hired to shoot the clamp w/ sealant.	Diesel	20	Gallons	
2004	03/24/04	Apparent leak from discharge line from flare knockout drum at 1332 Unit. Leak is underground S of N2 Storage tanks. Estimated 15 gallons of light hydrocarbons contained with swipes and absorbent sausage.	Light Hydrocarbons	15	Gallons	
2004	03/31/04	Leak from underground Fresh Feed line suspected due to observation of oil surfacing on concrete at J-102 area of the 1232 FCCU. Excavation in progress and leakrate is estimated at about 1 gallon/hr.	Oil	0	Gallons	
2004	04/01/04	Valve packing leak on the N-8 line in the West Yard. Estimated 3.9 gallons of MFB/LCO on concrete basin. Vac truck cleanup performed.	Oil	3.9	Gallons	
2004	04/03/04	During rainstorm event, oil found it's way past South Yard Oil-water separator and into the canal leading to #4 pond. 17 gallons of distillate estimated released and recovered. Sausage booms prevented entry into the pond. Vac truck hired and new booms	Crude	17	Gallons	
2004	04/04/04	1)Background: 850 Tank idled in 1997. Roof sank and floor due to repairs. No blanks were installed due to the possibility of returning the tank to service in the future. Tank 850 was "closed in place" in 2002. Air-gap and blind flange inst	Crude	5570	Barrels	
2004	04/08/04	Poor weld on 30" 850 tk header failed during sandblasting of painted bolts releasing about one barrel of crude oil. A spill pan was placed under the leak and the oil was removed (99%) by vacuum truck service.	Crude	1	Barrels	
2004	04/08/04	A clamp on the 'Come and Go' line from 250/251 stock tanks to 231 Unit was found leaking into the excavation from previous repair work. An estimated 48 gallons of furnace oil stock leaked all the way to a sewer 100' from the source. Vac truck service hi	Heating Oil	48	Gallons	
2004	04/13/04	Oil was found in the storm water containment area in Girard Point at 2nd and H Sts. Pump in use to control flooding slowed operation to minimal rpms. An estimated 121 gallons of oil on the ground. Vac truck hired for cleanup.	Oil	121	Gallons	
2004	04/22/04	Free oil was found in the brick conduit along the PB Case Wharf retaining wall. Approximately 7 gallons of material. Vac truck hired for cleanup.	Oil	7	Gallons	
2004	04/25/04	Leak found near tank field manifold in the 663 tk dike area in the North Yard. Approximately 158 gallons of gas oil released. Line isolated and clean-up performed. PA Tank Law Reportable.	Gas Oil	158	Gallons	

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
2004	04/26/04	Water from storm sewer system picked up some oil (estimated 83 gallons) during pumping to storm water retention area at 2nd and H av. Vac truck hired for recovery.	Oil	83	Gallons	
2004	04/30/04	18P-142 Alkylate pump at the PB In-line Blender experienced a seal failure. Pump was shut down and secured. An estimated 45 gallons of alkylate was spilled and recovered by vacuum truck after cleanup.	Alkylate	45	Gallons	
2004	05/14/04	Crude-like material was observed on the ground in what appeared to be an underground leak along the roadway north of the 210 Crude Unit. An estimated 2 gallons was contained and collected. Excavation and cleanup complete and a temporary clamp installed.	Crude	2	Gallons	
2004	05/14/04	Crude-like material was observed on the ground in what appeared to be an underground leak along the roadway north of the 210 Crude Unit. An estimated 2 gallons was contained and collected. Excavation and cleanup complete and a temporary clamp installed.	Crude	2	Gallons	
2004	05/19/04	Water was pumped during heavy rains into containment area at 2nd and H. Approximately 4 gallons of oil trapped in the system was inadvertently pumped along with the water.	Oil	4	Gallons	
2004	06/04/04	Leak of about 2 gallons of light gas oil material at the 866 HDS unit during T/A while pressuring up system for a line flush. An 8" 600# flange opened up after pulling blanks. SD stream and retightened flange.	Oil	2	Gallons	
2004	06/07/04	An estimated 23 gallons of LSD leaked from a loose pipe nipple on the 18P-310 barge loading pump casing. The material leaked into the pit housing the pump. Nipple tightened and vac truck in for cleanup.	Diesel	23	Gallons	
2004	06/09/04	See FFF 200421579. Sunoco vacuum truck leaked about 150 gallons of 'Quickturn' after the connecting hose separated while the material was being offloaded into a Baker Frac tank. Material entered the storm water sewer and residual was recovered using oil	Quick Turn Chem Waash	150	Gallons	
2004	06/09/04	Sunoco Vacuum truck released about 150 gallons of 'QuickTurn' wash effluent after a malfunction of the valves on the rear of the truck.	Quick Turn Chem Wash	150	Gallons	
2004	06/09/04	Oil found from apparent underground crude leak during transfer setup to 840 tank from ship via 'E' receiving to the 'B' receiving line. An estimated 1 gallon of material released. Line isolated to stop leak.	Crude	1	Gallons	
2004	06/11/04	Underground line leak of Straight Run Naphtha found coming from asphalt pavement east of the 868 unit. Approximately 7.4 gallons recovered by vac truck after Skelly excavated area and the leak was located and line isolated. Sausage booms prevented guard	Plat Charge Naphtha	7.5	Gallons	
2004	06/12/04	During routine unit rounds, 866 HDS area operator found an oil leak from the 12PM-1B unit filters. An estimated 55 gallons of Resid/Gasoil material leaked to a process drain. The filter was by-passed, flushed and isolated for repair.	Oil	55	Gallons	866 HD
2004	06/14/04	See FFF # 200421973. Glycol storage tank at 860 (1V-127) overflowed about 10 gallons of material. Problem with coalescer 'not getting out'.	Glycol	10	Gallons	860 Unit
2004	06/17/04	Thin layer of oil (estimated 14 gal) found on water on under pipe conduit by 4th and M Sts at GP between 1232 Unit and 383 Tk. Vac truck hired for recovery and cleanup. All completed.	Oil	14	Gallons	4th & M Sts
2004	06/18/04	Bonnet on an overhead chain valve on the 209 line leaked cutter oil onto asphalt roadway between PB Bio and 210 U. 2 bags of oil dry used to absorb material. Line pressure relieved to tankage and maintenance pulled up on bonnet.	Heating Oil	3.9	Gallons	

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
2004	06/19/04	See FFF # 2000422362. Heater failed to shut down on one Marine Vapor Combustion Unit Propane Vaporizer (E201). Glycol solution bath overheated and overpressured vessel and PSV-504 (set 15#) released to atmosphere. Glycol/Water (approx. 5 gallons) was cont	Glycol/Water	5	Gallons	
2004	06/19/04	PCE transfer pump leaked less than a gallon of material while making up a batch w/ heavy reformat at the 2V-19 mix drum at the N. Complex.	Perchloroethylene	1	Gallons	N. Complex
2004	06/21/04	AV-1K Jet fuel (approx. 10.3 gal) observed leaking from a 2" deadleg off the APL suction line from an old clamp. Material was floating atop water inside valve box and out onto the roadway just north of PB-42 tank. Line isolated. New clamp installed and	Jet Fuel	10.3	Gallons	PB 42 Tank
2004	06/28/04	Leaked about 30 gallons of Heavy Cat Gasoline to the process sewer system from 1.5" steam down line from lean oil feed Preheat Exchanger at the 1232 unit. Additional 0.6 lbs Benzene estimated released.	Gasoline	30	Gallons	1232 Unit
2004	07/12/04	S-12 sump at PB B&S overflowed approximately 2 gallons of hydrocarbons due to heavy rains.	Oil	2	Gallons	
2004	07/13/04	Pa Tank Law reportable (> 25 gal) spill to the ground at PB 826 tk during roof drain operation. Initial estimate is 48 gallons. Crude oil contained in tank dike area and vacuum truck cleanup is in progress. Agency notification by FSS.	Crude	48	Gallons	PB 826 Tank
2004	07/29/04	A LEAK DEVELOPED ON THE BLOWDOWN LINE FROM #3BH GAS KNOCKOUT DRUM. THE LEAKING LINE IS LOCATED ON 2nd STREET ACROSS FROM #3BH. THE LINE TIES IN WITH ONE FROM 1332/231 AND GOES TO UV1010 AT 1732 UNIT. #3BH HAD NOT DRAINED THEIR K.O. DRUM, SO THE LEAK MU	Condensate	1	Gallons	3BH
2004	07/29/04	Leak of an estimated 1 gallon of hydrocarbon (butane/naphtha) found on the #3BH blow down line on the E. side of 2nd St at 33BH. Line blocked in for repairs.	Butane / Naphtha	1	Gallons	3BH
2004	08/03/04	Flange leak found on LCO production line from 868 unit at the 158 manifold at PB #2 farm. The line was shut down and secured, material vacuumed up and new stone put in place. Maintenance replaced blown gasket.	Oil	6	Gallons	868
2004	08/16/04	Approximately one gallon of #6 fuel oil leaked from P-500 pump seal at the GP STF into containment basin during a fire flash.	Oil	1	Gallons	GP STF
2004	08/25/04	THE SOAP TANK BETWEEN 37 AND 38 BOILERS SPRANG LEAKS ON THE FITTINGS FOR THE SIGHT GLASS. THIS TANK HAD LEAKED BEFORE AND WAS REQUESTED THAT SHUT OFF VALVES BE INSTALLED. NONE HAVE.	Soap	2	Gallons	
2004	08/25/04	Below grade leak of HVGO found on 8" line to 833 tank. Estimated 3 gallons, 100 % recovered.	Oil	3	Gallons	833 Tank
2004	08/25/04	Bonnet valve leak of an estimated 1 gal Of Jet stock / water at the PB #5 farm. All recovered and new valve on order.	Jet Fuel	1	Gallons	PB #5F
2004	08/26/04	Leak discovered on base of 1216 Cumene tank at the GP STF. Transferred production to 1217 tk then pumped down 1216 to 5' 9". Tank emptied for inspection on 9/3/04.	Cumene	.06	Gallons	STF
2004	08/29/04	Identified an underground home heating oil leak at the PB #4 Farm from a 4" dead leg in the excavation next to the APL and barge pump pit. Excavation and installation of temporary clamp underway.	Heating Oil	0	Gallons	PB #4F
2004	09/01/04	Small gasoline leak (~5 gallons) observed from seal on OOS transfer pump M-117's outboard bearing during prep for maintenance by mechanic. Work request issued to install blanks on pump suction and discharge lines.	Gasoline	5	Gallons	
2004	09/14/04	Pin hole leak in an OOS section of 135 Still line. An estimated 3 gallons of gasoline and some water released and recovered by vacuum truck. Section of line closed and isolated at 14" block valve.	Gasoline	3	Gallons	

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
2004	09/30/04	THE "IMHOFF" SANITARY SEWER SYSTEM TANK OVERFLOWED CAUSING SANITARY SEWAGE TO COVER STONES AT THE WALKWAY AND SURROUNDING AREA.	Sanitary Waste Water	0	Gallons	
2004	10/03/04	G.P. 2nd St. Office Building Oil: The area just west of this bldg. has oil soaked stone and vegetation; oil is floating on H2O under the bldg. in the crawl space, the "cono" box just north of the building & equip't. behind it is covered w/ oil.	Oil	0	Gallons	GP 2nd St
2004	10/03/04	LS #2 LEAKING FUEL	Diesel	2	Gallons	
2004	10/04/04	When "A" Blender (In-Line-Blender - 129 TK - #1 Farm) was started, a leak was noticed on a control valve. The blender was shut down, the valve was blocked in and LOTO. A vacuum truck was ordered and gasket was removed and replaced. Apprx. 3 gallons of mat	Gasoline	3	Gallons	
2004	10/06/04	A small hydraulic oil leak (~1.5 gallons) was discovered below grade at the PB Propane Terminal's S&J system. Excavation and repair completed. Backfilled excavation.	Oil	1.5	Gallons	
2004	10/12/04	Dock operator observed flange dripping on the upstream side of the twin seal valve on GPW #10 Berth's 8" #1 Line. Pressure was relieved back to 219TK. Material captured in containment and controlled sewer. The gasket was replaced. Spill of apprx. 1 gal of	Oil	1	Barrels	Dock
2004	10/13/04	Gasket leak on the 12 Inch Line by the old 4BH Location under Platt Bridge.	Oil	5	Gallons	4BH
2004	10/28/04	At 12:20 B & S FSS C. Nelson reported to Plant Protection, a 1" line in pipe rack on 5th st at Pennypacker in G.P. was dripping a small amount of Naptha from a leaking pipe union . This was a 1"line off a line safety . leak dripping less tha	Other	.25	Gallons	5th St at Pennypacker
2004	10/29/04	On October 29, an operator walked by the P116 pumps and found a noticeable amount of oil on the ground. The pumps had been worked during the shift. It appears that the oil was from the pump work.	Oil	0	Barrels	
2004	11/11/04	Slight Drip occurred on Dresser Valve on blending line.	Gasoline	.15	Gallons	
2004	11/12/04	Gasoline puddles on ground around 37 tk during heavy rain storm	Gasoline	15	Gallons	37 Tank
2004	11/14/04	OPERATOR NOTICED RED DYE CONCENTRATE FLOWING ONTO GROUND FROM PUMP SHED. BOTH PRESSURE GAUGES ON DISCHARGE LINES WERE PEGGED. DYE WAS SPRAYING FROM PUMP FLANGE.	Other	10	Gallons	
2004	11/14/04	Operators found a leak in the red dye system at the Propac box	Xylene	2	Gallons	
2004	11/19/04	Maintenance was scheduled to remove three vacuum breakers/safeties/vents from proto tanks 0B, 1B, and 2B. 0B and 1B contain 87 octane fuel and 2B holds 83 octane fuel. On Thursday, November 18th, the proto tanks were drained and prepared for maintenance.	Gasoline	3	Gallons	
2004	11/22/04	An estimated 10 gallons of LCO released to the ground from 2 leaking flanges on the 12" ONT line just north of 1332 CRU. Line secured and scaffold built to repair.	Oil	10	Gallons	1332, north
2004	11/24/04	Molten Sulfur truck driver discovered loading valve leak after loading was completed. Car 1 and 2 called in, truck moved under rack and water spray put on valve to cool off. Under investigation.	Sulfur	0	Pounds	
2004	12/16/04	Dock operators found a flange leaking LCO on the dock just north of the Shanty and a blind flange leaking #6 fuel on a wooden platform just East of the Shanty @ #8 berth. Line was idle and overpressured w/ no thermal relief. Safety was blocked in due to	Oil	1.6	Gallons	GP Dock
2004	12/21/04	Valve bonnet split on a Reformate pipeline block valve next to the fire dike at PB 128 tank on 10/21. An estimated 10.8 barrels of material was released. Recovery completed at spill location and at the PB Guard Separator. All agencies notified.	Heavy Reformate	10.8	Barrels	PB 128 Tank

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
2004	12/21/04	Hydrocarbons from Heavy Reformate leak at 18P104 Recirc loop found way to storm sewer and the PB Guard Separator. All oil was contained in the Grit chamber, Recovered with Vac trucks. No oil in ponds.	Heavy Reformate	10.8	Barrels	PB Guard separator
2004	12/21/04	GP dock operators found 2 flanges leaking LCO from the #1 Cutter line @ #10 berth and 1 flange leaking LCO from the #1 cutter line at #7 berth. Pressure relieved into GP 219 tk. Scaffold built, repairs started.	LCO	5	Gallons	GP Dock
2004	12/22/04	When previously frozen line thawed, flange opened and released material to the ground.	Plat Charge Naphtha	1.46	Gallons	
2004	12/23/04	A flange leak was discovered during startup of the #1 line (at GP #8 berth) which had been out of service for gasket repair. An estimated 6.3 gallons of cutter oil leaked onto the docks concrete area. Absorbents applied and all material was recovered.	Oil	6.3	Barrels	GP #8 Berth
2004	12/26/04	Temporary electric pump set up for #2 separator s/d failed. Level dropped in T-200 tank w/ normal flow. Temp diesel pump put in service returned tank levels to normal. Later discovered that process sewer box at 2nd and J had backed up releasing 4 gal	Oil	4	Gallons	
2004	12/27/04	Puddle of oil discovered at the entrance to the PB barrel warehouse. Source yet to be determined. Absorbents placed to gather oil.	Diesel	1	Gallons	PB Barrel Warehouse entrance
2004	12/29/04	Glycol injection point to 1E-106A filter gasket at the north complex failed causing a release of an estimated 100 gallons of material. The glycol went into the unit process sewer except fr approximately 24 gallons that was released to the surrounding con	Glycol	100	Gallons	
2005	01/01/05	Out-of-Service Decarb line at GP 2nd and M Streets experienced a flange leak. An estimated 5 gallons of heavy oil leaked to containment. Sausage booms and oil dry used for cleanup.	Oil	5	Gallons	GP 2nd & M Sts
2005	01/07/05	North Tank Field operator at GP found an expansion joint leak on the 137 line in the pipe conduit along 5th Street just East of 273 tank. Estimated 4 gallons of LCO. Line pressure was relieved and Vac truck service hired for clean up. Work request issu	Oil	4	Gallons	NTF
2005	01/08/05	USCG requested cleanup at the Pollock Street Sewer and GP Docks.	Oil	0	Gallons	Pollock St Sewer and GP Docks
2005	01/10/05	On 1-10-2005 the routine monthly grab sample results were received with high arsenic content. The sample result was .018 mg/L while the maximum limit is .01 mg/L. Jim DiSario of Sun Environmental reported results to Ed Fischer and requested more sampling	Arsenic	0	Pounds	
2005	01/11/05	USCG issued a Notice of Federal Interest to the refinery on 1/11 due to the presence of a light sheen outside the containment boom at the #2 berth of the GP docks. Additional booming and clean-up operations have been completed. Oil was analyzed and source	Oil	0	Gallons	GP #2 Berth
2005	01/17/05	Corrosion Inhibitor (Octel) leak at 231 Unit Tank GP C2 941. Volume is less than the 25-gallon PA Tank Law reportable.	Corrosion Inhibitor	3	Gallons	231 Unit
2005	01/20/05	Flush oil piping at 868 FCC Unit developed a leak. Estimated 25 gallons of LCO leaked to process sewer and recovered in unit sump. Line secured for repairs.	Oil	25	Gallons	868
2005	01/20/05	Spill of an estimated <5 gallons of Water / Methanol mixture on the SE side of 869 Unit from V-134 flare drum level column. Absorbed with Oil Dry.	Methanol / Water	5	Gallons	869
2005	01/25/05	Leak discovered by 860 Operators on blinded pipe leg inside OOS 859 Unit. Material is Dehex bottoms (Reformer feed). Determined management was to wash the leak down the sewer until we could clamp it. Final estimate (Between leak start time and decison	Plat Charge Naphtha	60	Gallons	859

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
2005	01/28/05	Undetermined quantity of Benzene (> 10 lb RQ) was reported to have leaked through holes in Girard Points #2B Separator walls. The NRC and PADEP were notified today. Sunoco's Site Remediation group will be evaluating the area for appropriate follow-up cle	Benzene	0	Pounds	GP #2 Separator
2005	01/31/05	An old abandoned Reformer stock line in the PB N. Yard was found split open. The line had been water washed. A minimal quantity of oil leaked to the ground.	Oil	4	Gallons	PB NY
2005	02/01/05	THE 137 STILL LINE WEST OF 282TK DEVELOPED A PINHOLE LEAK ON AN EXPANSION JOINT WELD. WE REMOVED INSULATION FROM EXPANSION JOINT. PAN UNDER LEAK. WORKING TO BAND LEAK. A PERMANENT REPAIR WILL BE MADE WHEN LINE CAN BE TAKEN OOS.	Crude	5	Gallons	137
2005	02/01/05	AT IN-LINE BLENDER NEAR 30TK P108 HAS A LEAK ON A 8 INCH FLANGE. LINE ISOLATED AND REPAIRS BEING MADE. PAN UNDER LEAK AND VAC TRUCK PRESENT	Gasoline	5	Gallons	
2005	02/09/05	Leak found on ONT line behind 490 Cooling Tower between 4th and 5th Streets. An estimated 23 gallons of LCO was released. Vac truck recovered material. Gasket replaced.	Oil	23	Gallons	490 Cooling Tower
2005	02/20/05	An estimated 3 gallons of Oily groundwater leaked from a small line split on GW-303 Recovery well line in the PB N. Yard along Avenue T. Material contained on roadway using absorbent boom and line secured.	Oil	3	Gallons	PB NY
2005	03/11/05	The description that follows was detailed by the CA responsible during a previous event at the same location(12/04): The incident involved about 2 gallons of oil from a starter. This material was not PCB oil (it was from a starter not a transformer).	Oil	2	Gallons	
2005	03/18/05	Prep line split open Line is used for prepping 178/179 & 121 tanks at 16 PH manifold.	Oil	3	Gallons	16 PH
2005	03/18/05	At 883 tk there was a leak on the belt line underneath the fire dike that seperates 882 & 883 tks.	Crude	3	Gallons	883 Tank
2005	03/21/05	A scaffold West of Exchangers 64A&B has crude that has leaked onto the walking / standing platform. This scaffold should not be used until platform has been replaced.	Crude	0	Gallons	West of Exchg 64A&B
2005	03/26/05	Leak from a 3" line (dead leg) off of the #8 Line at 51PH Pit. Line had a slow leak into pit area. During normal routine area duties leak was discovered. At the time #1 Farm was pumping 40TK (87CF) on the #4 APL line. This #8 Line ties into the #4 APL I	Gasoline	3	Gallons	51 PH
2005	03/27/05	During a monthly tank inspection, the operator noticed the seal on the mixer at SR090 tank was leaking. He immediately started to transfer the # 6 oil from SR090 to SR030 to lower the product level below the leaking seal. The FSS was contacted to respond	Oil	374	Gallons	SR090
2005	04/06/05	An estimated 8.7 gallons of LCO backed out of a sewer box near bridge on GP J Ave between 2nd and 3rd Sts. WWTP had lost a pump while water and oil was syphoned at the incident location. Vac truck hired for cleanup.	Oil	8.7	Gallons	
2005	04/07/05	At about 08:45/am, B & S ntf reported a small leak on a 6" heavy furnace oil line at 2nd & Pennypacker. This was a small pin hole leak . Oil contained within a concrete containment area . This line runs from 137 unit to NTF G.P.	Oil	55	Gallons	NTF
2005	04/07/05	Operator observed a leak (Cat Furnace Oil) from a valve bonnet on the Waste Oil line that runs from #4 Separator to GP 270 tk along J avenue. (between 2nd and 3rd Streets). Estimated 3 gallons. Line was depressured, leak stopped and a Vac truck was used	Oil	3	Gallons	2nd & 3rd Sts
2005	04/09/05	Heavy Cat gasoline (estimated 9 gallons) found floating on water in the conduit under the GP Pennypacker Ave bridge at 4th Street after an odor complaint. Vac truck hired for cleanup. 1232 unit rate cut back and the section of line was replaced.	Gasoline	9	Gallons	Pennypacker Ave at 4th St

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
2005	04/12/05	Approximately one gallon of lube oil spillage from 55-gallon can spouts at the 231 unit J-405 compressor area discovered. Cleanup to be conducted.	Oil	1	Gallons	231 Unit
2005	04/14/05	LCO/Recovered oil leaking from valve packing	Oil	8	Gallons	
2005	04/14/05	GP NTF operator observed a leaky packing on a 20" valve on the waste oil line to GP 270 tk. Estimated 8 gallons of LCO/Recovered oil. Vac truck hired and cleanup began.	Oil	8	Gallons	NTF
2005	04/15/05	Safety housing gasket split. Leaked an estimated 1 gallon of 94 octane gasoline.	Gasoline	1	Gallons	
2005	04/20/05	An estimated 2 gallons of old heavy oil was observed on the ground near GP 273 tk. A vacuum truck was ordered to remove the material.	Oil	2	Gallons	GP 273 Tank, near
2005	05/08/05	During a walkaround it was discovered that a Sun owned light stand was leaking fuel on the ground.	Diesel	1	Gallons	
2005	05/10/05	While riding past the Baker tank at the north end of 862 unit, I noticed a sour smelling liquid draining from an open butterfly valve on the bottom of the Baker tank.	Other	0	Gallons	862 Unit
2005	05/13/05	Excavation work to expose OOS pipeline led to discovery of an estimated 1 gallon of #2 oil. Incident occurred near the PB #4 farm APL / barge pumps.	Heating Oil	1	Gallons	PB #4F
2005	05/14/05	08:00 Oil on roadway at 3rd & River bulkhead G.P. near bundle wash pad was reported to Plant Prot by Safety Rep Tony Grasslie. Approx 10 gal of oily material had come from sewer inlet. Area flagged off. Maint arranged for clean up with a vac truck.	Oil	10	Gallons	3rd & River bulkhead
2005	05/16/05	Mechanic in the GP WWTP area discovered a line leak while investigating the source of hydrocarbon odors. An estimated 6 barrels of 137 Still naphtha found to have leaked. Area secured, line isolated and vacuum truck called in for cleanup. Temporary cla	Plat Charge Naphtha	6	Barrels	GP WWTP
2005	05/16/05	While GP NTF Operators were inspecting recently clamped 137 naphtha line, they discovered a leaking deadleg section of the nearby Recovered oil line. Estimated one half gallon of material released to the ground and on-call maintenance was called in for r	Oil	.5	Gallons	GP NTF
2005	05/19/05	Found contractor's pick-up truck leaking gasoline onto the ground. The pick up truck was parked on River Road, West side of the 867 Block House.	Gasoline	1	Gallons	River Road west side of 867
2005	05/27/05	A valve on a diesel fuel line was dripping fuel. I found an operator and informed him of the situation. He went to investigate the source of the leak.	Diesel	1	Gallons	
2005	06/02/05	An estimated 23 gallons of LCO was spilled to the ground during transfer from 284 tk to 219 tk. A blown out pressure gauge was found on the GP STF #1 line. Cleanup conducted by Skelly.	Oil	23	Gallons	GP STF
2005	06/06/05	An estimated 1 gallon of #2 oil leaked from a flange on the 8" reduced crude line in the PB N. Yard. The material accumulated on an asphalt pad, the pipeline pressure was reduced and the leak stopped.	Oil	1	Gallons	PB NY
2005	06/07/05	At 864 unit, west of PH-5 Squad had disconnected wash piping from the Baker tank used for the fuel gas wash. The bottom valve (butterfly) leaked the contents of the baker tank.	Other	200	Gallons	864
2005	06/09/05	Doing a walk around for a tank cleaning est. I noticed that the 8' mov was leaking at the packing. Operations was notified and called the leak into their supervision.	Heavy Naphtha	0	Gallons	
2005	06/09/05	Operator found a leak on the 137 heavy furnace line. An estimated 125 gallons leaked into a fully contained concrete pit. The line was secured, a vacuum truck called in to remove the liquid from the containment. After inspection temporary clamp was in	Oil	125	Gallons	137
2005	06/16/05	Packing leak discovered on a 12" valve on the 137 Crude unit Cat Charge line on 4th Street just north of L Avenue. Estimated 20 gallons of gas oil. Tightened packing and vacuum truck hired for cleanup.	Oil	20	Gallons	137
2005	06/20/05	NONE				

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
2005	06/20/05	At 12:00 P.M. a tube leak was discovered in the 869 D.I.B. reboilers. Tower pressure was lowered to stop alkylate from leaving the tower with the condensate	Gasoline	0	Gallons	869
2005	06/22/05	Water accumulating causing oil to form on surface in the old #2 tp area, west of 231 gulfiner. Appears that the water and oil will overflow the containment wall and contaminate the avenue "J" area.	Oil	10.67	Gallons	
2005	06/28/05	Clamp on the D line (PB South Yard Oil Movements) started leaking as temperature climbed in mid afternoon. An estimated 175 gallons of crude leaked to the ground. Vacuum truck service hired for cleanup, line pressure relieved and Sealtec repaired the leak	Crude	175	Gallons	SYOM
2005	06/28/05	During a required site assessment of GP Tank 283 the site assessment contractor (SECOR) observed a sheen on a well water sample that was taken on the south side of the tank. This sheen is reportable to PADEP according to the tank closure guidance document	Oil	0	Gallons	GP Tank 283
2005	07/06/05	The 210A btms. line in # 5 tunnel was leaking through the concrete vault wall on the refinery side of River Rd, running through the tunnel and into the brick conduit along the base of the retaining wall. Estimated 20 gallons of flush oil. The line was sec	Oil	20	Gallons	
2005	07/10/05	Top flange on the gate valve to the inlet of #6 station at the In-Line Blender developed a leak (Heavy Reformate). Line blocked in. Material to process sewer. Bio plant notified and the flange gasket was replaced.	Gasoline	0	Gallons	
2005	07/14/05	Sheen discharge found at the Platt Bridge Sewer outfall. City of Philadelphia Water Department Official visited site and confirmed that material was sewage.	Sewage	0	Barrels	Platt Bridge Sewere outfall
2005	07/15/05	P-202A pump seal (Pb B&S) leaked about 1 gallon of VGO to concrete pad. Equipment secured and cleanup completed.	Oil	1	Gallons	PB B&S
2005	07/28/05	Description of first incident: On July 28, 2005, at approximately 7:00 PM, operators increased acid flow to all three contactors and decreased olefin feed by approximately 500 BPD. Acid samples for all three contactors were pulled at approximately 9:20	Sulfuric Acid	50	Gallons	
2005	07/30/05	Leak discovered on the discharge line off P-1a Crude charge pump at the 137 Unit. An estimated 20 gallons of oil was spilled. Unit charge rate was cut, vacuum truck called in for cleanup and maintenance performed repairs on the line.	Crude	20	Gallons	137
2005	08/02/05	Contractor was processing MFB from 144tk for cat fine removal. While the crew was eating lunch, the mix tank used in their process ran over. A 3" ball valve wasn't closed all the way. The resulting head pressure from the tank caused the ball check valves	Oil	24.5	Gallons	144 Tank
2005	08/08/05	Operator found oil inside the containment boom at the Pollock Street Outfall. Clean Venture was notified and cleanup and replacement of the absorbent swipes was initiated.	Oil	0	Gallons	Pollock St Outfall
2005	08/26/05	Operators were set up to spike fresh acid into "A" contactor. When the valve was opened the pressure in the contactor dropped from 68# to 53#. The Level in the Spent Acid tank went from 16% to over 100%, then back down to about 22%. The Valve set up was do	Sulfuric Acid	50	Gallons	
2005	09/03/05	Outside gauger reported seeing oil inside the Point Breeze 881 crude tank dike area. Oil appears to have come from an area along the tank's annular ring on the east side of tank. Approximately 252 gallons of crude was lying on top of storm water inside	Crude	252	Gallons	881 Crude Tank Dike Area
2005	09/04/05	A hydraulic hose on an Am-Quip crane ruptured and an estimated 2 gallons of oil spilled to the ground. Contractor performed cleanup of oil at location (PB SYOM at 16th Street)	Oil	2	Gallons	SYOM at 16th St

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
2005	09/07/05	At 07:38 P.M. Hazmat truck driver while loading spent acid the hose ruptured spilling acid onto the ground. The driver stopped the transfer and blocked in the leaking hose. Operator decontaminated the truck drivers P.P.E. and washed up the spill.	Sulfuric Acid	3	Gallons	
2005	09/10/05	On Saturday, September 10, 2005 an incident occurred where approximately 1753 gallons of #6 Fuel Oil discharged into the Schuylkill River. Just about 7:40 AM the Dock Operator (Reggie Harris) was hailed by the Tankerman (Rick Leonard) on the B#195 and inf	#6 Fuel Oil	1753	Gallons	
2005	09/12/05	In the event of an audit, currently the haz pad would be cited for evidence of partially addressed spills (i.e. roll-off 2048 leaking tank bottoms to pad which was reported by VOC TECH this morning and has not been addressed as of 4pm today), major cracks	tank bottoms	5	Gallons	
2005	09/15/05	Tri-Star was working cleaning PB 140 tank using a cutter injection centrifuge process. At approx. 11:00 am the operator in charge of watching the centrifuges and reclaim oil tank left his post. The result was that the reclaim oil tank overflowed causing a s	Oil	210	Gallons	Tank 140
2005	09/26/05	Dead leg on the receiving crude line to oos tank 845 developed a pin hole leak	Crude	18.72	Gallons	Tank 845
2005	10/04/05	A quantity (<1 gallon estimate) of unknown sheen from an unknown source was observed in the Schuylkill River by the Case wharf on 10/4, at about 09:45 hrs. All agencies were notified. Contractor Clean Venture was at the scene at about 11:00 hrs and found	Unknown	1	Gallons	Case Wharf
2005	10/05/05	EISCO Inc. vacuum truck overflowed causing oily water to leak onto ground	Oil	15	Gallons	
2005	10/05/05	A carbon canister leak was found at GP #6 berth sump. An estimated 2 gallons of oily material leaked to the ground. Operator isolated the leak and swapped the carbon drum systems. Vacuum truck called in for cleanup.	Oil	2	Gallons	#6 Berth
2005	10/05/05	An estimated 15 gallons of a water/oil mixture overflowed from an Eisco vacuum truck at a sewer line repair excavation at 4th and L Streets. Replacement truck called in for material transfer. Cleanup was initiated.	Oil	15	Gallons	4th & L Sts
2005	10/05/05	A small hole was found at the bottom of a section of low-line piping at the pipe rack at RM-3696. An estimated 10 gallons of oil and water mix was released.	Oil	10	Gallons	RM-3696
2005	10/17/05	A small quantity of oil was found on the ground at 5th Street near GP 273 Tk at GP (estimated 1 gallon). Source is under investigation. A vac truck was hired to remove the material.	Oil	1	Gallons	5th St near 273 Tank
2005	11/15/05	Estimated 2 gallon LCO leak at SW corner of 5th and L Ave at GP. 137 Unit transfer line clamp leak. Vacuum truck hired for cleanup. Clamp to be re-shot.	Oil	2	Gallons	137
2005	11/18/05	Sulfuric acid leak (est 10 gal) from flange on V-101B Acid Settler block valve at 869 Alky Unit. Flange was tightened. Material drained to Neutralization Pit via process sewer.	Sulfuric Acid	10	Gallons	869
2005	12/01/05	Cutter stock leak discovered on the 137 Unit V-Bottoms line to the GP NTF (piperack along M Ave between 3rd and 4th streets). Estimated 5 gallons Leaked. Secured and LOTO'd line for repair. Cleanup to follow.	Oil	5	Gallons	137
2005	12/14/05	Light gasoline from 870 unit to SR-56 leaking from 2 flanges on line.	Gasoline	18.7	Gallons	870 to SR56
2005	12/15/05	At the above date & time, the 1733 Operator found a puddle of hydrocarbon on the ground at the southeast corner of the 1733 analyzer shed. Investigation found more liquid running down the side of the shed and running down the front of the main 480v breake	Cumene	2	Gallons	1733
2005	12/17/05	GP RTF operator noticed a leaking flange on the heavy gas oil line at 285 tk manifold. Less than a gallon of 1232 U LCO leaked to the ground. Line secured, gasket replaced and absorbent pads and a vac truck were used to mitigate the incident.	Oil	1	Gallons	RTF

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
2005	12/17/05	Less than one gallon of cutter oil was found on concrete at #8 and #10 berths by GP dock HO. Three flange leaks were found from the same line. Thermal pressure was relieved on the line and leak stopped. Absorbent pads used for cleanup and maintenance t	Cutter Oil	1	Gallons	GP Dock
2005	12/19/05	Operator at the GP NTF noticed a small ice ball under the gallagher valve at 1117 Udex charge tank. An estimated 5 gallons of material leaked to the ground. Maintenance replaced the failed gasket and a bucket was used for recovery.	Udex Charge	5	Gallons	NTF
2006	03/03/06	A sheen on Middlecreek was responded to that was reported on the previous shift. No sheen was found. An empty oil container was found floating against one of the booms and was removed by clean venture.	Oil	0	Gallons	Middlecreek
2006	04/23/06	Sheen approximately 2 feet wide and one (1) mile long reported by Songa Angelina (benzene ship) at GP#6 berth. USCG arrived to inspect river. Sunoco not responsible.	Oil	0	Gallons	GP #6 Berth
2006	06/05/06	15 gallons of crude oil was discovered coming out of a roof drain valve at the 847 tank dyke area. A vac truck was used to recover oil, contaminated soil was removed.	Crude oil	Gallons	15	847 tank dyke area
2006	06/09/06	Approximately 1 gallon of naphtha leaked from a 6" utility line near 285 tank, a small fire ensued and was promptly extinguished. NTF operators isolated and LOTO the line.	Naphtha	Gallons	1	285 tank
2006	06/12/06	5 gallons of light cycle oil leaked from a valve on 866 unit line to 152TK. Valve was closed and vac truck removed oil from line. All oil was recovered from paving using Oil Dry.	Light Cycle Oil	Gallons	5	152 tank
2006	06/16/06	4.87 Barrels of gas oil leaked out of a 6 inch open end dead leag at 2nd and Pennypacker. The flow was minimized and 2 vac trucks were immediately summoned for cleanup. The contaminated ground surface was removed and replaced.	Gas Oil	Barrels	4.87	2nd & Pennypacker
2006	06/20/06	A small orphan sheen was reported on the river north of the 137 unit along the bulkhead. The USCG was notified along with the NRC and PA Fish and Boat Commission. The USCG categorized it as an orphan sheen and issued a Notice of Federal Interest.	Oil	0	Gallons	River north of 137 Unit
2006	07/07/06	867 Units safety on 6V-105 lifted for a total of 49 minutes releasing approximately 600 gallons of a mixture of heating oil/ diesel medium and lean DEA to the concrete surface, which was collected by process sewer lines and treated at the WWTP.	Heating oil/diesel medium and lean DEA	Gallons	600	Concrete surface
2006	07/07/06	Approximately 350 gallons of crude oil was discovered leaking from a flange on a 30" line to PB-883 TK. The line was isolated and vacuum trucks were called in to contain leak and start clean up.	Crude oil	Gallons	350	
2006	07/08/06	TK 883 flange was discovered to be leaking again, and vac trucks were called and collected leaking crude in a pan, which was routinely emptied. Due to the fact that the hydrocarbon was collected in a pan, and did not reach the ground, this is a non-reportable release.	Crude oil			
2006	07/26/06	While installing a blank into a barge hose, less than one gallon of #6 fuel/LCO mixture spilled to the ground. The oil was cleaned up with absorbent and disposed of.	#6 Fuel/LCO Mixture	Gallons	< 1	
2006	07/30/06	An 8 inch pipeline along river road leaked less than one gallon of 210 crude bottoms to the ground. The line was isolated, de-pressurized, and the surface cleaned up.	Crude Bottoms	Gallons	< 1	River Road
2006	08/08/06	A Godwin pump used for 12E-9 chem cleaning at 866 had the vent and drain cracked open, causing 2 gallons of furnace oil to flush with condensate. The oil was contained on blacktop and collected with speedy dry.	Furnace Oil	Gallons	2	866
2006	08/12/06	It was noticed that the discharge bleeder valve on P-117 (Gasoline pump) did not have a plug installed and a steady drip of gasoline was passing the closed valve (less than 1 ounce total). Operations installed a bull valve to stop the dripping and wiped up the spill.	Gasoline	Ounce	< 1	P-117

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
2006	08/22/06	E-61 A channel box at 137 opened during unit upset which caused leak and approximately 9 gallons of vacuum tower bottoms spilled to the concrete where it was collected by process drains.	Vacuum Tower Bottoms	Gallons	9	137
2006	08/31/06	An orphan sheen was discovered on the GP side of the refinery between 10 Berth and the Floating docks. Notification was made to the coast guard, they responded on site. Notice of Federal Interest was issued.	Sheen	Sheen	Sheen	10 Berth
2006	09/03/06	42 gallons of crude oil which came from the roof drain was found on the ground inside the tank dike for PB 847 tank. Hydrocarbon was vacuumed up and contaminated soil was hand dug and removed.	Crude oil	Gallons	42	PB 847 Tank
2006	09/06/06	Approximately 4 oz of cumene was captured by operations as they unplugged a TELL TELL line. No cumene was exposed to the surrounding soil.	Cumene	Ounce	4	
2006	11/08/06	Laboratory analysis from a BTEX sample taken on the 8th from the GP WWTP Effluent indicate elevated levels of Benzene (36 PPB) which is above the Daily Max (2 PPB) and Monthly Average (1 PPB) resulting in 2 NPDES Exceedences.	Benzene			WWTP
2006	11/09/06	Operators found a leaking clamp on the blow down line from E-600 at 1332. Operators used water to wash any hydrocarbon to the sewer. Maintenance tightened the clamp				1332
2006	11/12/06	Approximately 2 gallons of oil leaked from an Aggreko portable air compressor. The compressor was shut down and oil was washed to process sewer	Oil	Gallons	2	
2006	11/24/06	Approximately 50 gallons of vacuum tower bottoms was released to concrete surface from 13P-6A at 210 C. Pump was shutdown, isolated and drained, spare pump placed into service. Oil was cleaned up with speedy dry and absorbent pads/booms.	Vacuum Tower Bottoms	Gallons	50	210 C
2006	11/24/06	Approximately 14 gallons of 15 MV2 leaking from 2 different flanges on the P-116 suction line. Operator opened valves to tankage, relieving pressure which stopped the leak. Vac truck cleaned up oil, maintenance replaced the gaskets.	MV2	Gallons	14	p-116 Suction Line
2006	11/28/06	Approximately 2 gallons of scorpion corrosion inhibitor spilled while filling the tank. Most of the material was contained in the dike (95%) but a small quantity spilled on the ground. The material was cleaned up using absorbent pads.	Scorpion Corrosion Inhibitor	Gallons	2	
2006	11/29/06	Approximately 6 barrels of undebutanized gasoline leaked from a 1.5 inch steam down line which is tied into the process line at 1232 FCCU C-207 Inlet. Water monitors were placed in service to knock down hydrocarbon and swept to the sewer system to be recovered at the WWTP.	Undebutanized Gasoline	Barrels	6	1232
2006	12/14/06	Approximately 18.7 gallons of vacuum tower bottoms leaked out of 13P-6 B pump case during pump repair at 210 C. The material was cleaned up with absorbant as well as being directed to the process sewer.	Vacuum Tower Bottoms	Gallons	18.7	210 C
2006	12/15/06	Less than 10 barrels of white jet kero leaked from valve packing (VOC #3.1190) of the jet filters at 231 unit. This material leaked out of a 3/4 packing onto the ground and then into a sewer. Vacuum truck was used to remove free product and contaminated soil was removed.	Jet Kero	Barrels	10	231 Unit
2007	01/27/07	Approximately 15 bbls of kerosene was discovered leaking from a split on the bottom of a 4 inch water draw off drain line of the 250 / 251 tank. Vacuum trucks were immediately dispatched	Kerosene	Barrels	15	250/251 Tank
2007	02/01/07	1V-147 sight glass was found to be leaking hydrocarbon (C-5s) from the drain flare. Operators installed a piggy back valve on the sight glass drain and leak stopped. The storm drain was boomed and area was promptly cleaned up	C-5s Hydrocarbons	Leak		1V-147 sight glass

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
2007	02/03/07	Operator found approximately 7.5 gallons of oil and water within basins around pumps 2003 A & B pump area while making rounds. Vac truck picked up water and oil, The area was watched for leaks, and no apparent leaks have been found.	Oil/Water	Gallons	7.5	
2007	02/08/07	Control valve packing 12FC11 at 1232 FCCU failed which resulted in approximately 5 gallons of reflux being released at E101 first floor.	Reflux	Gallons	5	1232
2007	02/12/07	Less than 25 gallons of gasoline from 1232s lean oil reed exchanger drain valve. All oil was vacuumed up and swept with speedy clean	Gasoline	Gallons	25	1232
2007	02/19/07	Approximately 10 gallons of cat gas was observed on top of ice and water inside the pipe conduit of 4th and penny packer. Vac truck was sued to clean up. All product was contained in the piping conduit.	Cat Gas	Gallons	10	4th & Pennypacker
2007	02/20/07	Approximately 30 gallons of light cycle oil leaked from the up stream block valve for 5FRC-31 at 864 Unit. Valve was immediately isolated and immediate prep work began to have valve replaced. The product was contained on ice and vaced up.	Light Cycle Oil	Gallons	30	864 Unit
2007	02/20/07	Approximately 19 gallons of vacuum gas oil was noticed under a dresser coupling on the 7 still VGO transfer line. The dresser coupling was tightened and leak stopped. Material solidified and was cleaned up.	Vacuum Gas Oil	Gallons	19	7 Still VGO
2007	02/21/07	Sheen from unknown source on river.	Sheen			
2007	02/22/07	Approximately 43 barrels of untreated cat gasoline was found to be coming out of the ground near PB-178 Tank as operators were preparing the prep the tank. Operator shutdown the prep and the hydrocarbon slowed down and stopped running. Vacuum truck was set up both at the leak and at the guard separator to vacuum any material that got to it. Excavation has begun to locate the leak	Cat Gasoline	Barrels	43	CAT
2007	02/22/07	Starbursts of hydrocarbon was observed down river of the Pollock street sewer. Clean Venture pulled sausage boom and swipes to contain the star bursting.	hydrocarbons	Starbursts		River
2007	02/28/07	(2) NPDES Fluoride Permit limits were exceeded. The Daily max concentration was 45.3 compared to a 25 mg/L limit, and the Daily Mass was 2168 pounds verses a limit of 1527 pounds. The cause is currently under investigation	Fluoride			
2007	03/01/07	Operator making routine operating round found mixer on the northwest side of tank SR-90 leaking approximately 10 gallons of vacuum gas oil. Material solidified after leaking and laborers completed clean-up.	Vacuum Gas Oil	Gallons	10	SR-90
2007	03/01/07	A gasket leak on the bower piping going to 228 tank was leaking approximately 8 gallons of storm water with trace amounts of hydrocarbon. Vac truck was used to recover material.	Stormwater/hydrocarbon	Gallons	8	228 Tank
2007	03/02/07	Approximately 16 gallons of unknown hydrocarbon was discovered to be backing out of sewer and collecting within excavation which was against the bulkhead. Vacuum trucks were immediately called to the site to recover all material	hydrocarbons	Gallons	16	Sewer
2007	03/03/07	Approximately 15 gallons of a mixture of HFO and LFO was discovered on 231 unit charge line an existing blind. Squad pulled up on the joint and the leak slowed to a drip. Plans are in place for a permanent repair. A 5 gallon buck is in place to collect any oil and dispose of properly. TA vac truck was called in to recover oil.	HFO/LFO	Gallons	15	231 Unit
2007	03/07/07	An Eisco Vacuum Truck drove over a temporary wooden bridge when a board on the bridge came up under the fuel tank puncturing it and causing a small hole and a 10 gallon gasoline spill. The material on the ground was recovered with oil dry,	Gasoline	Gallons	10	

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
2007	03/09/07	Operator found 3 gallons of solidified #6 Fuel Oil under the tanks mixer seal. All material contained inside the mixer containment berm. Oil cleaned by laborers and machinists hired to back seat mixer so that no further leaks occur.	#6 Fuel Oil	Gallons	3	
2007	03/11/07	While loading a Hazmat truck with spent sulfuric acid, the tank overfilled and spilled approximately 5-10 gallons of material. Bicarbonate was used to neutralize the spilled material	Spent Sulfuric Acid	Gallons	5-10	
2007	03/12/07	1332s V-1 tower heavy feed nozzle block valve developed a Bonnet Leak. Feed was pulled and the tower depressurized to stopped the leak. Fire hoses were used to knock down the leak and send material (approx. 3 bbls) to the process sewer. Valve will be replaced	V1 Tower heavy feed	Barrels	3	1332
2007	03/12/07	Detected iridescent 20 x 1000 ft sheen, appurtenant to #4 separator on the Third Street bulkhead. Clean Ventures put 100 foot hard boom and absorbent boom while the sheen was being investigated. No immediate source is known	Sheen			#4 separator
2007	03/13/07	869s fresh acid addition line to the neutralization pit developed a leak releasing about 15 gallons of sulfuric acid to the process sewer. The line was isolated and the WWTP was notified	Sulfuric Acid	Gallons	15	869
2007	03/14/07	Approximately 2 gallons of crude oil was observed dripping from the valve bonnet of a 16" crude line valve located at the Girard Point river crossing on the 16"line to the 24" crude header. Absorbent material was placed on the ground around leak area. Repair plans are in action	Crude oil	Gallons	2	GP river crossing
2007	03/19/07	Approximately 1 barrel of oil was discovered to be leaking from the line coming from TK 117 and going to J-65 Pump. The leak was stopped and a vacuum truck was utilized to remove product	Oil	Barrels	1	Tank 117
2007	03/20/07	A needle valve was found open at 231 Unit. Operators closed the valve and spread oil dry to absorb the 5 gallons light cycle oil	Light Cycle Oil	Gallons	5	231 Unit
2007	03/21/07	Approximately 15 gallons of naphtha leaked from the upper feed nozzle tower flange at 1332 onto the concrete below. The naphtha was flushed to a process sewer	Naphtha	Gallons	15	1332
2007	03/27/07	During an over-pressure event, a thermal relief valve on 231s Jet Filters lifted causing less than 1 bbl of 15MV1 to spill to the ground and sewer. Hydrocarbon was flushed to the sewer and laborers were utilized for ground cleanup.	15MV1	Barrels	< 1	231s
2007	03/28/07	Approximately 10 gallons of caustic was spilled from a 3" spent caustic line, (2 flanges had failed) The caustic was contained in piping conduit. The caustic was washed to the WWTP.	Spent Caustic	Gallons	1	
2007	03/30/07	A hydrocarbon pump out line from the acid blow down drum to C contactor/settler at 869 unit leaked approximately 10 gallons of a sulfuric acid/hydrocarbon mix. The material was flushed to the bio plant	Sulfuric Acid	Gallons	10	869 Unit
2007	04/04/07	Hydrocarbon (<5 gallons) was discovered floating on rain water in an empty tank dike adjacent to 2nd and H avenue. The HC is believed to have been pumped to the dike from an overflowing storm sewer located across the street. The material was cleaned up	hydrocarbons	Gallons	5	2nd & H Avenue
2007	04/07/07	Spilled oil was found at the GP wharf at the #6 FO manifold. Approximately 11.69 gallons was estimated and the spill was cleaned up	#6 Fuel Oil	Gallons	11	GP Wharf
2007	04/07/07	Less than 10 gallons of fresh caustic was spilled from a tank overflow at the 973 Tank Dike.	Caustic	Gallons	10	973 Tank Dike
2007	04/12/07	4/12/2007 - precautionary release notification of greater than 10 lbs benzene release due to a potential underground line leak near 27 pump house.	Benzene	Pounds	10	
2007	04/14/07	#3 Separator was sent to the River due to significant precipitation				3 Separator

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
2007	04/15/07	The 869 storm water pit was set to the guard separator due to significant precipitation				869 Stormwater pit
2007	04/15/07	The 870 storm water sump was set to the guard separator due to significant precipitation				870 stormwater sump
2007	04/16/07	A 12 gallon leak of light cycle oil was detected under insulation on the GP HGO line. The line was LOTO'd, stripped of insulation for repair evaluations	Light Cycle Oil	Gallons	12	GP HGO Line
2007	04/16/07	Started South Yard Ponds to the river due to significant precipitation				
2007	04/17/07	Approx 2 pints of oil dripped from #6 Berths dock drain pans into the river.	Oil	Pint	2	#6 Berth
2007	04/18/07	Approximately 1000 gallons of oil leaked through the bulkhead at 8 berth and into the river. This oil was contained in hard boom and removed from the river within 24 hours. There is on-going cleanup on the land side of the spill. Presently, the origins of the spill are unknown, however it is believed to have come from a near by sewer as a result of the 5 inches of rain received the previous days.	Oil	Gallons	1000	8 Berth
2007	04/21/07	Found oil/water mix crossing the road towards sewer box at 6 Post, area flagged off, swipes and absorbents put down, catch basin opened and absorbents put in, checked outfall at short pier, no oil noticed.	Oil/Water			6 Post
2007	04/21/07	210 units V-207A desalter's level valve malfunctioned and opened on low water level releasing crude/water mixture into the berm dike surrounding the desalters with some material spilling over the berm as the process drain backed up. Some of the oily water traveled to a green sewer and a sheen was observed on the river	crude/water mix			210 Unit
2007	04/22/07	A spill of approximately 15 gallons of undefined heavy oil was released as a result of thermal expansion and a Dresser coupling leak at 5th and L (12:00 & 13:30)	Heavy oil	Gallons	15	5th & L
2007	04/24/07	A valve on the GP P-509 discharge line had a gasket failure spilling 18.7 gallons of oil. The pump was shutdown and a vacuum truck was dispatched for clean-up	Oil	Gallons	18.7	GP P-509
2007	04/29/07	Flange leak on 8" gas oil line at 158 manifold of the South Yard caused one gallon of light cycle oil to be released. Line OOS vac truck drained line and cleaned up oil on ground	Light Cycle Oil	Gallons	1	
2007	05/01/07	Operator discovered approximately 22 gallons of oil floating on water under a pipe rack on the north side of L Avenue near 4th street. Oil was contained in the area and vac trucks hired to remove the oil. Operations is looking for the source of the leak	Oil	Gallons	22	L Ave near 4th St
2007	05/08/07	A utilities sanitary sewer backed up spilling less than one gallon to the ground.	Sewer	Gallons	1	Utilities
2007	05/09/07	840 tank roof drain block valve was passing and released approximately 25 gallons of sour water to the guard sep grid chamber. The pounds were drawing back to the bio plant, and not to the river	Sour Water	Gallons	25	840 Tank
2007	05/19/07	Burner piping was found leaking at the 137 AVU F-1 Crude Heater. The leak was tracked to a crack in the piping weld. The leak was isolated and repaired. An estimated 3 barrels of #6 oil was spilled prior to the pipe being isolated.	#6 Oil	Barrels	3	137
2007	05/24/07	Less than one gallon of fuel oil was found dripping at a pipe support (corrosion) to a stoned area between #9 and #10 Berths at the GP Wharf.	Fuel oil	Gallons	1	GP Wharf
2007	05/24/07	During routine B&S dock area checks, it was noticed that a slight dripping of fuel oil (.18 gallons) to the stone are beneath a 10" fuel oil line resting on a pipe support was ongoing. The pipe was clocked in, and maintenance was notified and the line was drained a blanked.	Fuel oil	Gallons	0.18	B&S Dock

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
2007	05/25/07	A small pinhole leak in the mixer valve body at 137s desalter area released less than 25 gallons of crude and wash water mix. Deluge gun was used to keep water on leak and wash to the WWTP as maintenance made repairs	crude/water mix	Gallons	25	137
2007	05/25/07	Approximately 3 gallons of HS2FO spilled from a 3/4 inch line leak on 119A HPL Booster Pump and sprayed the motor and pump. Clean-up on the pump and concrete was made with spill pads	HS2FO	Gallons	3	119A
2007	05/29/07	869s acid addition line to the neutralization pit developed a leak and sprayed less than 10 gallons of sulfuric acid/water onto the surrounding area. The bio plant was notified as soon as the leak was discovered	Sulfuric Acid	Gallons	10	869s
2007	06/04/07	At the PHL Refinery, there was a spill of approximately 100 bbls of distillate feedstock on 6/4 due to a leak on the head gasket of 12M 1A feed filter at the 866 Unit.	Distillate feedstock	Barrels	100	866 Unit
2007	06/06/07	At approximately 1 pm, 13P-3 on 210C seized and the mechanical seal failed. Most of the oil was captured by the pump base and drained to our oily water sump but approximately 1-2 gallons got on the ground and flowed into the sewer.	Oil	Gallons	2-Jan	210 C
2007	06/14/07	An exchanger on 1733 leaked less than 10 gallons of cumene out of the channel head opening due to cooling associated with the unit shutdown. A steam flow was started through the tube side and the leak sealed.	Cumene	Gallons	10	1733
2007	06/14/07	A valve bonnet flange leak on the shell valve at 881 tank released approximately 5 gallons of crude to the sol before a 1/2 barrel was placed under the line to contain the spill.	Crude	Gallons	5	881 Tank
2007	06/17/07	FCV-104A bypass valve developed a leak at the packing, was fixed by operator. Approximately 5 gallons of oil spilled onto the adjacent area	Oil	Gallons	5	FCV-104A bypass valve
2007	06/20/07	At approximately 2 pm operators were de-inventing sections of 231 unit for line leak repair. The pump out line developed a leak and 10-20 gallons of distillate product leaked to te sewer. The waste water treatment plant was notified.	Distillate product	Gallons	20-Oct	231 Unit
2007	06/20/07	S-12 sump at barrel warehouse over flowed into concrete containment area spilling 9.2 gallons of furnace oil to the concrete. All oil was recovered and pumped to S13 Sump	Furnace Oil	Gallons	9.2	Barrell Warehouse
2007	06/30/07	Approximatly 280 gallons of VGO-Cutter leaked from a line while setting up a transfer from 270 tank to 137 Unit, the NTF HO noticed a puddle of VGO-Cutter. The line was immediately blocked in and LOTO. Maintenance management was contacted and the contaminated soil was removed.	VGO-Cutter	Gallons	280	NTF
2007	07/10/07	Approx. 11 gallons of crude oil was seen on the ground under pump 366. Operator closed valves to minimize pressure in pipelines and applied absorbent material to oil.	Crude oil	Gallons	11	Pump 366
2007	07/11/07	A clamp on a 7 still (137) line was leaking, the oil was recovered by vacuum tucks. Seal tech resealed the clamp to prevent further leaks	Oil			7 Still (137)
2007	08/06/07	Operator discovered 11 gallons of cutter oil dripping from flange on the ONT line near the 271 tank manifold along 4th Street in the GP North Tank Field. Line was blocked in and clean up completed before repair	Cutter Oil	Gallons	11	271 Tank
2007	08/09/07	Approximately 24.54 gallons of oil was found on a surface puddle under pipes in low lying depression along 4th and L. Oil was cleaned up using a vacuum truck.	Oil	Gallons	24	4th & L Sts
2007	08/11/07	Approximately 5 gallons of Light Furnace Oil leaked from a 4" line. 137 unit took production out of the line and the leak stopped. An action plan is being developed to address the exposure. The line leak area is confined to a concrete conduit.	Light Furnace Oil	Gallons	5	137

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
2007	09/08/07	Caustic Truck was blowing out hose back to tank when there was a small overflow of caustic into 1088 TK. Upon inspection of tank sheets, it was determined gages did not match trucks received, Work Request was entered to repair gauge.	Caustic			Tank 1088
2007	09/23/07	2 gallons of oil was found floating on water under the 282 walkway on 4th street near L Ave. Oil was recovered with vacuum truck.	Oil	Gallons	2	4th & L Sts
2007	09/27/07	Orphan sheen discovered at the north end of the PB docks, south of Passyunk Ave. outfall. Pipelines along river were checked with no leaks discovered. The Coast Guard issued a Notice of Federal Interest.	Orphan sheen			PB docks
2007	10/01/07	TK-101 was overfilled resulting in 295 gallons of 40-50% xylene mixture to spill to the surrounding ground, which exceeded xylenes RQ of 100 pounds.	Xylene mixture	Gallons	295	Tank 101
2007	10/19/07	Approximately 50 gallons of a mixture of furnace oil and red dye spilt to concrete and gravel area as vac truck operators tried to dump into a roll off. The material was vacced up, contaminated gravel removed, and area washed down with a hotsey				
2007	10/22/07	At 9:30 AM, 868's main frac bottoms reflux controller elbow developed a pinhole leak. This leak spilled less than 5 gallons of oil which was captured by a process sewer and processed through the WWTP				
2007	10/25/07	A leak was discovered in 869s spent acid line which leaked less than 1000 pounds of sulfuric acid between 10/25 and 10/28 which is when they were able to cold cut supports and clamp the line.				
2007	11/07/07	1332 unit P-605B discharge line flange had a leaking paper gasket which released approximately 1 gallon of UDEX feed. Operators put a steam hose on the flange and ropped off the area				
2007	11/09/07	During the disconnection of the hose on the DS-53 the drain overflowed with approximately 5 gallons of 500MV2 at GP 2 Berth All product stayed within the containment dike and vacced out.				
2007	11/12/07	A QA Carriers truck spilled approximately 5 gallons of spent sulfuric acid along River Road due to a vent valve which was left open after loading. The acid was neutralized with soda ash and then washed to the process sewers.				
2007	11/12/07	During a routine check of #1 Farm APL #5, the shift supervisor discovered a small leak on the equalization tubing. APL#5 was shut down and isolated. Leak was less than 2 gallons and contained in valve pit and removed via vac truck.				
2007	11/16/07	On November 16th, there was a caustic line discovered to be leaking spent caustic from 1232 unit. The line was secured and LOTO'd on both ends. The amount of material was undetermined, however it was contained in the conduit system and flushed with water.				
2007	11/17/07	At 11:15 AM, Dock Operators discovered an orphan sheen in the Schuylkill River near the Ponciana. The barge was boomed in w/ absorbant boom. Clean Venture was called in to remove residual oil. The Ponciana continued to discharge and was released by the Coast Guard upon completion.				
2007	11/23/07	Approximately 1 gallon of antifreeze was spilled to black top when a HAZMAT truck sucked up a tumble weed into the air intake causing the tractor to stall. Operators spread oil dry on the spill immediately and disposed of properly				

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
2007	11/30/07	While Pumping 253 TK to 821 TK, an operator discovered oil soaked ground at 16th and J Ave. The line that runs under the oil soaked ground is the new 12 Line which 253 to 821 was on. The area will have to be excavated to find the leak. A work request was entered into EMPAC #07-009060.				
2007	12/04/07	Due to malfunction of BLIC-206, sudden change in temperature profile caused channel box to open and leak; resealed after heat was re-established; PB BioPlant was notified and water was applied to dilute whatever oil got to the sewer and to wash down the area.				
2007	12/10/07	Fire at 2B Separator caused TK U201, a sulfuric acid tank, to be damaged resulting in 265 gallons (4100 pounds) to be released to the ground and separator. Contaminated Soil was excavated and backfilled with clean fill. All PA TANKS LAW notifications were made. (NOV ISSUED 01/07/2008)				
2007	12/11/07	Fire fighting foam coming thru plant into river outfall, operators adding anti-foam to try to control foam (National Foam Brand - Universal Gold 1% 3% MSDS NMS420).				
2007	12/15/07	Operators found 9V-2 Caustic Tank Overflowing to sewer (Bio) (3.6% Caustic). This occurred when operators were adding condensate, trying to open the plugged caustic line to 869. Operators immediately isolated the caustic tank. All overflow was recovered in sewer system. A cracked open 3/4" Bypass Line to the tank was found to be the cause.				
2007	12/23/07	On 12/23/07 at 8:30 AM, an orphan sheen was discovered on the Schuylkill River in the area of the PB Docks. At the time, the DS-58 was docked at the Deloach Dock. It was unhooked and idle from the previous day. Notification was made to the Env. Dept., the USCG, the NRC and other agencies per out notification matrix. Material not believed to have come from Sunoco.				
2007	12/25/07	Oil was observed under the pipe rack along 2nd Street at Schuylkill River Tank Farm. Dresser Coupling between SR-36 and SR-37 appears to be the source but no oil was observed leaking at time of discovery. Work Order Request 07-009643 was generated for clean up and repair of the coupling. Material is LCO/Cutter.				
2007	12/25/07	Gasoline was observed leaking from Dresser Coupling on the 22" Suction Line in pipe rack along 1st Street in front of site of old SR-17 Tank. Line was opened to empty tank to relieve pressure and leak stopped. Work Order Request 07-009644 was generated for clean-up and repair of the coupling.				
2007	12/26/07	433 Operator overfilled a Baker Tank while draining spent caustic. Soda Ash spread over area to contain it.				
2007	12/26/07	An underground sewage leak surfaced under the Platt Bridge near 13 Spillway forming two large puddles of raw sewage. At this time the spill is controlled.				
2007	12/30/07	Sight Glass to 864 PV-5 Separator leaked less than 1 gallon of naphtha. The leak was blocked in using water boot.				
2007	12/31/07	At 869, a clamp is leaking a small amount of acid to ground. This clamp is located on the blow down line from P-141 to V-131. Apprx. Release: 3 oz of acid on heat tracing panel.				
2007	12/31/07	An operator noticed a fitting leaking/dripping furnace oil at E-213 Heat Exchanger. The leak was from a take-off to an OOS Furnace Oil Analyzer (B3).				
2007	12/31/07	Area flooding caused back up of sewer to concrete pipe chase; an undetermined amount of oil and water flowed from the backed up sewer. A Godwin Pump was used to relieve the area and pump down sumps, vacuum trucks were dispatched to skim oil. Location #5 Box J Avenue between 231 and 1700's.				

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
2007	12/31/07	TK1088 received a load of fresh caustic from Quality Carriers. Operator checked guage which read 11' 1/2" so he proceeded to off-load truck. When apprx 2/3 of load was received the operator noticed some caustic coming from hole in over line on side of tank and the truck was S/D. Operator called both his Head Operator and Shift Supervisor. The FSS was contacted and reported that 61 Gallons were spilled. Clean Up was started immediately. (NOV issued 01/07/2008)				
2008	01/04/08	Operators filling E-16's with HFO (Heavy Fuel Oil) found a pinhole leak in the pump out line of E-16A, the lower exchanger; operators immediately closed the HFO supply. Leakage is confined to area under exchanger, and slowly draining to oily water sewer.				
2008	01/07/08	During routine surveillance in area of the APL #4 & APL#5 manifold at the Case Wharf, a leak was discovered at a flange on an MOV for the APL#5 Line from #1 Farm. After further investigation, it was discovered that the APL#5 Line had about 670# pressure on it. Normal operation is approx. 150#. Notified the APL Pipeline Control Center however they were unable to open a valve on their end and relieve the pressure. Leak was stopped and all gasoline contained in pit. All recovered.				
2008	01/11/08	C-102A at 1232FCC has been seeping slurry from the channel flanges and has created an oil slick on the ground beneath this exchanger.				
2008	01/18/08	Coast Guard On Site to investigate sheening at Pollock Street Outfall. Notice of Federal Interest Issued.				
2008	01/24/08	Light Sheen at Pollack St. Outfall. Clean Venture on-site to change out absorbent swipes. Sheen size increasesd as during swipe change-out. Additional sheen found upstream in the area of the Passyunk Ave Outfall. Notifications made. USCG on-site.				
2008	01/25/08	Coast Guard On Site to investigate sheening at Pollock Street Outfall. No penalty issued.				
2008	01/28/08	Coast Guard On Site to investigate sheening at Pollock Street Outfall. No penalty issued.				
2008	02/03/08	On the morning Feb 3, a hole developed in the continuous cat load line. Cat is leaking out of line onto ground. Calculated Release: 5 gallons of cat				
2008	02/05/08	During routine check of area, operator discovered valve bonnet leaking on a dead leg off of the 8" cat line (866 Unit LCO Charge Line). Operator notified Shift Supervisor. Shift Supervisor notified the CCR Supervisor of the leak and to cut out the LCO Feed to 866 Unit. LCO Feed to 866 Unit was stopped, charge pump shut down and line isolated. Vac Truck was on scene and vacuumed up all LCO that leaked out. Dead leg to removed and blinded. Calculated Release: 10 gallons LCO				
2008	02/05/08	During 16PH operator routine duty checks, discovered a valve bonnet gasket leaking on a dead leg off of 866 unit LCO charge line. Operator directed a Vac truck in area to start vacuuming material from ground to for containment. Operator notified Shift Supervisor who then contacted CCR Supervisor to cut out LCO feed to 866 Unit to isolate and stop leak.				
2008	02/11/08	At the 869 Alky Unit, the caustic degasser header developed a small leak of about 4 gallons of acid. This was neutralized and washed down the Neutralization Pit.				
2008	02/13/08	Sheening from Pollock Street Sewer during rain event. Used 3 Vac Trucks to remove oil. Installed additional river boom and absorbent pads to contain sheen.				

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
2008	02/13/08	A sheen was noticed at the outfall of the GP WWTP at approx. 5PM. The WWTP was experiencing high flows throughout the day to heavy amounts of rain. High bed levels in the 114/115 Clarifiers caused some carryover with some entrained hydrocarbons. RSC notified and pre-emptive agency notifications were made. A boom was installed at the GP WWTP Effluent Outfall.				
2008	02/14/08	Two (2) TSS Exceedances (one concentration, one mass) from GP WWTP due to adverse weather conditions that occurred earlier in the week that upset plant operation				
2008	02/16/08	A stain was noticed approx. 100 yds North P-303 on the #4 Farm (PB B&S) under the pipe rack. Line suspected to be crude line dead leg. Area to be sanded next shift. Less than 2 gals released and 100% recovered. Calculated Emissions: < 2 gal gasoline				
2008	02/16/08	During the 210 C S/U, Operations was backfilling the HGO System when a leak on the column of HGO Drum (13V8 - CLAL5) was found. Calculated Emissions: < 20 gals Furnace Oil.				
2008	02/16/08	At about 2PM, the 870's E-05C Exchanger began leaking gasoline. A steam lance was placed on the leak to dissipate the gasoline until it stopped leaking. Calculated Emissions: < 1 gal gasoline				
2008	02/17/08	The Head Operator from the PB WWTP was drawing off water from 117 TK when a water leak occurred spilling about 500 gals of water. The Safety Department checked the area and found no hydrocarbons from spill. Operations cleaned up and hosed down the area. Estimated Emissions: 500 gals water				
2008	03/02/08	Dock Operator found leak on the manifold division blank between 7 and 8 Lines. Leak was contained to the primary containment area. No product went into the water. LCO product was cleaned up using the absorbent wipes. Loading manifold for the 8 Line at #2 Berth was placed OOS for repairs. Work Order entered for repairs.				
2008	03/03/08	Heavy Gas Oil leaked from channel gasket on E-59 C/D exchangers. All material was captured on existing concrete with 80% captured in process sewer with water to wash down. Remaining material was cleaned up by laborers and placed in waste container.				
2008	03/04/08	Ground water collection vessel located in the PB North Yard leaked oil/water from top vent into bermed containment area. Pump used to control level had tripped. Reset breaker to pump. Oil/water were vacuumed out of containment area. Oil/water was taken to SYOM slop tank (TK191) for collection.				
2008	03/14/08	Operators discovered 231 E-101 Stripper Tower Safety (#1468) leaking at 7am. The release was merely a "slow drip" and not classified as a "safety lifting". Operators isolated safety.				
2008	03/19/08	At approx. 6:30pm, an oil sheen was observed outside the secondary boom at the Pollock St. Sewer due to the south tide gate being pushed open from a high volume of sewer water. The sheen was formed from material getting under the secondary boom. Clean Venture, Hydrochem, and the Sunoco Oil Spill Team all responded.				
2008	03/22/08	Crude oil leak from 137's F-1 Heater (< 5 gallons). Clean-up was initiated immediately.				
2008	04/04/08	Orphan Sheen at Pollock Street Outfall. Coast Guard issues Notice of Federal Interest.				
2008	04/05/08	Oil leaching from gravel edge of pipe conduit on east side of 4th Street between L & Pennypacker Ave. west of GP-271 Tank. Calculated Release: 18.7 Gallons				
2008	04/07/08	866 Unit was the source of sour water that leaked from a line in the vicinity of the PB BIO. Calculated Release: < 1 lb H2S.				

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
2008	04/10/08	Leaking flange on Jet/Kerosine Line at #5 Tunnel (Case Wharf). The leak was immediately isolated, gasket replaced, and less than 25 gallons of material was sent to Slop Tank PB191.				
2008	04/18/08	Near the corner of 16th and Pollock St., a union on 2" piping was found dripping distillate product. Calculated Release: < 1 gallon				
2008	04/20/08	A small leak was discovered coming from a OOS dead line. This line was once the discharge of 4 Pond Water to the PB BIO. Calculated Release: 10 gallons				
2008	04/24/08	Flange sprayed distillate after block was opened on Barge Line at 9 Post (PB). In response, Squad tightened flange bolts. Calculated Release: less than 3 gals				
2008	04/28/08	FSS received a notice from a Vane Brother's employee of sheening at Schuylkill River (between Walley Dock and Short Pier). FSS Investigated the area and reported that the plant was operating properly and the Pollock Street Outfall looked good. (ORPHAN SHEEN)				
2008	05/01/08	Line Leak of slop oil/water east side of PB Bio. The piping lead to TK117 Slop Oil Tank. Line was isolated and clean-up started promptly. Calculated Release: 250 gals. Clean Up - 100% as of 5/7/08				
2008	05/04/08	Line Leak of sulfuric acid/isobutane discovered from a 869 Acid Blowdown Clamp during a routine inspection. Calculate Release: 5 gallons. Material flushed to PB Bio.				
2008	05/14/08	At 9:45am, the 1332 operators discovered a line leak near a prefract-overhead exchanger. Calculated Release: 372 gallons of VOCs to the sewer; 552 lbs VOCs and 1 lb H2S to the atmosphere.				
2008	05/15/08	At 4pm on GP 231 Unit, a leak occurred on a pump-out line. Maintenance installed a clamp. A Vac Truck worked on the clean-up but the spill occurred concrete. Calculated Release: 5 gallons (100% clean-up)				
2008	05/15/08	During 137 S/D, an exchanger released approx. 2 gallons of crude oil. It was abated by oil dry. Calculated Release: 2 gals Crude Oil				
2008	05/18/08	At 1:15am, a pump seal (210 Pump - 14P122A) leaked crude oil and was S/D. The PB BIO was notified that firewater was being used to wash the oil to a process sewer. Calculated Release: < 20 gals -> 100% Clean-Up				
2008	05/28/08	A 865 Exchanger leaked while cooling down. Calculated Release: 50 gals Distillate Stock				
2008	05/30/08	Sulfuric acid leaked from a 869 pump's flange on discharge piping (P-141). The leak had been isolated and depressured. Calculated Release: < 2 gals				
2008	06/07/08	A leak occurred on GP NYOM Pump (P-225A) resulting in a small fire and release of 3 gallons of resid. Water used to fight the fire washed the resid to a process sewer. Calculated Release: 3 gals of resid. 100 % Clean-up.				
2008	06/10/08	Line leak of sour water identified at 11th & Pollack St. (PB B&S SYOM). The line was leaking onto a roadway paving and washed to the refinery sewer system with water. Estimated Release: 25 gals of sour water. 100 % Clean-up.				
2008	06/11/08	Line leak of caustic between 862 to 868 Unit. Estimated Release: 50 gals of caustic solution. 100% Clean-Up.				
2008	06/11/08	A 864 Charge Pump (P-101A) from the PB Tank Farm (TK190) blew a seal. The area was sealed off for possible benzene exposure and the pump was blocked in and secured by operators. The release location was approx. 16th and Pollack. Calculated Release: 40 to 80 gals of Light Naphtha. Clean-up TBD.				

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
2008	06/19/08	During a routine inspection, less than 10 gals of Light Oil found on the roadway by PB191 Tank. It is believed that the oil was from a Vac Truck's oil strainer. The roadway was blocked off and laborers spread sand and "oil-dry" on contaminated section. The waste was drummed for disposal.				
2008	06/30/08	Contractors were removing SR-41 valve platform when they struck a 3/4" nipple on the 16" HPL suction which caused a small leak at the socket. A bucket was used to capture the material and a vacuum truck collected the material accumulated in the bucket. Calculated Release: < 1 gallon Diesel				
2008	07/03/08	At 4pm, less than 2 gallons of Cutter/VGO leaked out of a hose flange @ #2 Berth, GP Docks. The flange leaked while the hose was being pressured up prior to loading an empty barge. Boom was placed in the river to prevent migration of oil and the side of the barge was cleaned. The flange gasket was replaced and the hose was tested. The US Coast Guard was satisfied and loading was re-started. All notifications were made.				
2008	07/06/08	During heavy rains, there was starbursting reported in the area of the PB Bio Outfall. Samples were taken off the PB Bio Outlet Flume with no indication of visible oil (samples were retained). Noted there are storm sewers tied in from parking lot. Starbursting subsided as the rainfall subsided. All notifications were made.				
2008	07/22/08	A leak of sulfuric acid/isobutane from 869 Blowdown Line at the north end of a clamp that was installed in late 2007. Calculate Release: < 10 gals				
2008	07/28/08	Orphan Sheen noticed along the bulkhead from #3 Berth past T-200 Tank. US Coast Guard reported the source of the sheen from sunken Tug Boats under the bridge.				
2008	08/10/08	A small amount of naphtha was overflowed at 190 tank, roughly 5 gallons. Flow was switched to 126 Tank. Initial reports were that the HL alarm did not sound.				
2008	08/11/08	An estimated 10 gallons of bleach was spilled at the 490 Cooling Tower. A crack in the line to the cooling tower was observed and is in the process of being repaired.				
2008	08/18/08	An 1232 operator discovered a bleach leak (2 gallons) at the cooling tower. The leak was isolated, pump shut down, and the spilled material was flushed to the sewer with water.				
2008	08/20/08	A portable air compressor at 1232 developed a fuel line leak spilling 5 gallons of diesel. Absorbant was spread and cleaned up				
2008	08/22/08	While cutting insulation cookies, a contractor drilled a hole into the 137 flux line spilling about 30 gallons of flux oil onto the pavement and about a gallon onto an unpaved area.				
2008	08/22/08	Operations found an out of service valve packing leaking butanes on the IRPL at 444. Operators quickly isolated the leak. The valve was unnecessary and removed. Replaced by solid blank. Approximately 2 gallons of butane				
2008	08/25/08	The GP WWTP exceeded it's instantaneous TOC limit of 5 ppmv (5.4ppmv) at the discharge of the elliot compressor during routine NPDES compliance sampling. This is currently being investigated by the Utilities and Technical Department.				
2008	08/27/08	During an acid wash of the 1232 C-109E tubes, a vendor acid pump spilled 9 gallons of 5% hydrochloric acid mixture. The pump was shutdown and the job discontinued. The area was flushed with water to the sewer.				

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
2008	09/11/08	A pump leak of HHO was discovered in the South Tank Farm at P-1105. Less than 125 gallons of product was spilled. The pump was isolated pending repairs. The area is being cleaned up.				
2008	09/14/08	A spent sulfuric acid leak at the 869 Alky Unit was observed on a pre-existing clamp on the acid blowdown line. Aproximately 275 gallons spilled unto concrete before being directed to the wastewater treatment system through a process sewer. The unit was shutdown to stop the leak.				
2008	09/17/08	A pour depressant pump pressure guage was observed with a leak. The pressure guage was replaced, Approximately 1 gallon of pour depressant was spilled.				
2008	09/23/08	A pool of heavy oil was observed under the 1232 Resid Charge Line in the NTF. No appearent leak found and stripping of the insulation and clean-up is progressing. It is estimated that there is approximately 19.7 gallons of partially solidified heavy oil on the ground.				
2008	09/27/08	After clamping a leak (above) discovered on 9/23 on the 1232 Resid Line, two more leaks developed outside of the clamp. Roughly 1 gallon per minute of resid was measured leaking. The leak was shrouded onto plastic containment while a vacuum truck pumps the material away. An estimated 171 barrels gallons will spilled from primary containment it repairs are effected per plan on 10/2/2008.				
2008	09/29/08	The 210 E-205-B bundle started to leak after the aforementioned power failure. An estimated 22.5 gallons was spilled before the leak was mitigated.				
2008	10/02/08	The Point Breeze wastewater treatment plant bio effluent exceeded it's daily limit of 0.5 ppm (0.7ppm) Zinc. Operating data is being reviewed to determine if a cause can be identified. A confirmation sample was analyzed at a laboratory. Further permit sampling on 10/9 showed bio plant effluent had returned to compliance with the permit limit.				
2008	10/06/08	While removing insulation off of the PB Bio Influent Divert Line (diverts process water to storage tanks during peak storm flow), a leak developed and roughly 200 gallons of process wastewater leaked to the concrete pad underneath.				
2008	10/06/08	While an overloaded sulfur truck was being partially unloaded to a roll/off container, a leak developed at the roll/off back gate seal and less than 300 gallons of sulfur spilled to the ground. The sulfur subsequently solidified and is in the process of being cleaned up.				
2008	10/09/08	The clamp on the 137 T-1 East Overhead Line started to leak. Unit pressure was reduced to control the leak. A contractor will reshoot the clamp and an estimated 10 gallons of light naphtha was spilled.				
2008	10/13/08	210 Operators found a pinhole leak on the outlet piping of 13-EM4. The leak was evaluated for a clamp and a repair was made. Only trace amounts, if any, of hydrocarbon are expected from this hot condensate leak				
2008	10/27/08	While investigating the 1232 Resid Line for further leaks, a contractor discovered a small leak. The area under the pipe was escavated and a half drum has been placed to catch the material with 24-hour vaccum truck coverage. Current plans are to apply clamp #3 while the inspection is completed and a repair plan can be reccomended by the inspection group.				

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
2008	10/30/08	A tote of 75 percent phosphoric acid was spilled on River Road when it dropped off a forklift during transit. The ERT deployed and deployed bicarbonate to neutralize the acid, the resulting material was removed generating 3 roll-offs of spill clean-up. Area soil pHs were taken and the clean-up was deemed to be complete and the area was restored. An estimated 315 gallons of acid was spilled.				
2008	10/30/08	A leaking clamp was observed by operators on the ONT at the 271 Tank Manifold along 4th Street. Pressure was taken off the line while the clamp was reshot by a leak sealing contractor. A crew attend to the clean-up.				
2008	11/04/08	During operator rounds a small gasoline leak on a dresser coupling on the 22" Laurel Pipeline was discovered. Absorbants were applied and maintenance tightened the bolts on the coupling. Roughly 5 gallons were spilled.				
2008	11/07/08	A brilliant rainbow sheen was observed near the Pollock Street Sewer. At the time there was an ACOE dredge performing hydraulic dredging. The sheen was likely a result of that dredging operation. All necessary reports were made.				
2008	11/08/08	A leak was discovered on Point Breeze kerosene line to the barge loading (wharf) manifold. The line has been isolated and LOTO'd pending a repair. It is estimated that less than 5 gallons of kerosene was spilled.				
2008	11/12/08	A small gasoline leak was discovered at a dresser coupling next to the LPL suction at SR-18. Squad adjusted the coupling to stop the leak. Less than 5 gallons of gasoline was spilled.				
2008	11/25/08	A lean solvent leak was found on a sump pump (JP-18) discharge line. Approximately 10 gallons of glycol spilled before the leak was secured. The glycol spilled onto concrete and was recovered in the oily water sewer system.				
2008	11/26/08	Two gallons of reformate were spilled while operators disconnected a loading hose from the barge DS-50 at the Short Pier. Absorbents were used to recover the material.				
2008	12/07/08	Less than one gallon of what appeared to be heavy oil was found on the roadway west of 210 Unit. No source apparent and absorbents were applied and it was cleaned up.				
2008	12/11/08	The PB Wastewater Treatment Plant Bio was bypassed to the Schuylkill River due to prolonged intense precipitation. Discharge samples were taken by operators. WWTP discharge samples were taken by operators.				
2008	12/11/08	#3 Separator was set to the Schuylkill River due to flooding in the 136 Area.				
2008	12/12/08	Due to intense precipitation the discharge of the Klondike was set to the river. Stormwater discharge samples were taken by operators.				
2008	12/15/08	While closing a chain valve on the caustic addition line to 1V137 at 862, Operators observed a small leak at the valve bonnet gasket. The valve was exercised and the bonnet gasket reseated and the leak stopped. An estimated < 1 gallon of caustic spilled to a paved area. It was washed down with water to a local WWTP sewer.				
2008	12/16/08	High Total Dissolved Solids were observed at the outfall of the Point Breeze Wastewater Treatment Plant and the NPDES limit was exceeded. An immediate cause has not yet been identified				
2008	12/26/08	Approximately 20 gallons of oil was discovered mixed in with water on the ground appurtenant to 767 Tank. No source was determined or apparent, vacuum trucks were used to recover the product.				

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
2008	12/29/08	A contractor spilled a small amount, less than 10 gallons of 20% caustic while disconnecting the truck hose at 860. The area is concrete and the spill residue was washed to the wastewater treatment system.				
2009	01/02/09	A contractor spilled 1/2 gallon of SR-40 tank bottom sludge roll/off container while positioning it at the hazardous waste storage pad. Absorbents were used and the material was cleaned up.				
2009	01/02/09	A leak was discovered on the underground line used to pump water from the Guard Separator to the Bio Plant. The pump was shutdown and a repair plan is being formulated. A sausage boom was placed in the areas there were trace hydrocarbons (sheen) on the surface of the water. The spill was estimated at <1 gallon.				
2009	01/10/09	Operator observed a leaking clamp on a naphtha line at the NTF. The clamp was leaking into a sewer box. The line was shutdown and the clamp was replaced. Approximately 2 gallons of naphtha was estimated to have been spilled.				
2009	01/16/09	During an upset, the 866 feed filter gasket on 12M1A leaked approximately one barrel of product to the surrounding concrete. The material that did not flow to the sewer was adsorbed with oil dry and cleaned up. This incident is not considered a Class II spill counting against goals since it is exempted per PSG - HES - STD -012 Section 5.0 under "Spills, Note 2" (releases to impermeable conveyance).				
2009	01/22/09	Operators found a leaking exchanger channel head 869 E-107A. The equipment was blocked in awaiting repairs. Approximately 30 gallons of alkylate spilled to a cement area and washed to a sewer collection drain.				
2009	01/23/09	A naphtha leak was discovered in an overhead piperack at 3rd and Pennypacker leaking into a concrete pipe chase. Initial reports was that the volume was close to 200 barrels. Upon review the amount was more likely 200 to 300 gallons with a majority of the material in the conduit being water. Fire suppressing foam was applied. The leak was secured and cleaned up. PADEP visited during daywork. This incident is not considered a Class II spill counting against goals since it is exempted per PSG - HES - STD -012 Section 5.0 under "Spills, Note 2" (releases to impermeable conveyance).				
2009	01/24/09	Operators discovered a leaking recovered oil line. Operators isolated the leak for repairs. Leak was predominantly water with trace hydrocarbons.				
2009	01/25/09	The prep line to 126 Tank was found leaking at three flanges. An estimated 1995 gallons of heavy naphtha was spilled. Upon discovery the leak was blocked in and clean-up commenced. All material was contained within the 125/126 Tank dike.				
2009	01/29/09	A discharge on a cooling tower chemical pump caused 750 gallons of 12.5% bleach to be spilled into the concrete secondary containment. The leak was secured.				
2009	01/30/09	While moving a tote of bleach to the 490 cooling tower, the tote valve became damaged and 2 gallons of bleach leaked. A hose was used to wash the area down.				
2009	01/30/09	USCG during a routine inspection observed a sheen between the asphalt dock and the short pier roughly 1 yard by 100 yards. USCG requested assistance in deploying sweep, clean venture contracted. No source identified at the facility, being classified as orphan sheen. Sheen dull in color, USCG attempted to sample for fingerprinting.				
2009	02/04/09	A tank mixer at Schukyll River Tank Farm leaked about one gallon of gasoline. The tank mixer seal was adjusted and the leak stopped.				

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
2009	02/07/09	Operators discovered a sour water leak at 4th street across from 272 Tank. The leak was secured and the area was cleaned up. Less than 5 gallons of sour water is believed to have been spilled.				
2009	02/07/09	Operations discovered an underground line leak while pumping on the line to clear 81 Tank Charge Line. Operators shutdown and isolated the leak. An estimated 25-50 gallons of mostly water with crude oil spilled. A vacuum truck recovered the oil and the area was washed down to a local sewer.				
2009	02/09/09	The M/V Ponciana spilled 2 to 5 gallons of a mixture of Mobile Glycoyle 22 and LPG to the Delaware River creating a sheen. The vessel made notifications NRC#897001.				
2009	02/10/09	A leak of neutralized ASO was found at the corner of Third and K by a NTF Head Operator. This is the line from 433 to #3BH. The line was isolated and the area is being cleaned. An estimated 14 gallons was spilled.				
2009	02/19/09	Operators discovered that the internal steam coil to SR-30 had failed and had leaked less than 20 gallons of #6 fuel to the ground. The steam system was isolated and clean-up progressed.				
2009	02/19/09	A leaking Dresser coupling was found on the 18" APL suction between SR-16 and SR-18. Less than 2 gallons was spilled and the leak was secured.				
2009	02/21/09	Operators discovered MDEA leaking from a low pressure switch on 12P-3A/B at a rate of 1/2 gallon per hour.				
2009	02/26/09	While a contractor delivery truck offloaded MDEA at 862, approximately 10 gallons overflowed from the tank. The material flowed over concrete and was washed down to a process sewer.				
2009	03/04/09	Leaking bottoms valve at "J" Avenue	Gasoline	95	Gallons	
2009	03/05/09	Leak at 2125 valve in 1700's	Cumene	3.7	Gallons	
2009	03/27/09	Leak of USLD/water mixture	USLD/water	< 5	Gallons	
2009	03/30/09	Gasoline leak at flange PSV1111	Gasoline	< 1	Gallons	
2009	05/09/09	Leak at 210B crude line to process sewer	Crude	4	Gallons	
2009	05/15/09	Naptha leak in 1332 unit	Naptha	2	Gallons	
2009	05/17/09	LCO leak from #8 line	LCO	15.2	Gallons	
2009	06/09/09	S-13 sump back-up due to heavy rains	Oil	5	Gallons	
2009	06/10/09	Sewer back-up near tank 280 due to heavy rains	Oil	8	Gallons	
2009	06/10/09	Oil discovered adjacent to 282 tank	Oil	39	Gallons	
2009	06/11/09	UDEX feed pump leak	UDEX	2	Gallons	
2009	06/13/09	1332 flare KO drum leak	Oil	1	Gallons	
2009	06/13/09	1332 unit bypass valve leak	Naptha	1	Quart	
2009	06/13/09	1332 pump seal leak	Oil	3	Gallons	
2009	06/14/09	10 berth sump overflow	oil/water	3	Gallons	
2009	06/14/09	1232 resid charge line leak	Resid	40	Gallons	
2009	06/14/09	UGO spraying from clamp	UGO	47	Gallons	
2009	06/22/09	137 atmospheric tower bottoms leak	heavy oil	1	Gallons	
2009	06/23/09	U/G line leak at 15 PH	Oil	42	Gallons	
2009	06/23/09	S-10 sewer back-up	oil/water	< 1	Barrel	
2009	06/28/09	Tank 270 oil overflow	Oil/water	6000	Gallons	
2009	06/28/09	Oil discovered near 280 tank	Oil	34	Gallons	
2009	06/30/09	Small leak discovered at tank #795	Oil	2	Gallons	
2009	07/06/09	137 unit fin fan leak	Oil	10	Gallons	
2009	07/09/09	1232 unit heavy frac bottoms leak	Oil	< 5	Gallons	
2009	07/10/09	LCO leak discovered at 4th and "L"	LCO	19	Gallons	
2009	07/13/09	Tank 824 dike valve leak	Oil	23	Gallons	
2009	07/21/09	137 unit recovered oil line leak	Oil	7	Gallons	
2009	07/22/09	1232 resid oil leak	Resid	3	Gallons	
2009	07/22/09	Leak discovered NE of tank 825	Oil	8	Gallons	
2009	07/24/09	1232 unit J-104 decant oil pump leak	Oil	10	Gallons	
2009	07/25/09	LCO leak at B&S flush line	LCO	195	Gallons	
2009	07/31/09	Oil discovered at 2nd and "J" after heavy rains	oil/water	unk	Unknown	
2009	08/01/09	Drain line leak	Oil	2	Gallons	
2009	08/02/09	13 sump overflow due to heavy rains	oil/water	23	Gallons	
2009	08/12/09	Oil discovered in GP line conduit	Oil	351	Gallons	

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
2009	08/21/09	Lco discovered at 5th and Pennypacker	LCO	23.4	Gallons	
2009	08/27/09	Oil leaking from 1232 KO drum	Oil	19	Gallons	
2009	08/29/09	Sewer back-up at 2nd and "J"	oil/water	70	Gallons	
2009	08/29/09	S-13 sump back-up due to heavy rains	oil/water	5.8	Gallons	
2009	08/31/09	Spill discovered at 867 unit	Oil	9	Gallons	
2009	09/01/09	Oil discovered at Deloach dock	Oil	4	Gallons	
2009	09/09/09	Pinhole leaks discovered at 1232 resid line	Resid	23.4	Gallons	
2009	09/12/09	VGO leak from 1232 feed line	VGO	12	Gallons	
2009	09/13/09	P-225A pump leak	Oil	22.4	Gallons	
2009	09/15/09	Tank 191 strainer hatch leak	Oil	1	Gallons	
2009	09/18/09	Vac truck spill	Oil	1.9	Gallons	
2009	09/28/09	1732 unit dripping flange	Solvent	2	Quart	
2009	10/25/09	LCO #6 oil line leak	LCO	9	Gallons	
2009	10/26/09	ASO leak at 433 unit	ASO	6.4	Gallons	
2009	11/04/09	Distillate leak near PB-42	Oil	1.9	Gallons	
2009	11/15/09	Crude leak from 137 unit heat exchanger	Crude	< 10	Gallons	
2009	11/16/09	137 unit overhead line leak	Oil	unk	Unknown	
2009	12/06/09	137 crude storm sewer back-up	oil/water	unk	Unknown	
2009	12/09/09	Oil sheen discovered at Pollack street outfall	Oil	unk	Unknown	
2009	12/21/09	Cargo hose leak at #10 berth	Oil	10	Gallons	
2009	12/24/09	137 unit heat exchanger leak	Oil	< 1	Gallons	
2010	01/06/10	Heavy oil leak at 868	Oil	4	Gallons	
2010	01/13/10	Bio plant outlet sump failure	Oil	5	Gallons	
2010	01/16/10	869 unit sight glass leak	Oil	< 1	Gallons	
2010	01/16/10	Tank 270 transfer line leak	Oil	21.8	Gallons	
2010	01/23/10	Oil leak from nozzle	Oil	10	Gallons	
2010	01/27/10	Flange leak at Short Pier	Oil	0.5	Gallons	
2010	01/29/10	Frac tank leak	CSO	20.6	Gallons	
2010	02/01/10	Cumene leak from flange	Cumene	3	Gallons	
2010	02/02/10	6 berth line leak	Oil	2	Gallons	
2010	02/04/10	868 unit U/G line leak	Oil	unk	Unknown	
2010	02/18/10	E-61A/B bundle leak	Oil	5	Gallons	
2010	02/25/10	Flange spraying naptha from 137 rundown line	Oil	unk	Unknown	
2010	03/04/10	862 oily sump leak	oil/water	20	Gallons	
2010	03/06/10	PB-28 line leak	Oil	10	Gallons	
2010	03/10/10	NTF oil leak	Oil	15	Gallons	
2010	03/15/10	Hydrocarbon leak discovered at 1700s 3rd sump	Oil	2	Gallons	
2010	03/18/10	Sewer back-up	oil/water	6.2	Gallons	
2010	03/22/10	868 line leak	Oil	5	Gallons	
2010	03/22/10	Oil discovered under the Platt bridge	Oil	7	Gallons	
2010	03/23/10	oil discovered at 2nd street	Oil	unk	Unknown	
2010	03/25/10	UGO line leak on FM-1 line	UGO	100	Barrel	
2010	04/02/10	Oil found at 2nd and "J"	Oil	770	Gallons	
2010	04/06/10	Gasoline misting from pinhole leak	Gasoline	24	Gallons	
2010	04/18/10	#4 berth leak	Gasoline	4	Gallons	
2010	04/20/10	Recovered oil line leak at 137	Oil	22.3	Barrel	
2010	04/23/10	Pump discharge leak at 15PH	Oil	14.6	Gallons	
2010	04/24/10	868 unit dripping line leak	Oil	< 1	Gallons	
2010	04/24/10	Oil overflow in 137 unit	Oil	20	Gallons	
2010	04/30/10	Line along River Road leak	Frac bottoms	5	Gallons	
2010	05/06/10	ASO leak at 433 unit	ASO	4	Gallons	
2010	05/21/10	2nd street pipe rack leak	Oil	1	Gallons	
2010	06/10/10	union leak	LFO	1.9	Gallons	
2010	06/15/10	UDEX feed line leak	UDEX	< 1	Gallons	
2010	06/22/10	3rd street sewer back-up	oil/water	18.7	Gallons	
2010	06/24/10	4B separator leak	oil/water	unk	Unknown	
2010	06/24/10	13 sump back-up	oil/water	1	Gallons	
2010	06/29/10	Vac truck hose leak	Oil	unk	Unknown	
2010	07/01/10	Slop line leak from 433	Oil	15	Gallons	
2010	07/03/10	Godwin pump leak	Oil	1	Gallons	
2010	07/04/10	P-36B discharge pump ASO leak	ASO	3.74	Gallons	
2010	07/06/10	Oil floated out of river box	Oil	unk	Unknown	
2010	07/07/10	UGO line leak	Oil	3.3	Gallons	
2010	07/09/10	UGO line leak	Oil	9.4	Gallons	
2010	07/10/10	13 sump back-up	Oil	15	Gallons	

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
2010	07/11/10	Overflowed BWON drain	Oil	3	Gallons	
2010	07/13/10	Sheen at river	Oil	unk	Unknown	
2010	07/13/10	Oil found south of 22BH	Oil	unk	Unknown	
2010	07/19/10	Oil discovered at the NTF	Oil	19	Gallons	
2010	07/21/10	Godwin pump hose leak	Oil	23	Gallons	
2010	07/25/10	'868 pump seal failure	Oil	1	Gallons	
2010	08/01/10	Recovered oil line leak at 137	Oil	4	Gallons	
2010	08/08/10	oil discovered in valve box	Oil	20	Gallons	
2010	08/09/10	S-13 sump overflow	Oil	20	Gallons	
2010	08/11/10	Slop oil line leak at 1232	Oil	unk	Unknown	
2010	08/14/10	Leak at 868 pump case	Oil	1	Gallons	
2010	08/22/10	S-13 sump overflow	Oil	16	Gallons	
2010	08/28/10	Oil discovered at 2nd and J	Oil	11.7	Gallons	
2010	08/29/10	Clamp leaking on 16V-111 mixer	Oil	unk	Unknown	
2010	09/03/10	Oil discharged from WWTP to river	Oil	unk	Unknown	
2010	09/04/10	Leaking clamp discovered	Oil	0.2	Gallons	
2010	09/04/10	51 pumphouse pit full of gasoline	Gasoline	4880	Gallons	
2010	09/08/10	Oil leak at 494 tank	Oil	unk	Unknown	
2010	09/08/10	HGO line leak under Platt Bridge	Oil	10.75	Gallons	
2010	09/15/10	Tank 272 line leak	Oil	unk	Unknown	
2010	09/16/10	Tank 191 strainer leak	Oil	0.8	Gallons	
2010	09/23/10	Flange gasket dripping	Oil	< 1	Gallons	
2010	09/25/10	866 tower overpressure	Naptha	5112	Pounds	
2010	09/28/10	Oil overflow in 137 unit	Oil	15	Gallons	
2010	10/07/10	866 feed filter overpressure	LCO	< 10	Gallons	
2010	10/15/10	210 unit reflux control valve leak	Oil	12	Gallons	
2010	11/02/10	HDS pump overpressure	Oil	10	Gallons	
2010	11/03/10	433 flare suction line nipple leak	Oil	unk	Unknown	
2010	11/03/10	Orphan sheen noticed at Short Pier	Oil	unk	Unknown	Short Pier
2010	11/14/10	Eisco Vac truck leak	Oil	35-45	Gallons	1332
2010	11/22/10	Temp 137 Separator overflow	Oil	4	Gallons	137
2010	11/23/10	8" LCO line leak	LCO	12	Gallons	5th & Pennypacker Avenues
2010	12/02/10	1232 pump line leak	Oil	10	Gallons	1232
2010	12/03/10	51 pump house leak	Diesel	1496	Gallons	51 PH
2010	12/06/10	Tk 272 transfer line leak	Oil	300	Gallons	NYOM
2010	12/11/10	T-1 OH Line leak	Oil	5412	Gallons	137
2010	12/25/10	N10 Block Valve Drip	Oil	1	Quart	NYOM
2011	01/06/11	River sheen (M-12 suspect)	Oil	unk	Unknown	Utilities
2011	01/09/11	Cold feed valve dryer leak	Oil	4	Gallons	865
2011	02/01/11	#4 Berth Sump overflow	UGO	10	Gallons	B&S
2011	02/06/11	UTB transfer line leak	Oil	1.5	Gallons	1232
2011	02/06/11	Sheen found at "K" & Penny	Oil	1	Gallons	NTF
2011	02/09/11	Cat chg line coupling leak	Oil	15	Gallons	NTF
2011	02/09/11	13-Em1leak	Oil	20	Gallons	210
2011	02/09/11	210 Flange leak	Oil	1	Gallons	210
2011	02/16/11	Oil found at 3rd & K	Oil	20	Gallons	B&S
2011	02/17/11	Oil discovered at 822 Prep line	Oil	18	Gallons	B&S
2011	02/17/11	Leaking bonnet at P-306 Pump	Oil	20	Gallons	210
2011	02/17/11	Leak at 6 Fuel blender line	Oil	16	Gallons	B&S
2011	02/22/11	Godwin pump leak	Oil	3	Gallons	B&S
2011	02/22/11	%N discharge piping leak	Reformate	3	Gallons	B&S
2011	02/24/11	Sheen at Bio Plant outfall	Oil	ND	ND	Utilities
2011	02/25/11	VGO leak on 1 to 4 line	VGO	312	Gallons	B&S
2011	02/25/11	Sheen in river - S-14 Sump	Oil	ND	ND	B&S
2011	02/28/11	Valve wheel failure	Oil	3	Gallons	Docks
2011	03/01/11	Leak at 1332 B/D Line	Oil	<5	Gallons	1332
2011	03/02/11	Leak during S/U of 231	Oil	242	Gallons	231
2011	03/05/11	Oil on roadway E of T-821	Oil	6	Gallons	B&S
2011	03/07/11	Oil in conduit at 5th & L	Oil	20	Gallons	B&S
2011	03/08/11	Pinhole leaks found at 272 Tank	Oil	ND	ND	B&S
2011	03/09/11	Frac Tank Steam coil leak	Oil	25	Gallons	B&S
2011	03/16/11	S-12 sump overflow	Oil	<5	Gallons	B&S
2011	03/16/11	Leak found on JP-54C	Oil	11	Gallons	B&S
2011	03/09/11	Rupture disk failure	Oil	25	Gallons	866
2011	03/25/11	Control valve FU-200 leak	Oil	2	Gallons	869

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
2011	04/01/11	Sheen at Short Pier (source not identified)	Oil	ND	ND	Utilities
2011	04/04/11	Dresser coupling (1232 Charge)	Oil	234	Gallons	B&S
2011	04/05/11	Wastewater leaking at FC-001	Oil	ND	ND	Utilities
2011	04/05/11	Flange leak at UE-6	Oil	5	Gallons	1732
2011	04/13/11	Oil sheen at GP WWTP outfall	Oil	ND	ND	Utilities
2011	04/16/11	Frac tank overflow	Oil	20	Gallons	B&S
2011	04/19/11	L Ave line leak	Oil	53	Gallons	B&S
2011	04/22/11	14P-401A desalter injection pump leak	Sour Water	20	Gallons	137
2011	04/25/11	Leak at Tk-880	Oil	3	Gallons	B&S
2011	04/30/11	Clamp on LCO line leak	Oil	8	Gallons	B&S
2011	05/06/11	12M-1A filter gasket failure	Oil	80	Gallons	866
2011	05/09/11	210 product manifold gas ol line leak	Oil	1	Gallons	210
2011	05/09/11	Frac tank overflow	Oil	6500	Gallons	Utilities
2011	05/15/11	136 transfer line leak	VGO	10	Gallons	B&S
2011	05/16/11	GP-104B reflux pump leak	Oil	ND	ND	867
2011	05/16/11	Tank 494 valve left open	Oil	677	Gallons	B&S
2011	05/18/11	Oil sheen in river by #3 Separator	Oil	1	Gallons	Utilities
2011	05/24/11	OOS line leak at 4th & L	Oil	9	Gallons	B&S
2011	05/26/11	Oil sheen in river by #3 Separator	Oil	1	Gallons	Utilities
2011	06/01/11	Tank 272 lateral clamp leak	Resid	2	Gallons	B&S
2011	06/03/11	P-4 pinhole leak	Oil	ND	ND	137
2011	06/04/11	152 Tank steam coil failure	Resid	15	Gallons	B&S
2011	06/07/11	Flange leak at 868	CSO	1	Gallons	868
2011	06/08/11	Prep water flange leak	Prep Water	16	Gallons	866
2011	06/09/11	3" Piping leak in tank dike	LCO	2	t	B&S
2011	06/11/11	Flange leak to river	LCO	47	Gallons	B&S
2011	06/15/11	Transformer oil leak inside secondary container	Oil	6	Gallons	1232
2011	06/17/11	4 Berth Sump overflow	Wastewater	4	Gallons	B&S
2011	06/17/11	Release at conduit at 2nd/3rd and "L"	Oil	5	Gallons	B&S
2011	06/17/11	253 Tank prep release	LCO	16	Gallons	B&S
2011	06/18/11	E101 leak	Oil	10	Gallons	1232
2011	06/21/11	C-103 exchanger leak	LFO	5	Gallons	231
2011	06/23/11	Vac truck release	Oil	3	Gallons	B&S
2011	06/25/11	27 PH Leak	LCO	10	Gallons	B&S
2011	06/26/11	Dead leg piping crude leak	Crude	100	Gallons	210
2011	06/30/11	P-102B pump leak	Crude	5	Gallons	210
2011	06/30/11	C-103 exchanger leak	Crude	5	Gallons	231
2011	06/30/11	Charge line leak	Oil	90	Gallons	231
2011	07/04/11	PSU-3006 leak	Kerosene	1	Gallons	1300s
2011	07/05/11	DIPB draig line leak	Oil	Unknown	Gallons	1700s
2011	07/07/11	RM-93 leak	Slop Oil	5	Gallons	B&S
2011	07/12/11	Vac truck leak	Oil	5	Gallons	1232
2011	07/13/11	Pollock St boom sheen	Oil	Unknown	Gallons	B&S
2011	07/13/11	Oil in conduit (4th St)	#6 Oil	15	Gallons	B&S
2011	07/19/11	IB pump seal failure	LCO	9	Gallons	B&S
2011	07/23/11	Pump seal failure	#6 Oil	30	Gallons	B&S
2011	07/27/11	Oil in ditch	#6 Oil	20	Gallons	B&S
2011	07/31/11	Kave Bridge & 3rd St leak	Slop Oil	9	Gallons	B&S
2011	08/02/11	Tank line leak	Crude	25	Gallons	B&S
2011	08/15/11	4 Separator overflow	Oil	Unknown	Gallons	B&S
2011	08/28/11	Separator leak north of 11 Berth	Slop Oil	9	Gallons	B&S
2011	08/30/11	Cumene truck leak	Cumene	1	Gallons	B&S
2011	08/30/11	18J-9 leak	LCO	10	Gallons	B&S
2011	09/03/11	Cumene truck leak	LCO	20	Gallons	B&S
2011	09/05/11	Cumene truck leak	Cumene	1	Gallons	B&S
2011	09/13/11	8P-109B leak	Oil	1	Gallons	868
2011	09/18/11	6 Oil Box Tube leak	#6 Oil	5	Gallons	137
2011	09/23/11	Dock Cargo Hose leak	Naptha	1	Gallons	B&S
2011	10/10/11	Udex tank field	Benzene	1	Pint	1733
2011	11/04/11	E of 821 Tank	LCO	19	Gallons	B&S
2011	11/07/11	12" LCO pipe leak	LCO	10	Gallons	B&S
2011	11/08/11	N Tunnel pike leak	LCO	2	Gallons	B&S
2011	11/08/11	210C bottoms leak	Resid	3	Gallons	B&S
2011	11/15/11	Skim line oil leak	Slop Oil	8	Gallons	B&S
2011	11/19/11	11 E-1 exchanger leak	Oil	39	Gallons	865
2011	12/05/11	Winterization line leak	Oil	20	Gallons	870

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
2011	12/10/11	Small leak at FRC-259	Naptha	1	Gallons	1232/WWTP
2011	12/30/11	Flux line leak	Oil	24	Gallons	B&S
2012	01/06/12	Frac tank overflow	KOH/ASO	20	Gallons	433
2012	01/09/12	Pinhole leak in abandoned pipe	Resid	1	Gallons	B&S
2012	01/10/12	Frac tank overflow	Recovered oil	60	Gallons	Utilities
2012	01/13/12	#2 FO line leak	#2 FO	5	Gallons	B&S
2012	01/24/12	Hydraulic line broke	Hydraulic Oil	5	Gallons	531
2012	02/07/12	B-Desalter line pinhole leak	Wastewater	5	Gallons	137
2012	02/23/12	GP 1217 packing leaks	Cumene	1	Gallons	1700s
2012	02/27/12	Baker tank leak	Process Wastewater	5	Gallons	433
2012	02/27/12	Oil in conduit at 2nd & L	Slop Oil	10	Gallons	B&S
2012	03/08/12	Line leak under Platt Bridge	Gas Oil	109	Gallons	B&S
2012	03/14/12	Piping overpressure	LCO	4	Gallons	B&S
2012	03/16/12	B&S jet fuel leak	Jet fuel	20	Gallons	B&S
2012	03/22/12	Discharge header P-4001 leak	Process Wastewater	26.3	Gallons	Utilities
2012	04/05/12	Vacuum truck leak	Gasoline	16	Gallons	B&S
2012	04/10/12	Oil found on stones near 191 Tank	Slop Oil	1	Gallons	B&S
2012	04/15/12	6" waste oil line leak	Waste Oil	5	Gallons	B&S
2012	04/15/12	Leak near GP 271	Gas Oil	36	Gallons	B&S
2012	04/17/12	WWTP piping manifold leak	Waste Oil	10	Gallons	Utilities
2012	04/18/12	Sheen in river due to unit upset	Wastewater	Unknown		Utilities
2012	04/23/12	Oil found near 272 Tank	Gas Oil	26	Gallons	B&S
2012	04/28/12	Oil found behind #7 berth	Hydraulic Oil	1	Gallons	B&S
2012	04/30/12	S-132 discharge piping leak	Oil	1	Gallons	B&S
2012	05/12/12	Leak near 272 tank	Recovered oil	3	Gallons	B&S
2012	05/16/12	137 unit F-2 heater header leak	Crude	150	Gallons	137
2012	05/19/12	Leak on V-4 vapor return line	Distillate	2	Gallons	210
2012	05/22/12	Light cat line leak	Oil	2	Gallons	B&S
2012	05/24/12	Light cat gas leak in NTF	Gasoline	19	Gallons	B&S
2012	05/30/12	Engineered clamp leaking	Slop Oil	7	Gallons	B&S
2012	05/31/12	Leak near J73 tank	Resid	20	Gallons	B&S
2012	06/03/12	Recovered oil line leak	Recovered oil	1	Gallons	B&S
2012	06/03/12	Pin hole leak on OOS crude line	LCO	3	Gallons	B&S
2012	06/08/12	Godwin pump discharge hole leak	Slop Oil	21	Gallons	B&S
2012	06/14/12	2D025 Fin fan leak	Heavy reformat	25	Gallons	860
2012	06/21/12	NTF leak in conduit	#2 oil	2	Gallons	B&S
2012	06/22/12	Leaking flange at CUP-5A/B	Benzene	1	Gallons	1733
2012	06/26/12	Bleeder fell off tank feed line	Process Wastewater	1277	Gallons	B&S
2012	07/02/12	Oil leak at K-34 compressor	Lube Oil	1	Gallons	210
2012	07/04/12	SR-36 Tank valve drip	Gasoline	1	Gallons	B&S
2012	07/08/12	Leaking flange on Htr Charge Line	Oil	30	Gallons	137
2012	07/12/12	Dripping wash oil from flange	Wash Oil	1	Gallons	B&S
2012	07/23/12	M104 Mixer leak	Alkylate	2	Gallons	869
2012	08/04/12	MFB line leaking	Frac bottoms	8	Gallons	B&S
2012	08/11/12	Ship departure created wake and oil in river	Oil	300	Gallons	B&S
2012	08/15/12	1" nipple leaking at NTF	Naptha	2	Gallons	B&S
2012	08/15/12	Unknown river sheen at 3 Separator	Oil	Unknown	-	137
2012	08/18/12	4th & M oil spill	Cat Feed	230	Gallons	B&S
2012	08/19/12	Clamp on 16V-111 minor leak	Alkylate	< 1	Gallons	869
2012	08/21/12	P-110B Jet Pump leaking flange	Jet fuel	< 1	Gallons	B&S
2012	08/26/12	Guard Sep Pump leak	Stormwater	Unknown	-	B&S
2012	08/26/12	E-58 A/B Exchanger leak	Crude	< 1	Gallons	137
2012	08/27/12	P-13 Pump Seal failure	hydrocarbons	< 5	Gallons	433

PES Philadelphia Refining Complex Pollution Incident History

Year	Incident Date	Incident Description	Chemical	Volume Released	Quantity Released	Location
2012	09/04/12	PB Bio Effluent river sheen	Oil	Unknown	-	Utilities
2012	09/17/12	PB Bio Effluent river sheen	Oil	Unknown	-	Utilities
2012	09/24/12	Overflowed 2 frac tanks	Oil	584	Gallons	Utilities
2012	09/25/12	Caustic line leak at 1232	Caustic	5	Gallons	1232
2012	10/06/12	331 unit neutral caustic leak	Caustic	4	Gallons	331
2012	10/08/12	U29 sour water line leak	Sour Water	5	Bbls	137
2002	10/08/02	Tk 37 slight drip	Gasoline	< 1	Gallons	B&S
2012	10/08/12	PB 28 Mixer leak	Alkylate	< 1	Gallons	B&S
2012	10/15/12	4" benzene line drip	Benzene	< 1	Gallons	B&S
2012	10/18/12	Distillate cooler leak	Distillate	< 1	Gallons	136
2012	10/26/12	E-58A Crude release	Crude	2	Gallons	137
2012	10/29/12	Sheen at Bio Plant Outfall	Oil	Unknown	-	Utilities
2012	10/30/12	P-53 Godwin Pump leak	Oil	Unknown	-	B&S
2012	10/31/12	3" Cold Slop Line leak	Crude	5	Gallons	Utilities
2012	11/11/12	Reformer stock line leak	Naphtha	1	Gallons	864
2012	11/11/12	Loading Arm Swivel Joint leak	Diesel	< 1	Gallons	B&S
2012	11/12/12	Steamdown Pump leak	Slop Oil	< 1	Gallons	531
2012	11/13/12	E-213 E/F Outlet line leak	oil	Unknown	-	433
2012	11/14/12	Vac Truck Leak	Biosludge	100	Gallons	1332
2012	11/16/12	6E209 line pin hole leak	Oil	Unknown	-	867
2012	11/20/12	Underground crude oil leak	Crude	70	Gallons	B&S

SRTF Spill History

Incident Date	Location	Amount Released	Brief Description of Incident
02/23/79	SRTF SR-5 Separator	Unknown quantity of oily water in creek	A heavy sheen appeared on Mingo Creek due to the separator being choked with several inches of ice.
07/29/80	SRTF SR-5 Separator	Small amount of oil discovered in creek	Heavy rain during the night caused a small amount of oil to carry over the Separator and be discharged into Mingo Creek.
10/23/84	SRTF SR-5 Separator	5 gallons fuel oil	Approximately 5 gallons of fuel oil carried into Mingo Creek from SR-5 Separator as a result of heavy rainfall.
03/05/93	SRTF SR-63 dike area	10 gallons heavy platformate	Operators checking Tank SR-63 found the tank valve flange leaking.
03/06/93	SRTF Sump at Blender Area	8 gallons gasoline	Operator checking blender after shutdown in Engine Room found gasoline sump overflowing.
03/12/94	SRTF 12" line behind the Maintenance Bldg.	1 barrel #6 fuel oil	A leak was discovered on a 12" #6 Fuel Oil line behind the Maintenance Bldg.
03/31/94	SRTF P-90 Pump	5 gallons vacuum gas oil	Operator checking P-90 pump found a leaking nipple on the pump.
05/07/94	SRTF Tank T-100	21 gallons gasoline	T-100 Underground Storage Tank Sump pump malfunctioned causing the tank to overflow. 5/7/94-5/8/94
02/15/96	SRTF	2 barrels	Bellows leaking in pipe conduit.
08/19/97	T-100	100	T-100 UST overflowed due to mechanical malfunction of the pump.
04/27/98	River crossing	41 gallons	A one inch valve leaked at the river crossing, releasing 41 gallons of VGO.
06/08/98	SR 90	1 gallon	One gallon of VGO leaked through a valve at SR 90.
06/14/00	SRTF	< 5 gallons	A leaking bleeder was found and <5 gal. of gasoline was spilled.
01/11/01	P-90	25 gallons oil	SRTF Operators discovered leak on P-90 gas oil transfer pump. (TSO1 filed)
01/23/01	Tank DC-34	10 gallons oil	Leaking sample tap on TANK DC-34 (TSO1 Filed).
04/02/01	Tank 227	10 gallons oil	Leak at mixer on TANK 227 (TSO1 Filed).
01/29/02	LCO	2 gallons oil	Pinhole leak of LCO off 1" discharge line off safety valve at SRTF.
06/18/02		1 gallon oil	# 6 fuel oil pinhole leak (1 gal.) on 1" safety discharge line at SRTF.
06/18/02		1 gallon oil	#6 fuel oil leak (1 gal.) from 8" flange on block valve to production line at SRTF
11/03/02	FM-1	20 barrels oil	Spill of about 20 gallons LCO recovered from flange leak at SRTF during line wash of FM-1.
02/11/03	#6 oil manifold	25 gallons oil	Oil found running into a storm sewer at #6 oil manifold at SRTF. About 25 gallons estimated released and recovered.
02/11/03	Storm sewer at #6 oil manifold	25 gallons oil	Oil found running into a storm sewer at #6 oil manifold at SRTF. About 25 gallons estimated released and recovered.
03/22/03	Tank 201	15 gallons oil	An estimated 15 gallons of recovered oil was spilled to the ground after a hose connection failed during transfer from vac truck to recovered oil tank 201 at SRTF. Hose secured and spill cleaned up.
03/22/03	SRTF Tank 201	15 gallons recovered oil	An estimated 15 gallons of recovered oil was spilled to the ground after a hose connection failed during transfer from vac truck to recovered oil tank 201 at SRTF. Hose secured and spill cleaned up.

SRTF Spill History

Incident Date	Location	Amount Released	Brief Description of Incident
04/01/03	Tank SR-34	20 gallons oil	Seal leak on tank SR-34 mixer leaked about 20 gallons of #6 fuel oil into containment burm. Vac truck removed all the oil and tank was stripped to SR-33.
04/01/03	Tank SR-34 Mixer	20 gallons #6 fuel oil	Seal leak on tank SR-34 mixer leaked about 20 gallons of #6 fuel oil into containment burm. Vac truck removed all the oil and tank was stripped to SR-33.
04/02/03	Tank SR-18	38 gallons oil	Dresser coupling leak on 18" transfer line west of tank SR-18 occurred with continued weeping on 4/4, 4/5 and 4/6, spilling about 38 gallons of premium gasoline.
04/02/03	Tank SR018 transfer line	38 gallons premium gasoline	Dresser coupling leak on 18 transfer line west of tank SR-18 occurred with continued weeping on 4/4, 4/5 and 4/6, spilling about 38 gallons of premium gasoline.
07/07/03	Tank SR-90	120 gallons oil	Spilled an estimated three (3) barrels of #6 fuel oil due to a mixer seal failure on SR-90 tank. The reportable quantity for spills from aboveground storage tanks is 25 gallons.
07/07/03	Tank SR-90	120 gallons #6 fuel oil	Spilled an estimated three (3) barrels of #6 fuel oil due to a mixer seal failure on SR-90 tank. The reportable quantity for spills from aboveground storage tanks is 25 gallons.
07/15/03	#4 diesel fire water pump	2 gallons sulfuric acid	Spilled about 2 gallons of Battery acid at SRTF after a battery on #4 diesel fire water pump exploded after start during weekly test run.
07/15/03	SRTF Tank 201	2 gallons battery acid	Spilled about 2 gallons of Battery acid at SRTF after a battery on #4 diesel fire water pump exploded after start during weekly test run.
10/21/03	C-105 butane compressor	3 gallons oil	Fresh Lube oil (~ 3 gallons) found on concrete pad, leaking from C-105 butane compressor at SRTF. Oil dry applied.
10/21/03	SRTF C-105 Butane compressor	3 gallons fresh lube oil	Fresh Lube oil (~ 3 gallons) found on concrete pad, leaking from C-105 butane compressor at SRTF. Oil dry applied.
11/03/03	Tank SR-34	40 barrels oil	The mixer seal on SR-34 tank at SRTF failed resulting in a release of about 40 barrels of #6 fuel oil during maintenance activity.
11/03/03	SR-34	30 barrels oil	On the weekend of 11/1/03 and 11/2/03, SR-34 was found to have a small mixer leak. The weekend crew pumped the oil level down and reported to the maintenance planner the need for repairs on Monday 11/03/03. On Monday, 11/03/03, Mike Popelak, the ops planner, and Ray Clemens, maintenance, found a replacement mixer. Plans were made for a mixer change out on 2nd and 3rd shift on 11-03-03. There was a safe work plan done on Sunday and updated on Monday. Maintenance showed up and received a permit at 7pm. At approximately 07:30pm, maintenance was removing the mixer flange and oil poured out of the bottom of the flange. The workers notified their supervisor, who called the B&S RSC, who called the area HO. Attempts were made to start two different pumps to pull the level down further to stop the leak. P-3 would not pull suction and P-2 would not start. A vac truck was called in to try to keep pace with the leak. Maintenance, with the night supervisor, Joe Hart, [remaining text did not copy]
11/21/03	Tank SR-18	1 gallon gasoline	Dresser coupling at SRTF on 1st St. near tk SR-18 weeped. About 1 gallon spilled. Maintenance pulled up on Dresser and Vac truck cleaned.

SRTF Spill History

Incident Date	Location	Amount Released	Brief Description of Incident
11/21/03	Tank SR-90	10 gallons oil	Mixer leak of about 10 gallons on SR-90 tk. Pan placed under mixer and laborers cleaning up. Product in tank was shipped, tank stripped and mixers pulled and seals replaced.
11/21/03	SRTF 1st St near Tank SR-18	1 gallon	Dresser coupling at SRTF on 1st St. near Tank SR-18 weeped. About 1 gallon spilled. Maintenance pulled up on Dresser and Vac truck cleaned.
11/21/03	SR-90	10 gallons mixer leak	Mixer leak of about 10 gallons on SR-90 tk. Pan placed under mixer and laborers cleaning up. Product in tank was shipped, tank stripped and mixers pulled and seals replaced.
01/10/04	10 Gasoline transfer line	2 gallons gasoline	Flange leak from 10 Gasoline transfer line from the docks to the mix line to SRTF released about 2 gallons of material on 1/10. Maintenance tightened bolts and stopped the leak.
01/21/04	SRTF SR-08/SR07	31	Description: At approximately 23:45 hours on the night of 1/20/04 an Operator at the SRTF started a blend (#11364) into what he thought to be SR-08 tank. The Operator then proceeded to monitor the blend for approximately one hour, making adjustments to recipe to bring results on test and allow level to reach sufficient enough height (approximately ten feet) to turn on mixers. The Operator then proceeded from the BLENDER Room out to SR-8. While driving toward SR-8 he smelled Gasoline and then observed SR-7 overflowing out the top vents into the dike area. He immediately called the Pumphouse and had the Head Operator shut down the blend. He then proceeded to SR-8 and opened the blender valve to start SR-7 gravitating to SR-8. The sluice gate to the separator was also closed to prevent anything from going to the out-fall uncontrolled. The Head Operator and the Blending & Shipping Superintendent also climbed to the top of SR-7 to look at the internal floating roof a [remaining text did not copy]
03/07/04	SRTF P-90	25 gallons #6 fuel oil	Outboard seal on P-90 transfer pump at SRTF leaked about 25 gallons of #6 fuel oil while pump was idle. Vacuum truck onsite for cleanup.
03/07/04	SRTF 14 Transfer line into Tank SR-90	20 gallons LCO	Flange leak found on 14 transfer line into tk SR-90 at SRTF after MFB transfer from PB-663 was initiated. About 20 gallons of LCO leaked from the line. Transfer diverted to SR-34 and the line was secured.
03/26/04	SRTF P-3 pump	58 gallons #6 fuel oil	After #6 fuel oil product transfer was initiated at SRTF, a seal failure occurred on P-3 pump. Alternate pump P-2s strainer cover plate gasket also failed leading to a release of an estimated 58 gallons of material. 95 % of oil was recovered and P-2 was put to service after repair.
05/23/04	SRTF North Fields 18 suction line	117 gallons gasoline	Approximately 117 gallons of gasoline leaked from the SRTF North Fields 18 suction line. The leak occurred underground. Tie-in lines were isolated and vac truck service recovered 85% of the material.
06/19/04	GP SRTF between 1st & 2nd St	2 gallons of 91 RBOB gasoline	HPL suction found to be leaking on dresser coupling at GP SRTF between 1st and 2nd St. Approx 2 gallons of 91 RBOB gasoline leaked w/ 95% recovered. Squad mechanic tightened up on joint.
07/24/04	SRTF P-3 discharge line	6 gallons #6 fuel oil	6 fuel oil leak (~6 gal) found at Schuylkill River Tank Farm (SRTF) from insulation on the P-3 discharge line during barge loading. Absorbent sausage placed around nearby sewer box and vacuum truck service to clean up.

SRTF Spill History

Incident Date	Location	Amount Released	Brief Description of Incident
08/20/04	SRTF P-3 pump	2 gallons #6 fuel oil	Leak of approximately 2 gallons of #6 fuel at the P-3 pump at SRTF during transfer from SR-33 to barge E-9801. Pump seal fire extinguished by operator.
08/25/04	SRTF P-2 pump seal	2.5 gallons #6 fuel oil	#6 fuel observed leaking from P-2 pump seal at SRTF during transfer to SR-90 tank. Pump s/d and blocked in to stop leak. Vac truck on site recovered all of estimated 2.5 gallons.
11/11/04	SRTF 16 Blending line	9 gallons	A slight drip from a Dresser Sleeve on the 16 Blending Line at SRTF.
11/11/04	Dresser Valve on Blending line	Slight drip	Slight Drip occurred on Dresser Valve on blending line.
11/14/04	Pump Shed	10 gallons red dye	Operator noticed red dye concentrate flowing onto ground from pump shed. Both pressure gauges on discharge lines were pegged. Dye was spraying from pump flange.
11/29/04	SRTF harbor pipeline flowmeter	2 gallons gasoline	The pressure differential switch on the harbor pipeline flowmeter at SRTF leaked an estimated 2 gallons of gasoline. Line was shutdown, all material recovered and IG repaired the switch. INVESTIGATION BY ENVIRONMENTAL DEPARTMENT DURING THE SECOND WEEK OF FEBRUARY AND ON MARCH 4, 2005, REPORT THAT SOME BASIC HOUSEKEEPING IN THE AREA OF THE SPILL WAS REQUIRED.
01/19/05	SRTF 18 gasoline suction line between SR-16 and SR-18	5 gallons gasoline	Expansion joint leak at SRTF on 18 gasoline suction line in the south field between SR-16 and SR-18. Estimated 5 gallons. Repaired and Vac truck cleaned up.
01/27/05	SRTF 8 Light Cat Gas Line	10 gallons Light Cat gas oil	8 Light Cat Gas line at SRTF developed flange leaks at a back pressure controller. Vac truck called to scene and maintenance replaced the gaskets.
01/31/05	45 P-2 pump casing drain valve	14 gallons Cat gas oil	SRTF operator observed oil from 45 P-2 pump casing drain valve. An estimated 14 gallons of Cat Gas oil leaked. Valve was tightened and a bull plug installed to prevent further leakage. Vac truck called in for cleanup.
03/27/05	SR-90	374 gallons #6 oil	During a monthly tank inspection, the operator noticed the seal on the mixer at SR090 tank was leaking. He immediately started to transfer the # 6 oil from SR090 to SR030 to lower the product level below the leaking seal. The RSC was contacted to respond to the sight. Contractors were called in to start the clean up process. Approximately 374 gallons was found on the ground. This material was contained inside the fire-bank/dike area.
06/17/05	-	-	-
06/19/05	SRTF 1st St and Main St	6 gallons gasoline	An operator was making routine rounds when he observed a flange leaking gasoline at the corner of 1st and Main St at SRTF. The flange was immediately isolated. Maintenance pulled up on the flange and the leak stopped. An estimated 6 gallons spilled. Cleanup underway.
06/21/05	-	-	-
07/19/05	SR-55	2 gallons oil	A transformer oil leak (non-PCB) was discovered at the SRTF SR-55 Trans bank while performing a routine maintenance inspection. Estimated less than 2 gallons spilled to land. A catch can was placed to collect oil and maintenance was scheduled.

SRTF Spill History

Incident Date	Location	Amount Released	Brief Description of Incident
07/25/05	Laurel Pipeline suction line	1 gallon gasoline	An Operator at the SRTF noticed gasoline dripping from an expansion joint on the laurel Pipeline suction line while performing routine rounds. An estimated 1 gallon of material leaked into a small excavation holding water and a vacuum truck was called in for cleanup.
08/10/05	Twin seal valve	10 gallons #2 diesel fuel	A leaking nipple was found on a twin seal valve at the SRTF. An estimated 10 gallons of #2 diesel fuel was found on the ground. The nipple was replaced and cleanup started.
12/14/05	870 to SR-56	19 gallons light gasoline	Light gasoline from 870 unit to SR-56 leaking from 2 flanges on line.
12/28/05	SRTF P-116	35 gallons LSD	While preparing to set up an AV1K transfer on the FM-2 pump (P-116) at SRTF, the HO at SRTF noticed a flange leak on the suction line. An estimated 35 gallons of LSD leaked to the ground. Mechanics and a vac truck were brought in to replace the gasket and initiate cleanup.
03/30/06	SR-43	1 gallon #2 furnace oil	Pinhole leak found at the bottom of the LPL suction line at pipe support shoe weld east of SR-43 Tk. An estimated 1 gallon of #2 furnace oil leaked to the ground. Line secured, cleanup and repair work initiated.
06/15/06	103A Pump at Blender	5.84 gallons gasoline and corrosion injection	5.84 gallons of gasoline and corrosion injection was spilled to the ground at the 103A pump at SRTF Blender. Vacuum truck was used to recover product, and contaminated ground surface was removed and replaced.
07/11/06	12 Line	12 gallons 500MV2	Approximately 12 gallons of 500MV2 was observed to have leaked from an underground 12 line at the SRTF. A vac truck was used to collect the hydrocarbon and contaminated soil.
08/08/06	P-117	Steady drip of gasoline	While attempting to resolve the pressure spiking issues with the Keystone Pipeline while starting and operating P-117 (Gasoline pump), it was noticed that the discharge bleeder valve did not have a plug installed and a constant/steady drip of gasoline was passing the closed valve.
05/12/07	18 Gaso suction line	5 gallons gasoline	While making a routine check of the tank field, HO detected the smell of gasoline in the air; searched area and found 18 gasoline suction line leaking.
07/19/07	Additive tank	1 gallon gasoline	1gal of gasoline was released from a PSV on a additive tank when a check valve failed on the blender header during a blend.
10/15/07	SR-52	20 gallons VGO	A SRTF operator noticed a 20 gallon VGO puddle in the pipe rack in front of SR-52 tank. A vac truck was requested and the area was cleaned up. Sunoco will continue to monitor Dressler coupling for leaks
12/23/07	PB Docks Deloach Dock	Orphan sheen on River	On 12/23/07 at 8:30 AM, an orphan sheen was discovered on the Schuylkill River in the area of the PB Docks. At the time, the DS-58 was docked at the Deloach Dock. It was unhooked and idle from the previous day. Notification was made to the Env. Dept., the USCG, the NRC, and other agencies per our notification matrix. Material not believed to have come from Sunoco.
12/25/07	SRTF 2nd St between SR-36 and SR-37	15 gallons LCO/Cutter	Oil was observed under the pipe rack along 2nd Street at Schuylkill River Tank Farm. Dresser Coupling between SR-36 and SR-37 appears to be the source but no oil was observed leaking at time of discovery. Work Order Request 07-009643 was generated for clean up and repair of the coupling. Material is LCO/Cutter.

SRTF Spill History

Incident Date	Location	Amount Released	Brief Description of Incident
12/25/07	22 Suction Line on 1st St / SR-17	4 gallons gasoline	Gasoline was observed leaking from Dresser Coupling on the 22 Suction Line in pipe rack along 1st Street in front of site of old SR-17 Tank. Line was opened to empty tank to relieve pressure and leak stopped. Work Order Request 07-009644 was generated for clean-up and repair of the coupling.
04/11/08	22 South Line	< 5 gallons gasoline	At the SRTF, three leaking couplings on the 22 South Line spilled less than 5 gallons along Main Street. A vac truck was used to removed spilled material.
05/28/08	SRTF outside SR-52	6 gallons VGO	Line leak occurred at the SRTF (outside SR-52 Tank) from a Dressler Coupling due to excessive thermal pressure which could have been accelerated due to hot weather. Calculated Release: 6 gals VGO.
06/01/08	SRTF Harbor Pipeline Pig Station P-116A	3 gallons gasoline	At the SRTF Harbor Pipeline Pig Station, there was a small leak located south of Pump P-116A that was contained in the concrete containment pan. Calculated Release: 3 gallons of gasoline
06/30/08	SR-41	< 1 gallon diesel	Contractors were removing SR-41 valve platform when they struck a 3/4 nipple on the 16 HPL suction which caused a small leak at the socket. A bucket was used to capture the material and a vacuum truck collected the material accumulated in the bucket. Calculated Release: <1 gallon Diesel.
11/02/08		2 gallons	The SRTF blender operator noticed the expansion joint in front of SR-15 leaking on the Laurel pipeline suction.
11/04/08		5 gallons	Operator was making rounds and found a weeping dresser coupling on the Laurel pipeline.
11/18/08		3 gallons	PAPCO Truck 5200401 pulling trailer 445807 experienced a ruptured hydraulic line on the return to the reservoir line. The pump is hydraulically driven.
01/02/09		0.5 gallon	Sludge (diesel, water, sludge) spill from SR-40 tank estimated at 0.5 gallons while contractor was positioning the roll-off container at the hazardous waste storage pad.
02/04/09		1 gallon gasoline	A mixer at SRTF SR-14 leaked approx. one gallon of gasoline.
02/19/09		20 gallons #6 fuel oil	Operators discovered the internal steam coil to SR-30 had failed and leaked approx. 20 gallons of #6 fuel oil to the ground.
02/19/09		1.5 gallons gasoline	Leaking dresser coupling on the 18" APL suction between SR-16 and SR-18 leaked approx. 1.5 gallons of gasoline.
03/24/09		21 gallons oil	An Operator observed a small cat charge leak at #8 Line at the SR-90 manifold. An estimated 21 gallons of oil were spilled.
07/08/09		13 gallons	The Dresser Coupling on the 12 inch production line between SR-36 and SR-37 was found to be leaking.
07/08/09		1 gallon gasoline	The 18 inch suction Dresser coupling was found to be leaking gasoline.
07/31/09		39 gallons #6 fuel oil	Dressler sleeve leaked #6 FO to ground.
08/11/09		113 gallons	On rounds the Dresser coupling at SR-37 on the 12 inch #6 fuel production line was found to be leaking.
08/11/09		8 gallons #6 fuel oil	On routine rounds puddles of #6 fuel was found floating on the water near the 7 and 8 line at P-3 under the decking of the Mani folding.

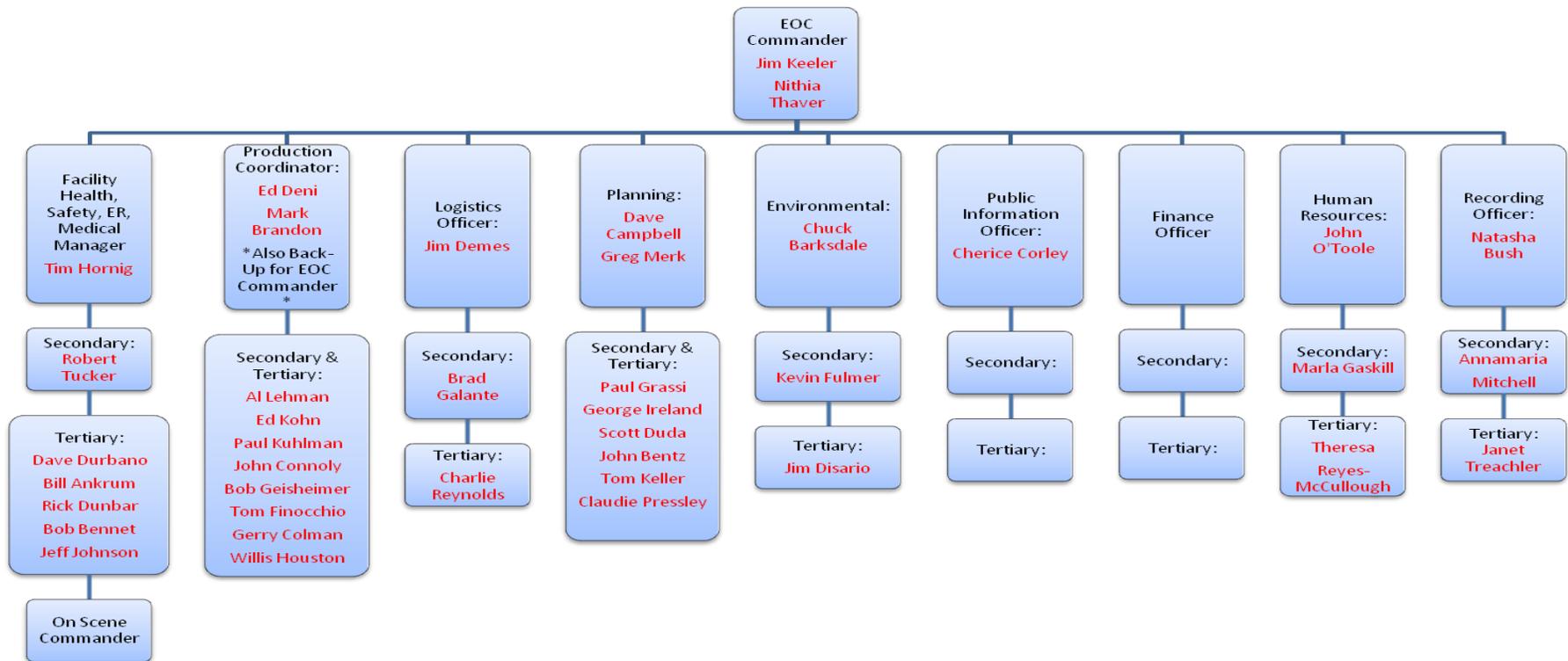
SRTF Spill History

Incident Date	Location	Amount Released	Brief Description of Incident
09/05/09		19 gallons oil	Godwin diesel pump was being used to pump SR-65 to a barge at #10 Berth. At 8:00 AM on 9/5/2009, oil was observed discharging from the Dri-Prime hose which had been routed to the water draw off conduit which is connected to the process sewer system.
09/10/09		12 gallons 15MV2	SR-40 was being put back in service. 15MV2 was being gravity transferred from SR-42 to SR-40. The Area I operator on routine rounds found a flange on the tank leaking product. The operator found that the bolts on the flange were loose.
01/26/10		23 gallons hydrocarbon	8" X150# RF flange leak was discovered at old mix line at MTBE header by operators during rounds. Flange was not visibly leaking, but strong odor of gasoline and liquid hydrocarbon was visible on ground.
02/25/10		17 gallons oil	LO Mechanic found oil on the gravel running to a box sewer at the 18" gasoline / SR-60 series suction to P-116 pump, near the roadway.
03/23/10		5 gallons #6 fuel oil	On first rounds, operator noticed what appears to be fresh #6 fuel oil floating on contained water inside curbed area near transfer pump. Oil will spread if area is flooded with rain.
03/26/10		20 gallons oil	On first rounds, operator noticed fresh black oil on the ground under the pipe rack by P-90. A trail of oil lead back to the pump area. The inboard and outboard seals of P-90 had been leaking. Oil had pooled and hardened in the gravel area around the pump and the near-by pipe rack. (~12' x 20 '). Oil could be seen in a larger area under thin layers of fresh gravel along the pipe rack.
04/02/10		8 gallons oil	Oil was found in a small hole along the LPL suction line near SR-38
05/20/10		0	A contractor was hydro excavating a suspected leak on LPL prover lines and uncovered a 4 inch prover line that had a pinhole leak.
05/21/10		1 gallon Black oil	On first rounds, operator noticed black oil floating in a moving stream of water under the pipe rack on 2nd St. The oil was being carried to a storm sewer about 25 feet away. A steady stream of Black oil was leaking from a Dressler coupling on the 20" transfer line. Unknown quantity or duration of leak.
06/04/10		6 gallons	A leaking Dresser Coupling was found while driving on 2nd St.
06/05/10		5 gallons	Vacuum truck crew overfills truck and spills product on the ground. Vacuum truck crew believe the truck was only 1/2 full when it overflowed.
08/04/10		32 gallons	A flange began to spray during a line wash of #6 oil.
02/14/11		3 gallons	Delivery truck draulic leak
03/25/11		1.5 gallons	A weep hole was found leaking on a SRTF PRV.
05/25/11		3 gallons	Oil was found leaking from SR-90, telltale hole.
08/15/11			Oil backed out of sewer
11/28/11	Blender	Unknown	Additive tote released gasoline
01/17/12	At MOV#61	1.75 gallons	Leak at 18" suction to P-116 of heating oil.
03/20/12	SR-16 Tank	1170 gallons	Tank mixer leak of gasoline
03/29/12	Blender	5 gallons	LPL dresser coupling leak of gasoline
04/28/12	LPG Rack	1 gallon	Propane truck blew hydraulic hose.
08/21/12	SRTF	15 gallons	Clamp on #8 Line elbow leaked LCO

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX C: List of Contacts

Facility Contact [154.1035 (e)(2)]

24 hour Contact - PES COMMUNICATIONS CENTER:
Emergency Number: 215-339-5400 – In-Plant – Extension 5400
Non-Emergency Contact 215-339-2286 Fax: 866-401-9332



Paper copies are uncontrolled. This copy is only valid at time of printing. The controlled version can be found on the company intranet.

Revision Date: 02/01/2013

Next Revision Date: 02/01/2018

Last printed 5/9/2013 11:00 AM

PHILADELPHIA ENERGY SOLUTIONS OPA 90 PLAN

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX C: List of Contacts

FACILITY RESPONSE PERSONNEL - Qualified Individuals

The following personnel within each Refinery Incident Command System have authority to act as Qualified Individuals (QI's) for the refinery:

The facility runs on a 24/7 365 schedule. There are least two Qualified Individuals on each of the facility's premises each shift. The duties and responsibilities for Qualified Individuals can be referenced in Section 3.3-1. Training requirements for Qualified Individuals can be referenced in Section 8 Training Procedures.

Qualified Individual	Address	Title	Contact Number Day & Evening
James Keeler Nithia Thaver	3144 Passyunk Avenue Philadelphia, PA 19145	Vice President & Facility Managers	215-339-2286
Hornig, Timothy		HSS Director	215-339-2286
Tucker, Robert		Emergency Services Manager	215-339-2286
Alternate QI's			
Finocchio, Tom Colman, Gerry Willis Houston Allan Lehman Geisheimer, Bob Connelly, John Kohn, Edward Kuhlman, Paul		Facility Shift Superintendents	215-339-2286
Alternate QI's			
William Ankrum Richard Dunbar David Durbano Jeffrey Johnson		Emergency Services Shift Supervisors	215-339-2286

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX C: List of Contacts

EMERGENCY RESPONSE CONTRACTORS 154.1035(e)(3)(ii)			
CONTRACTOR	RESPONSIBILITY	RESPONSE TIME (hour)	PHONE OR PAGER NUMBER (DAY/EVENING)
Clean Venture, Inc. ¹ 600 Cenco Blvd. Clayton, NJ 08312 Class MM-W3:R/C Class MM:Inland Sun Contract # 114412	Oil spill mitigation, cleanup and disposal	1	(856) 863-8778
Delaware Bay and River Cooperative (DBRC) 700 Pilottown Road Lewes, DE Primary Contact: Capt. Gene Johnson Class MM-W3:R/C; Class MM:Inland	Oil spill cleanup	1	(302) 645-7861

¹ *Include evidence of contracts/agreements with response contractors to ensure the availability of personnel and response equipment.*

NOTE: Sunoco is an active member of the DBRC. The phone numbers listed for the emergency response contractors will be answered 24 hours.

KEY ORGANIZATIONS

- | | | |
|----|--|------------------------------|
| 1. | National Response Center | 800-424-8802 |
| 2. | United States Coast Guard | 215-271-4800 |
| 3. | PA Department of Environmental Protection | 484-250-5900 |
| 4. | NJ Department of Environmental Protection | 877-927-6337 |
| 5. | Delaware Natural Resources and
Environmental Conservation | 800-662-8802 or 302-739-9401 |
| 6. | Department of Transportation (DOT) | 800-424-8802 NRC |

CALL LIST

Paper copies are uncontrolled. This copy is only valid at time of printing. The controlled version can be found on the company intranet.
Revision Date: 02/01/2013 Next Revision Date: 02/01/2018 Last printed 5/9/2013 11:00 AM

PHILADELPHIA ENERGY SOLUTIONS OPA 90 PLAN

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX C: List of Contacts

Home telephone numbers are listed with the NER Communications Center, (Extension 1300), who will place all calls as procedures require.

1. For **ALL SPILLS**, contact the Emergency Services Shift Supervisors, and the Facility Shift Superintendent **IMMEDIATELY** through the PES Communications Center.
2. Additional contacts will be made according to the PES Notification Matrix (See Appendix B). If assistance is required in contacting those listed below, call the PES Communications Center and they will place the calls as required.

Federal, State, and Local Agencies

Federal Agencies

- | | <i>Phone Number</i> |
|---|--|
| 1. National Response Center | 800-424-8802 |
| 2. Local US Coast Guard | 215-271-4800/4881 |
| 3. Environmental Protection Agency-Region 3-Office
215-814-2900(admin) | 215-814-9016 or |
| 4. Environmental Protection Agency-Region 2-Office | 800-424-8802
732-321-4370 |

State Agencies

- | | <i>Phone Number</i> |
|---------------------------|----------------------------|
| PA Fish & Boat Commission | 814-359-5147/5140 |

Local Agencies

- | | <i>Phone Number</i> |
|---|----------------------------|
| Philadelphia Fire and Police | Direct line or 911 |
| Local Emergency Planning Committee (LEPC) | 215-686-1141 |

Other Agencies/Organizations

- | | |
|------------------------------------|--|
| 1. Delaware Bay & River | 302-645-7861 |
| 2. Delaware River Basin Commission | 609-883-9500 |
| 3. Channel 3 - CBS | 215-977-5333 |
| 4. Channel 6 - WPVI | 215-878-9700 (M-F) or
215-581-4573 (24 hours) |
| 5. Channel 10 - NBC | 610-668-5510 |

Paper copies are uncontrolled. This copy is only valid at time of printing. The controlled version can be found on the company intranet.
Revision Date: 02/01/2013 Next Revision Date: 02/01/2018 Last printed 5/9/2013 11:00 AM

PHILADELPHIA ENERGY SOLUTIONS OPA 90 PLAN

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX C: List of Contacts

6.	KWY News Radio	215-238-4991
7.	Weather Service	800-523-4129
8.	PGW	215-787-4857 CR
		215- 235-1212
9.	PPL Interstate Energy	800-747-3375
10.	Federal Aviation Administration	215-492-4123

Hospitals

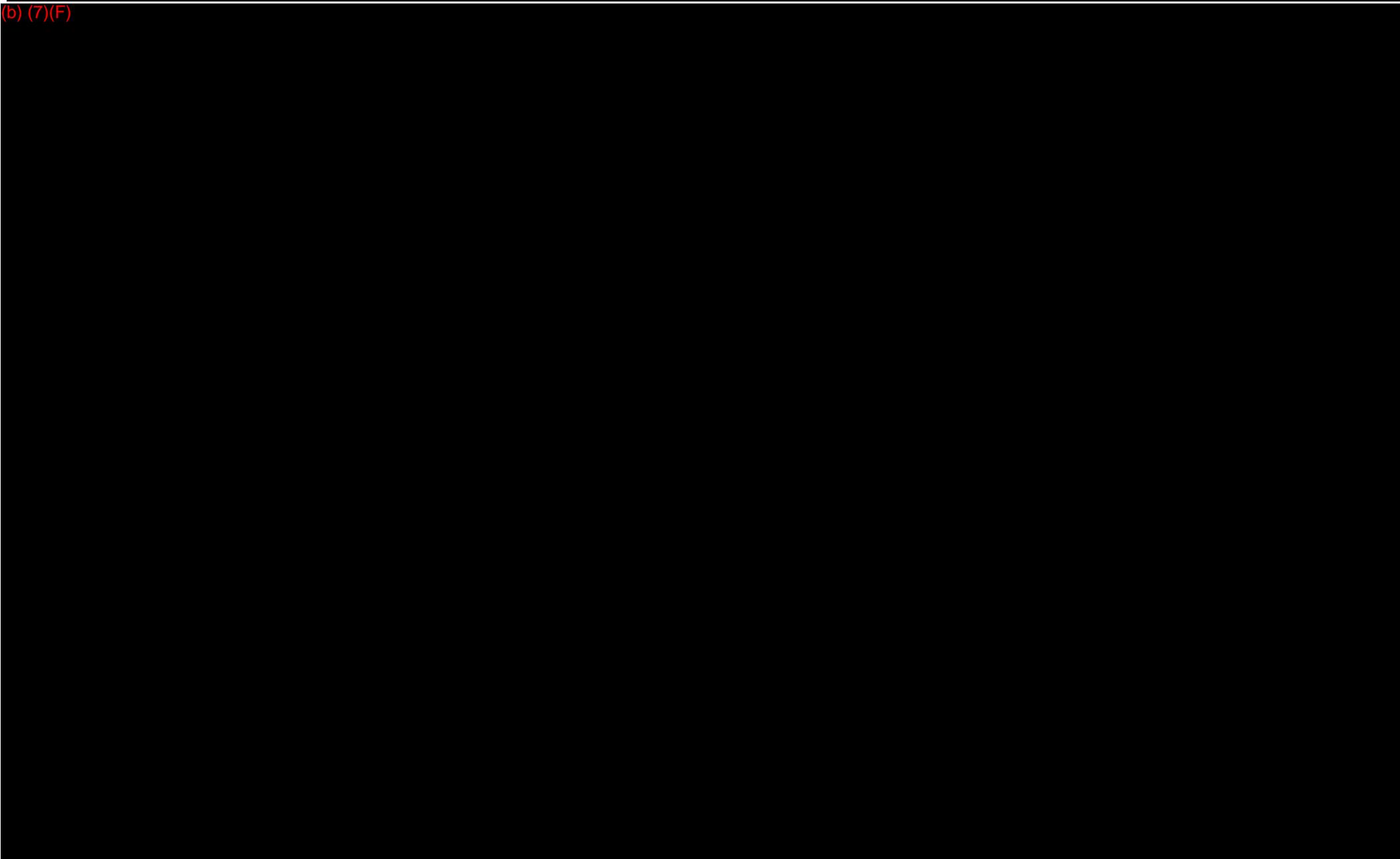
1.	Albert Einstein Medical Center	215-456-7890
2.	Methodist Hospital	215-952-9128
3.	Wills Eye Hospital	215-928-3000
4.	Children's Hospital of Philadelphia	215-590-1000
5.	Presbyterian Medical Center	215-662-8215
6.	Hospital of the University of Pennsylvania	215-662-3920
7.	Misericordia Division, Mercy Catholic Medical Center	215-748-9400
8.	Crozer Chester Medical Center	610-447-2000
9.	Crozer Chester Medical Center-Burn Unit	610-447-2800
10.	Fitzgerald Mercy Hospital	610-237-4700
11.	Underwood Hospital	856-845-0100

Hagemeyer Safety Store Emergency Contact List

1.	24 hour Emergency	610-322-3349
2.	Safety Store – Philadelphia facility	215-339-2084

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX C: List of Contacts**

(b) (7)(F)



Paper copies are uncontrolled. This copy is only valid at time of printing. The controlled version can be found on the company intranet.

Revision Date: 02/01/2013

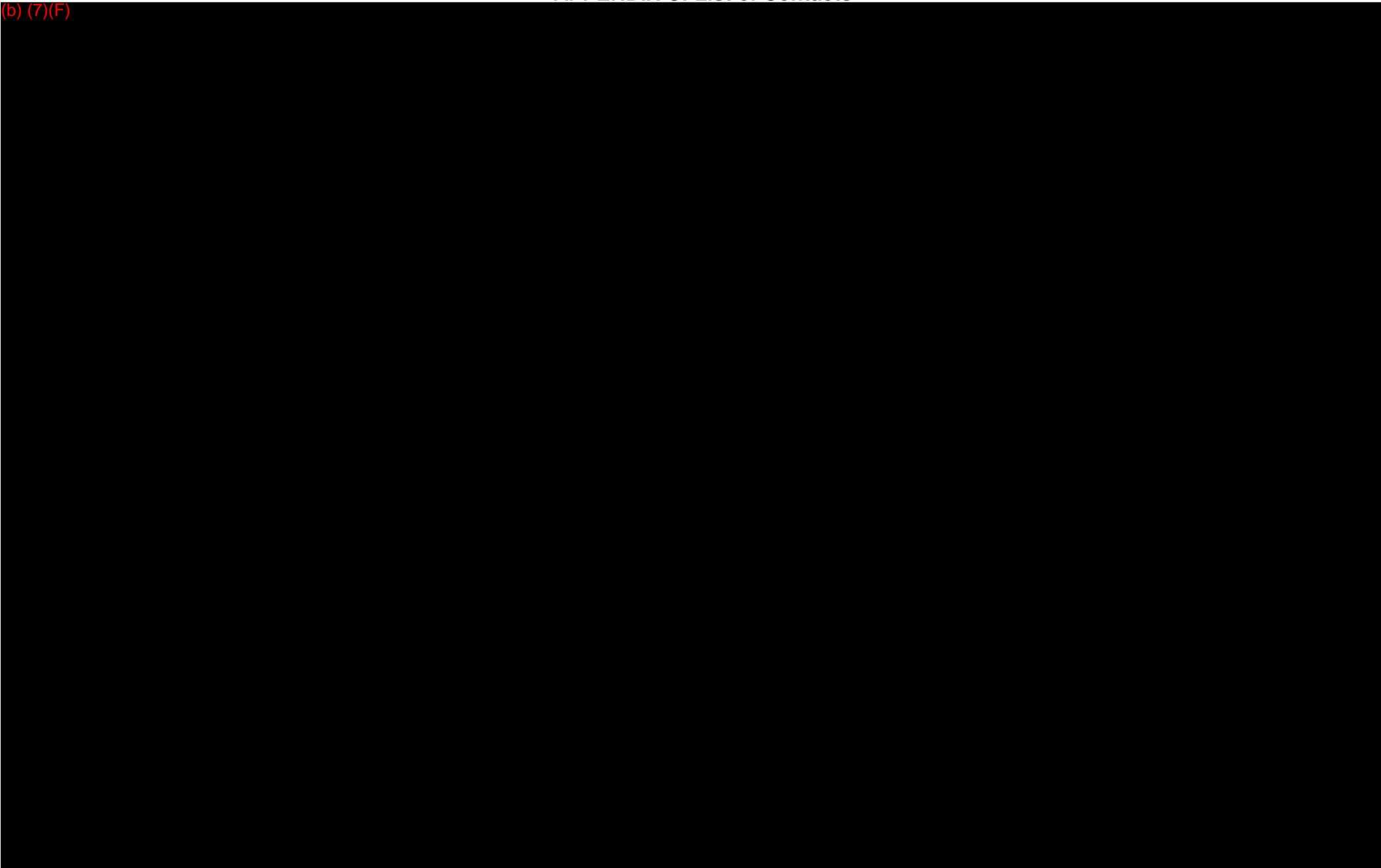
Next Revision Date: 02/01/2018

Last printed 5/9/2013 11:00 AM

PHILADELPHIA ENERGY SOLUTIONS OPA 90 PLAN

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX C: List of Contacts

(b) (7)(F)



Paper copies are uncontrolled. This copy is only valid at time of printing. The controlled version can be found on the company intranet.

Revision Date: 02/01/2013

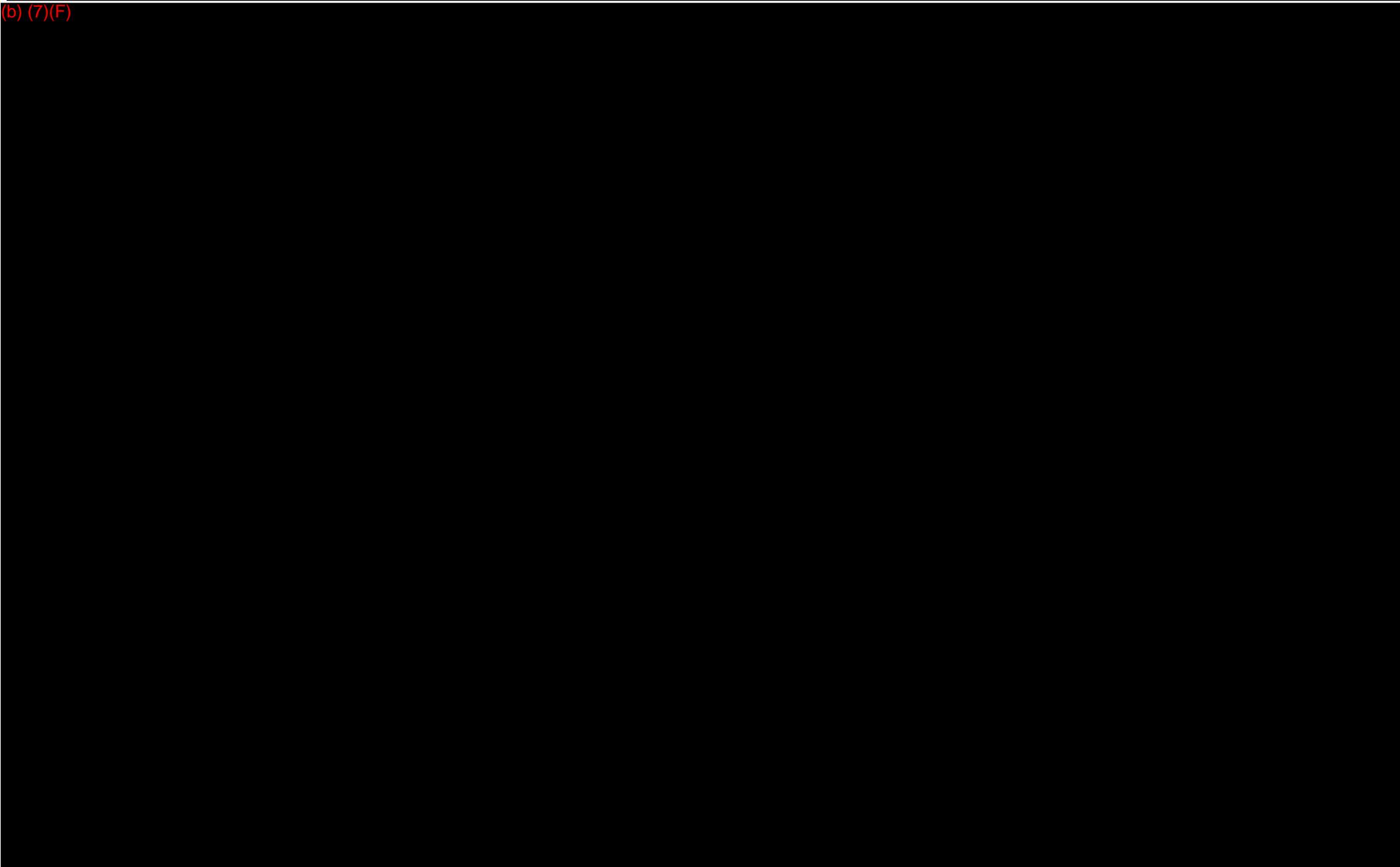
Next Revision Date: 02/01/2018

Last printed 5/9/2013 11:00 AM

PHILADELPHIA ENERGY SOLUTIONS OPA 90 PLAN

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX C: List of Contacts

(b) (7)(F)



Paper copies are uncontrolled. This copy is only valid at time of printing. The controlled version can be found on the company intranet.

Revision Date: 02/01/2013

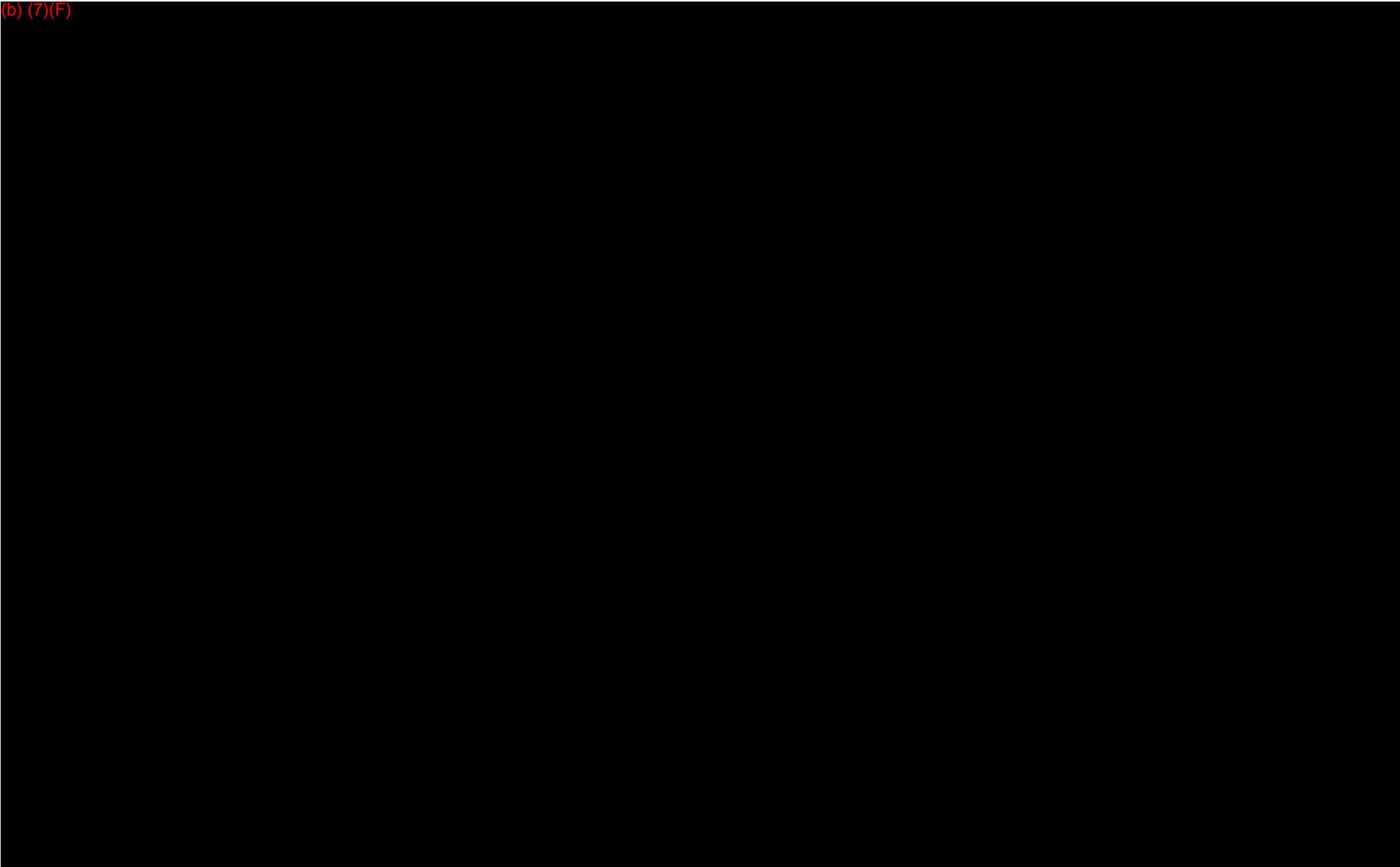
Next Revision Date: 02/01/2018

Last printed 5/9/2013 11:00 AM

PHILADELPHIA ENERGY SOLUTIONS OPA 90 PLAN

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX C: List of Contacts

(b) (7)(F)



Paper copies are uncontrolled. This copy is only valid at time of printing. The controlled version can be found on the company intranet.

Revision Date: 02/01/2013

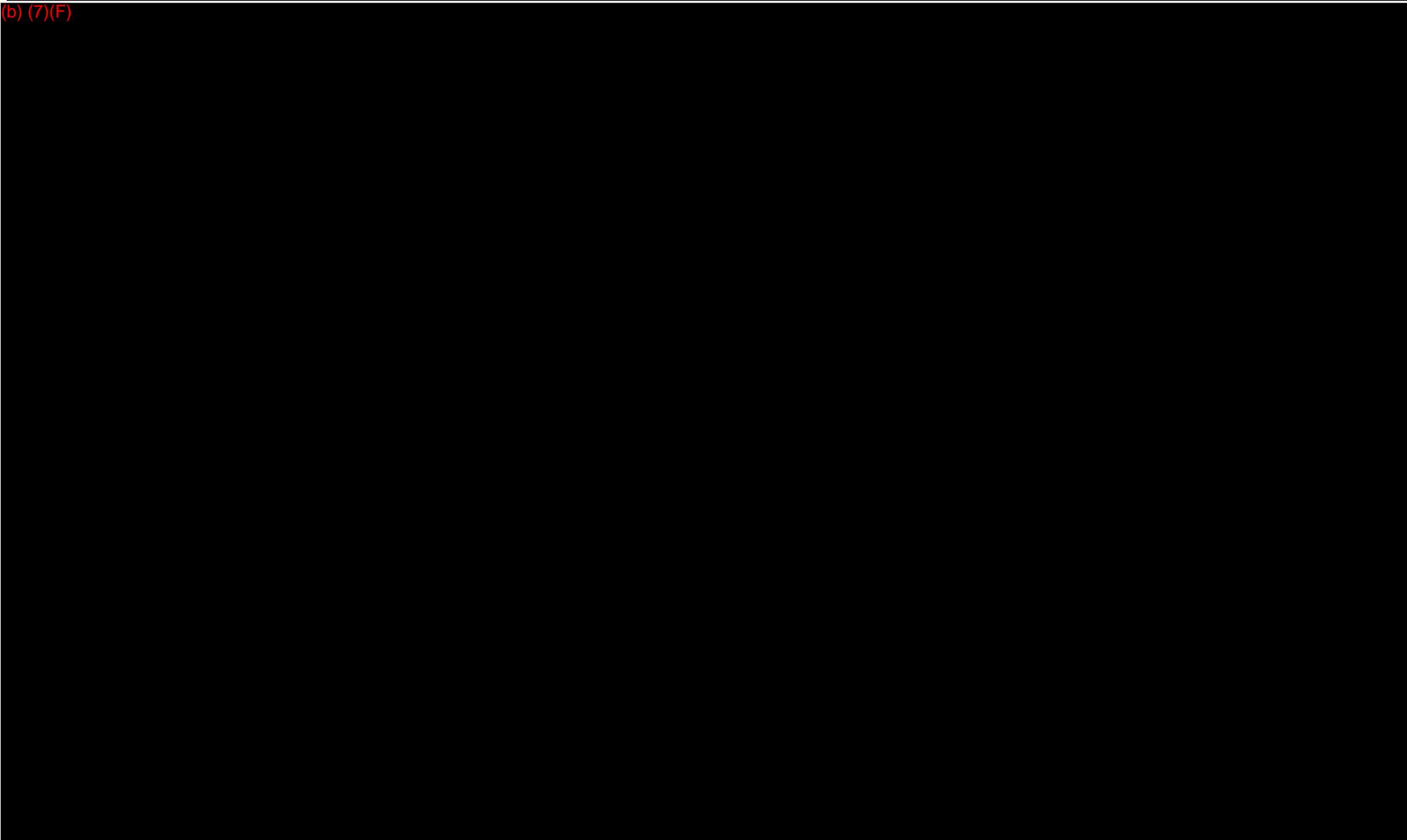
Next Revision Date: 02/01/2018

Last printed 5/9/2013 11:00 AM

PHILADELPHIA ENERGY SOLUTIONS OPA 90 PLAN

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX C: List of Contacts

(b) (7)(F)



Paper copies are uncontrolled. This copy is only valid at time of printing. The controlled version can be found on the company intranet.

Revision Date: 02/01/2013

Next Revision Date: 02/01/2018

Last printed 5/9/2013 11:00 AM

PHILADELPHIA ENERGY SOLUTIONS OPA 90 PLAN

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications**

OSRO CONTRACTORS AND EQUIPMENT



January 29, 2013

OSRO Customer:

The intent of this letter and applicable attachments is to certify that Clean Venture Inc. has fulfilled its training and required drills in regards to OSRO compliance for 2012(Please note that 2013 documentation will not be compiled until the end of the year). These requirements have been satisfied through Drills and actual Emergency Response Deployments. Clean Venture Inc. (CVI) is a Coast Guard certified Oil Spill Removal Organization. In the Philadelphia Captain of the Port Zone, CVI holds a level MMPD-WCD3 classification for Rivers and Canals Environments. This rating can be found on the USCG web site. CVI is the Primary Response OSRO for various Philadelphia area organizations such as Sun Co. Incorporated., Sunoco Logistics - Pipeline Co., Paulsboro Refining Co., Philadelphia Energy Solutions and EXELON Corp.

PRE-PLANNING ACTIVITIES As the Primary OSRO, CVI participates in the pre-planning activities required for effective Oil Spill Response. CVI has participated in various customer drills ranging from small tabletop drills to full-scale equipment deployments .CVI also participates in various inter-agency pre-planning activities such as the Sector Delaware Bay Area Committee and the NJDEP Coastal Inlet Booming Project. These inter-agency activities include representatives from the USCG, the EPA, NOAA, USACOE, DOI/ USF&WS, and various other State and Local authorities.

RAPID RESPONSE CVI maintains 24-hr.on the water operations for planned projects as well as emergency situations. CVI has boom deployment boats docked on the Big Timber creek in Westville, NJ and additional deployment boats on trailers at our facility in Clayton, NJ. CVI has a 24-hr. On-call Spill Team ready to respond to any Oil or Chemical Emergency. A **one-hour** initial response is available throughout the Philadelphia and Wilmington Ports Area. Additional containment and recovery equipment is available from our Clayton, NJ facility. If necessary our Elizabeth, NJ and

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications

Baltimore, MD facilities will provide back-up personnel equipment and materials. All response times are within the required tier timelines as evidenced by our Coast Guard certification.

CVI presently utilizes outboard powered deployment boats in the 18' to 25' range, 18" American Marine Boom is utilized for containment and Vacuum truck mounted skimmer heads are utilized for recovery. A more detailed list of available equipment and materials is enclosed in the attached documents.

Once containment is accomplished CVI will maintain around the clock operations as needed to insure speedy recovery and to prevent any further discharges.

CVI is respected throughout the Marine Response Community as a dependable and effective service provider. CVI has a good track record with the USCG, the PADEP, the NJDEP and the DBRC.

Sincerely,
Clean Venture Incorporated,



Patrick McGovern - Operations Manager

Enclosures: RRI OSRO Listing, CVI Equip/Personnel Site Listing,
1 Representative OSRO Prep Certification

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

APPENDIX D: Equipment List and Records/OSRO Certifications

USCG RRI Classification Totals Report

United States Coast Guard Response Resource Inventory System

****FOR OFFICIAL USE ONLY****

Classification Totals Report for:

Clean Venture, Inc. - OSRO Number: 46

COTP Zone:

Delaware Bay - DISTRICT 5 - **High Volume Port**

Operating Area: Off Shore

Equipment Standards and Response Times for *Off Shore* Operating Area

Classification Level	Qualified Protective Boom (ft)	Qualified Containment Boom (ft)	Boom Height Requirements	EDRC (bbls/day)	TSC (bbls)	Facility Response Time (hrs)	Vessel Response Time (hrs)
MMPD	8000	1000 plus 300 per skimming system	Containment >= 42/Shoreline >= 18 inches (draft plus freeboard)	1200 bbls/day	2400 (bbls)	6 for high volume ports/12 for all others	12 for high volume ports/24 for all others
WCD1	15000	1000 plus 300 per skimming system	Containment >= 42/Shoreline >= 18 inches (draft plus freeboard)	12500 bbls/day	25000 (bbls)	6 for high volume ports/12 for all others	12 for high volume ports/24 for all others
WCD2	15000	1000 plus 300 per skimming system	Containment >= 42/Shoreline >= 18 inches (draft plus freeboard)	25000 bbls/day	50000 (bbls)	30 for high volume ports/36 for all others	36 for high volume ports/48 for all others
WCD3	15000	1000 plus 300 per skimming system	Containment >= 42/Shoreline >= 18 inches (draft plus freeboard)	50000 bbls/day	100000 (bbls)	54 for high volume ports/60 for all others	60 for high volume ports/72 for all others

Actual

* Indicates classification was granted

Classification Level: MMPD	Facility				Vessel			
	Resources	Contracted	Owned (Owned & Contacted)	Adjustment #1 Final	Resources	Contracted	Owned (Owned & Contacted)	Adjustment #1 Final

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications

Qualified Protective Boom (ft)	25000	13100	38100	38100	38100	35000	13100	48100	8000	8000
Qualified Containment Boom (ft)	0	0	0	0	0	0	0	0	0	0
Required Containment Boom (ft)	N/A	N/A	1000	1000	1000	N/A	N/A	3700	0	0
EDRC (bbls)	0	0	0	0	0	0	4519	4519	0	0
TSC (bbls)	0	0	0	0	0	1641	4420	6061	6061	6061

Classification Level: WCD1

Resources	Facility					Vessel				
	Contracted	Owned	Total (Owned & Contacted)	Adjustment #1	Final	Contracted	Owned	Total (Owned & Contacted)	Adjustment #1	Final
Qualified Protective Boom (ft)	35000	13100	48100	48100	48100	35000	13100	48100	48100	48100
Qualified Containment Boom (ft)	0	0	0	0	0	0	0	0	0	0
Required Containment Boom (ft)	N/A	N/A	1000	1000	1000	N/A	N/A	3700	3700	3700
EDRC (bbls)	0	0	0	0	0	0	4519	4519	4519	3030
TSC (bbls)	0	0	0	0	0	1641	4420	6061	6061	6061

Classification Level: WCD2

Resources	Facility					Vessel				
	Contracted	Owned	Total (Owned & Contacted)	Adjustment #1	Final	Contracted	Owned	Total (Owned & Contacted)	Adjustment #1	Final
Qualified Protective Boom (ft)	35000	13100	48100	48100	48100	35000	13100	48100	48100	48100
Qualified Containment Boom (ft)	0	0	0	0	0	0	0	0	0	0
Required Containment Boom (ft)	N/A	N/A	3700	3700	3700	N/A	N/A	3700	3700	3700
EDRC (bbls)	0	4519	4519	4519	4519	0	4519	4519	4519	4519
TSC (bbls)	3283	8842	12125	12125	12125	3283	8842	12125	12125	12125

Classification Level: WCD3

Resources	Facility					Vessel				
	Contracted	Owned	Total (Owned & Contacted)	Adjustment #1	Final	Contracted	Owned	Total (Owned & Contacted)	Adjustment #1	Final
Qualified Protective Boom (ft)	35000	13100	48100	48100	48100	35000	13100	48100	48100	48100
Qualified Containment Boom (ft)	0	0	0	0	0	0	0	0	0	0
Required										

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

APPENDIX D: Equipment List and Records/OSRO Certifications

USCG RRI Classification Totals Report

Containment Boom (ft)	N/A	N/A	3700	3700	3700	N/A	N/A	3700	3700	3700
EDRC (bbbs)	0	4519	4519	4519	4519	0	4519	4519	4519	4519
TSC (bbbs)	3283	8842	12125	12125	12125	3283	8842	12125	12125	12125

Operating Area: Near Shore

Equipment Standards and Response Times for *Near Shore* Operating Area

Classification Level	Qualified Protective Boom (ft)	Qualified Containment Boom (ft)	Boom Height Requirements	EDRC (bbbs/day)	TSC (bbbs)	Facility Response Time (hrs)	Vessel Response Time (hrs)
MMPD	8000	1000 plus 300 per skimming system	Containment >= 42/Shoreline >= 18 inches (draft plus freeboard)	1200 bbbs/day	2400 (bbbs)	6 for high volume ports/12 for all others	12 for high volume ports/24 for all others
WCD1	30000	1000 plus 300 per skimming system	Containment >= 42/Shoreline >= 18 inches (draft plus freeboard)	12500 bbbs/day	25000 (bbbs)	6 for high volume ports/12 for all others	12 for high volume ports/24 for all others
WCD2	30000	1000 plus 300 per skimming system	Containment >= 42/Shoreline >= 18 inches (draft plus freeboard)	25000 bbbs/day	50000 (bbbs)	30 for high volume ports/36 for all others	36 for high volume ports/48 for all others
WCD3	30000	1000 plus 300 per skimming system	Containment >= 42/Shoreline >= 18 inches (draft plus freeboard)	50000 bbbs/day	100000 (bbbs)	54 for high volume ports/60 for all others	60 for high volume ports/72 for all others

Actual

* Indicates classification was granted

Classification Level: MMPD	Facility					Vessel				
	Resources	Contracted	Owned	Total (Owned & Contacted)	Adjustment #1	Final	Contracted	Owned	Total (Owned & Contacted)	Adjustment #1
Qualified Protective Boom (ft)	25000	13100	38100	8000	8000	35000	13100	48100	8000	8000
Qualified Containment Boom (ft)	0	0	0	0	0	0	0	0	0	0

[https://cgri.uscg.mil/UserReports/ClassificationReport.aspx\[5/31/2012 1:43:33 PM\]](https://cgri.uscg.mil/UserReports/ClassificationReport.aspx[5/31/2012 1:43:33 PM])

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

APPENDIX D: Equipment List and Records/OSRO Certifications

USCG RRI Classification Totals Report

Required Containment Boom (ft)	N/A	N/A	3700	0	0	N/A	N/A	3700	0	0
EDRC (bbls)	0	4519	4519	0	0	0	4519	4519	0	0
TSC (bbls)	1641	4420	6061	6061	6061	1641	4420	6061	6061	6061

Resources	Facility					Vessel				
	Contracted	Owned	Total (Owned & Contacted)	Adjustment #1	Final	Contracted	Owned	Total (Owned & Contacted)	Adjustment #1	Final
Classification Level: WCD1										
Qualified Protective Boom (ft)	35000	13100	48100	48100	48100	35000	13100	48100	48100	48100
Qualified Containment Boom (ft)	0	0	0	0	0	0	0	0	0	0
Required Containment Boom (ft)	N/A	N/A	3700	3700	3700	N/A	N/A	3700	3700	3700
EDRC (bbls)	0	4519	4519	4519	3030	0	4519	4519	4519	3030
TSC (bbls)	1641	4420	6061	6061	6061	1641	4420	6061	6061	6061

Resources	Facility					Vessel				
	Contracted	Owned	Total (Owned & Contacted)	Adjustment #1	Final	Contracted	Owned	Total (Owned & Contacted)	Adjustment #1	Final
Classification Level: WCD2										
Qualified Protective Boom (ft)	35000	13100	48100	48100	48100	35000	13100	48100	48100	48100
Qualified Containment Boom (ft)	0	0	0	0	0	0	0	0	0	0
Required Containment Boom (ft)	N/A	N/A	3700	3700	3700	N/A	N/A	3700	3700	3700
EDRC (bbls)	0	4519	4519	4519	4519	0	4519	4519	4519	4519
TSC (bbls)	3283	8842	12125	12125	12125	3283	8842	12125	12125	12125

Resources	Facility					Vessel				
	Contracted	Owned	Total (Owned & Contacted)	Adjustment #1	Final	Contracted	Owned	Total (Owned & Contacted)	Adjustment #1	Final
Classification Level: WCD3										
Qualified Protective Boom (ft)	35000	13100	48100	48100	48100	35000	13100	48100	48100	48100
Qualified Containment Boom (ft)	0	0	0	0	0	0	0	0	0	0
Required Containment Boom (ft)	N/A	N/A	3700	3700	3700	N/A	N/A	3700	3700	3700
EDRC (bbls)	0	4519	4519	4519	4519	0	4519	4519	4519	4519
TSC (bbls)	3283	8842	12125	12125	12125	3283	8842	12125	12125	12125

[https://cgri.uscg.mil/UserReports/ClassificationReport.aspx\[5/31/2012 1:43:33 PM\]](https://cgri.uscg.mil/UserReports/ClassificationReport.aspx[5/31/2012 1:43:33 PM])

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

APPENDIX D: Equipment List and Records/OSRO Certifications

USCG RRI Classification Totals Report

Operating Area: Ocean

Equipment Standards and Response Times for *Ocean* Operating Area

Classification Level	Qualified Protective Boom (ft)	Qualified Containment Boom (ft)	Boom Height Requirements	EDRC (bbls/day)	TSC (bbls)	Facility Response Time (hrs)	Vessel Response Time (hrs)
MMPD	No Requirements	1000 plus 300 per skimming system	>= 42 inches (draft plus freeboard)	1200 bbls/day	2400 (bbls)	6 for high volume ports/12 for all others	12 for high volume ports/24 for all others
WCD1	No Requirements	1000 plus 300 per skimming system	>= 42 inches (draft plus freeboard)	12500 bbls/day	25000 (bbls)	6 for high volume ports/12 for all others	12 for high volume ports/24 for all others
WCD2	No Requirements	1000 plus 300 per skimming system	>= 42 inches (draft plus freeboard)	25000 bbls/day	50000 (bbls)	30 for high volume ports/36 for all others	36 for high volume ports/48 for all others
WCD3	No Requirements	1000 plus 300 per skimming system	>= 42 inches (draft plus freeboard)	50000 bbls/day	100000 (bbls)	54 for high volume ports/60 for all others	60 for high volume ports/72 for all others

Actual

* Indicates classification was granted

Classification Level: MMPD	Facility					Vessel					
	Resources	Contracted	Owned	Total (Owned & Contacted)	Adjustment #1	Final	Contracted	Owned	Total (Owned & Contacted)	Adjustment #1	Final
Qualified Protective Boom (ft)	0	0	0	0	0	0	0	0	0	0	0
Qualified Containment Boom (ft)	0	0	0	0	0	0	0	0	0	0	0
Required Containment Boom (ft)	N/A	N/A	1000	1000	1000	N/A	N/A	1000	1000	1000	1000
EDRC (bbls)	0	0	0	0	0	0	0	0	0	0	0
TSC (bbls)	0	0	0	0	0	0	0	0	0	0	0
Classification Level: WCD1	Facility					Vessel					

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications

Resources	Facility					Vessel				
	Contracted	Owned	Total (Owned & Contacted)	Adjustment #1	Final	Contracted	Owned	Total (Owned & Contacted)	Adjustment #1	Final
Qualified Protective Boom (ft)	0	0	0	0	0	0	0	0	0	0
Qualified Containment Boom (ft)	0	0	0	0	0	0	0	0	0	0
Required Containment Boom (ft)	N/A	N/A	1000	1000	1000	N/A	N/A	1000	1000	1000
EDRC (bbls)	0	0	0	0	0	0	0	0	0	0
TSC (bbls)	0	0	0	0	0	0	0	0	0	0

Classification Level: WCD2

Resources	Facility					Vessel				
	Contracted	Owned	Total (Owned & Contacted)	Adjustment #1	Final	Contracted	Owned	Total (Owned & Contacted)	Adjustment #1	Final
Qualified Protective Boom (ft)	0	0	0	0	0	0	0	0	0	0
Qualified Containment Boom (ft)	0	0	0	0	0	0	0	0	0	0
Required Containment Boom (ft)	N/A	N/A	3700	3700	3700	N/A	N/A	3700	3700	3700
EDRC (bbls)	0	4519	4519	4519	4519	0	4519	4519	4519	4519
TSC (bbls)	3283	8842	12125	12125	12125	3283	8842	12125	12125	12125

Classification Level: WCD3

Resources	Facility					Vessel				
	Contracted	Owned	Total (Owned & Contacted)	Adjustment #1	Final	Contracted	Owned	Total (Owned & Contacted)	Adjustment #1	Final
Qualified Protective Boom (ft)	0	0	0	0	0	0	0	0	0	0
Qualified Containment Boom (ft)	0	0	0	0	0	0	0	0	0	0
Required Containment Boom (ft)	N/A	N/A	3700	3700	3700	N/A	N/A	3700	3700	3700
EDRC (bbls)	0	4519	4519	4519	4519	0	4519	4519	4519	4519
TSC (bbls)	3283	8842	12125	12125	12125	3283	8842	12125	12125	12125

Operating Area: Inland

Equipment Standards and Response Times for *Inland* Operating Area

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

APPENDIX D: Equipment List and Records/OSRO Certifications

Classification Level	Qualified Protective Boom (ft)	Qualified Containment Boom (ft)	Boom Height Requirements	EDRC (bbls/day)	TSC (bbls)	Facility Response Time (hrs)	Vessel Response Time (hrs)
MMPD	6000	1000 plus 300 per skimming system	18-42 inches (draft plus freeboard)	1200 bbls/day	2400 (bbls)	6 for high volume ports/12 for all others	12 for high volume ports/24 for all others
WCD1	30000	1000 plus 300 per skimming system	18-42 inches (draft plus freeboard)	12500 bbls/day	25000 (bbls)	6 for high volume ports/12 for all others	12 for high volume ports/24 for all others
WCD2	30000	1000 plus 300 per skimming system	18-42 inches (draft plus freeboard)	25000 bbls/day	50000 (bbls)	30 for high volume ports/36 for all others	36 for high volume ports/48 for all others
WCD3	30000	1000 plus 300 per skimming system	18-42 inches (draft plus freeboard)	50000 bbls/day	100000 (bbls)	54 for high volume ports/60 for all others	60 for high volume ports/72 for all others

Actual

* Indicates classification was granted

Classification Level: MMPD	Facility*					Vessel*					
	Resources	Contracted	Owned	Total (Owned & Contacted)	Adjustment #1	Final	Contracted	Owned	Total (Owned & Contacted)	Adjustment #1	Final
Qualified Protective Boom (ft)	25000	13100	38100	38100	38100	35000	13100	48100	48100	48100	48100
Qualified Containment Boom (ft)	25000	13100	38100	38100	32100	35000	13100	48100	48100	48100	42100
Required Containment Boom (ft)	N/A	N/A	3700	3700	3700	N/A	N/A	3700	3700	3700	3700
EDRC (bbls)	0	4519	4519	4519	4519	0	4519	4519	4519	4519	4519
TSC (bbls)	11290	6847	18137	18137	18137	11290	6847	18137	18137	18137	18137

Classification Level: WCD1	Facility					Vessel					
	Resources	Contracted	Owned	Total (Owned & Contacted)	Adjustment #1	Final	Contracted	Owned	Total (Owned & Contacted)	Adjustment #1	Final
Qualified Protective Boom (ft)	35000	13100	48100	48100	48100	35000	13100	48100	48100	48100	48100
Qualified Containment	25000	13100	38100	38100	18100	35000	13100	48100	48100	48100	18100

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

APPENDIX D: Equipment List and Records/OSRO Certifications

Boom (ft)										
Required Containment Boom (ft)	N/A	N/A	3700	3700	3700	N/A	N/A	3700	3700	3700
EDRC (bbls)	0	4519	4519	4519	4519	0	4519	4519	4519	4519
TSC (bbls)	11290	6847	18137	18137	18137	11290	6847	18137	18137	18137

Resources	Facility					Vessel				
	Contracted	Owned	Total (Owned & Contacted)	Adjustment #1	Final	Contracted	Owned	Total (Owned & Contacted)	Adjustment #1	Final
Qualified Protective Boom (ft)	35000	13100	48100	48100	48100	35000	13100	48100	48100	48100
Qualified Containment Boom (ft)	35000	13100	48100	48100	18100	35000	13100	48100	48100	18100
Required Containment Boom (ft)	N/A	N/A	3700	3700	3700	N/A	N/A	3700	3700	3700
EDRC (bbls)	0	11611	11611	11611	11611	0	11611	11611	11611	11611
TSC (bbls)	12932	11576	24508	24508	24508	12932	11576	24508	24508	24508

Resources	Facility					Vessel				
	Contracted	Owned	Total (Owned & Contacted)	Adjustment #1	Final	Contracted	Owned	Total (Owned & Contacted)	Adjustment #1	Final
Qualified Protective Boom (ft)	35000	13100	48100	48100	48100	35000	13100	48100	48100	48100
Qualified Containment Boom (ft)	35000	13100	48100	48100	18100	35000	13100	48100	48100	18100
Required Containment Boom (ft)	N/A	N/A	3700	3700	3700	N/A	N/A	3700	3700	3700
EDRC (bbls)	0	11611	11611	11611	11611	0	11611	11611	11611	11611
TSC (bbls)	12932	11576	24508	24508	24508	12932	11576	24508	24508	24508

Operating Area: River or Canal

Equipment Standards and Response Times for *River or Canal* Operating Area

Classification Level	Qualified Protective Boom (ft)	Qualified Containment Boom (ft)	Boom Height Requirements	EDRC (bbls/day)	TSC (bbls)	Facility Response Time (hrs)	Vessel Response Time (hrs)
		1000 plus 300	6-18 inches	1200	2400	6 for high volume	12 for high volume

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

APPENDIX D: Equipment List and Records/OSRO Certifications

MMPD	4000	per skimming system	(draft plus freeboard)	bbls/day	(bbls)	ports/12 for all others	ports/24 for all others
WCD1	25000	1000 plus 300 per skimming system	6-18 inches (draft plus freeboard)	1875 bbls/day	3750 (bbls)	6 for high volume ports/12 for all others	12 for high volume ports/24 for all others
WCD2	25000	1000 plus 300 per skimming system	6-18 inches (draft plus freeboard)	3750 bbls/day	7500 (bbls)	30 for high volume ports/36 for all others	36 for high volume ports/48 for all others
WCD3	25000	1000 plus 300 per skimming system	6-18 inches (draft plus freeboard)	7500 bbls/day	15000 (bbls)	54 for high volume ports/60 for all others	60 for high volume ports/72 for all others

Actual

* Indicates classification was granted

Classification Level: MMPD		Facility*				Vessel*				
Resources	Contracted	Owned	Total (Owned & Contracted)	Adjustment #1	Final	Contracted	Owned	Total (Owned & Contracted)	Adjustment #1	Final
Qualified Protective Boom (ft)	25000	13100	38100	38100	38100	35000	13100	48100	48100	48100
Qualified Containment Boom (ft)	25000	13100	38100	38100	34100	35000	13100	48100	48100	44100
Required Containment Boom (ft)	N/A	N/A	3700	3700	3700	N/A	N/A	3700	3700	3700
EDRC (bbls)	0	4519	4519	4519	4519	0	4519	4519	4519	4519
TSC (bbls)	11290	6847	18137	18137	18137	11290	6847	18137	18137	18137

Classification Level: WCD1		Facility*				Vessel*				
Resources	Contracted	Owned	Total (Owned & Contracted)	Adjustment #1	Final	Contracted	Owned	Total (Owned & Contracted)	Adjustment #1	Final
Qualified Protective Boom (ft)	35000	13100	48100	48100	48100	35000	13100	48100	48100	48100
Qualified Containment Boom (ft)	25000	13100	38100	38100	23100	35000	13100	48100	48100	23100
Required Containment Boom (ft)	N/A	N/A	3700	3700	3700	N/A	N/A	3700	3700	3700
EDRC (bbls)	0	4519	4519	4519	4519	0	4519	4519	4519	4519
TSC (bbls)	11290	6847	18137	18137	18137	11290	6847	18137	18137	18137

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications

Classification Level: WCD2	Facility*					Vessel*				
	Resources	Contracted	Owned	Total (Owned & Contacted)	Adjustment #1	Final	Contracted	Owned	Total (Owned & Contacted)	Adjustment #1
Qualified Protective Boom (ft)	35000	13100	48100	48100	48100	35000	13100	48100	48100	48100
Qualified Containment Boom (ft)	35000	13100	48100	48100	23100	35000	13100	48100	48100	23100
Required Containment Boom (ft)	N/A	N/A	3700	3700	3700	N/A	N/A	3700	3700	3700
EDRC (bbls)	0	11611	11611	11611	11611	0	11611	11611	11611	11611
TSC (bbls)	12932	11576	24508	24508	24508	12932	11576	24508	24508	24508

Classification Level: WCD3	Facility*					Vessel*				
	Resources	Contracted	Owned	Total (Owned & Contacted)	Adjustment #1	Final	Contracted	Owned	Total (Owned & Contacted)	Adjustment #1
Qualified Protective Boom (ft)	35000	13100	48100	48100	48100	35000	13100	48100	48100	48100
Qualified Containment Boom (ft)	35000	13100	48100	48100	23100	35000	13100	48100	48100	23100
Required Containment Boom (ft)	N/A	N/A	3700	3700	3700	N/A	N/A	3700	3700	3700
EDRC (bbls)	0	11611	11611	11611	11611	0	11611	11611	11611	11611
TSC (bbls)	12932	11576	24508	24508	24508	12932	11576	24508	24508	24508

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications**



**CVI
LOCATION OF EQUIPMENT AND PERSONNEL RESOURCES (1/13)**

Elizabeth NJ –CVI Operations Branch, Corporate Office

Field Personnel - 70
 Vacuum Trucks (3000gl.-5500gl) – 10 and 7 Vactors – 8 Combo/Jet Vacs
 Oil Containment Boom – 4000' (20" AMI)
 Work/Boom Deployment Boats (18'-30') – 6 (all towable)
 (< 18") - 3

Elizabeth NJ– CCI Temporary Storage Disposal Fac.,

Field Personnel –21
 Emergency Tank Capacity- 82,500 gallon

Elizabeth NJ– Transportation Branch,

Field Personnel – 9
 Emergency Tank Capacity- (Vacuum Boxes 20 Roll-offs 60)
 Vacuum Trucks (5000gl.-5500gl)-3
 Roll-off Movers 7

Clayton NJ – Operations Branch

Field Personnel - 35
 Vacuum Trucks (3000gl.-5500gl) – 7
 Vactor - 3
 Vacuum type skimmer heads – 4
 DESMI TERMINATOR Skimmer 502 GPM – 2
 Oil Containment Boom – 5000' (20" AMI) and (600'x 43" "CAROLINA" Ocean
 Boom), 1000-Swamp Boom (12" AMI)
 Work/Boom Deployment Boats (18'-26') – 8 (all towable) (< 18") – 4

Baltimore MD – Operations Branch

Field Personnel - 35
 Vacuum Trucks (3000gl.-5500gl) – 7 and 3 Vactors
 Oil Containment Boom – 2500' (20" AMI)
 Work/Boom Deployment Boats (18'-30') – 1 (< 18") - 3

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications**

Salisbury MD– Clean Venture (TPH) Operations Branch

Field Personnel – 10
 Vacuum Trucks (3000gl.-5500gl) – 3 and 2 Vactor
 Oil Containment Boom – TBD
 Work/Boom Deployment Boats (16'-30') – 1

Lewisberry PA – Operations / TSDF/ Transportation Branch

Field Personnel – 12
 Emergency Tank Capacity- 45, 000 gallons +Vacuum Boxes 2 Roll-offs 10
 Vacuum Trucks (3000gl.-5500gl) - 2
 Roll Off Movers 2

MA – General Chemical TSDF, Operations Branch

Field Personnel – 10
 Vacuum Trucks (3000gl.-5500gl) – 4 and 1 Vactor
 Oil Containment Boom – 1000'
 Work/Boom Deployment Boats (16'-30') – 1

Note: All locations provide 24 hour Emergency Response for Oil and Hazardous Materials. In addition to the above listed equipment, all facilities maintain a complete inventory of materials and equipment to support response to any type of Environmental Incident. Portable Temporary Storage, Material Handling, Construction, Excavation and Transportation equipment is available at all facilities.

Please also note that CVI's TSDF's provide the added value of pre-approved final disposal outlets. These pre-approvals greatly expedite the process of moving multiple loads of bulk solids and liquid wastes during both Emergency and Planned operations.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications



Date: January 29, 2013

OSRO Customer

**RE: OIL SPILL RESPONSE CONTRACTOR EQUIPMENT CERTIFICATION FORM
COMPLIANCE YEAR 2012**

Dear: Sir

In response to your request for documentation that Clean Venture, Inc., as an Oil Spill Removal Organization (OSRO), has deployed a representative sample of equipment in your operating environment, enclosed please find our certification.

I hope you find our submittal satisfactory.

Should you have any questions or require any additional information, please do not hesitate to contact me.

Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read "Patrick S. McGovern", with a long horizontal flourish extending to the right.

*Patrick S. McGovern
Operations Manager*

Please note that the following document is one sample of many Drills, Training Scenarios, and actual Emergency Response Deployments that CVI performs throughout the year. Specific documentation is available for review at our facilities should it be necessary for your Company or Regulatory Officials to review them.

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications**

**OIL SPILL RESPONSE CONTRACTOR EQUIPMENT
CERTIFICATION FORM
(PREP GUIDELINE – EQUIPMENT DEPLOYMENT EXERCISE)**

COMPLIANCE YEAR 2012

Name of Oil Spill Removal Organization (OSRO):

Clean Venture, Inc.

<i>Exercise Dates</i>	<i>Location of Exercise</i>	<i>Drill or Actual Response</i>	<i>Duration of Exercise</i>
5 May 2012	PELTZ ST DOCK & SCHUYLKILL OUTFALL	Unannounced DEPLOYMENT DRILL	8-HOURS

(1) *Equipment deployed was:*

- Facility-Owned
 Oil spill removal organization – owned. If so, which OSRO? CVI
 Both

(2) *List type and amount of all equipment (e.g. boom and skimmers) deployed and number of support personnel employed:*

1000 FOOT 18" HARBOR BOOM /5X 20# ANCHOR SYSTEMS
MARINE SPILL RESPONSE TRAILER
25 FOOT DEPLOYMENT BOAT
9 PERSONNEL (4 CONTRACTOR/5 FACILITY)
5500 GALLON VACUUM TRUCK W/ SUCTION HEAD SKIMMER

(3) *Describe goals of the equipment deployment and list any Area Contingency Plan strategies tested.*

**IN RESPONSE TO UNANNOUNCED SPILL DRILL NOTIFICATION:
 CVI QUALIFIED INDIVIDUAL WAS NOTIFIED BY SPILLER QI,
 CVI QUALIFIED INDIVIDUAL INITIATED SPILL RESPONSE PLAN AND
 MOBILIZED EQUIPMENT AND PERSONNEL TO RESPOND TO OIL DISCHARGE IN
 THE SCHUYLKILL RIVER. CVI EXERCISED FACILITY (VEOLLA) EMERGENCY
 RESPONSE PLAN, IMPLEMENTED DELAWARE RIVER PROTECTIVE BOOMING
 STRATEGY. ADDRESSED VARIOUS SENSITIVE AREAS. MANNED AND OPERATED**

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications

BOOM DEPLOYMENT BOAT. CONDUCTED SURVEY OF SHORESIDE AND WATERBORNE ACCESS AREAS FOR REMOVAL/DEPLOYMENT OPERATIONS AT VARIOUS SITES ON THE SHORELINES. DISCUSSED WASTE COLLECTION AND DISPOSAL SCENARIOS FOR ALL WASTE GENERATED.

- (4) *For deployment of facility-owned equipment, was the amount of equipment deployed at least the amount necessary to respond to your facility's average most probable spill?*
 Yes X No _____
- (5) *For deployment of OSRO-owned equipment, was a representative sample (at least 1000 feet of boom type and at least one of each skimmer type) deployed?*
 Yes X No _____
- (6) *Was the equipment deployed in its intended operating environment?*
 Yes X No _____
- (6) *Are all facility personnel that are responsible for response operations involved in a comprehensive training program?*
Yes.
- (7) *If yes, please describe the program.*
Clean Venture, Inc, employees are members of our in-house training program. All field personnel are 40-hour OSHA HAZWOPER trained as per section 29 CFR 1910.120. Employees also receive annual 8-hour refresher training and fit testing. Supervisors receive 8-hour OSHA Supervisor training. Specialized employees receive Confined Space Entry, CPR, First Aid, Fork-lift Safety and DOT HM 215 training.
- (8) *Are all pollution equipment involved in a comprehensive maintenance program?*
Yes
- (9) *If yes, please describe the program.*
All equipment is decontaminated at the end of a response. In addition, all equipment is inspected prior to being deployed. In addition, all Clean Venture, Inc. equipment is subject to quarterly maintenance checks.
- (10) *Was the equipment deployed by personnel responsible for its deployment in the event of an actual spill?*
 Yes X No _____

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications

- (11) *Identify which of the 15 core components of your response plan were executed during this particular exercise:*

<i>ALL COMPONENTS (1 THRU 15) WERE CONSIDERED AND EXECUTED WHERE NEEDED</i>

- (12) *Attach a description of lesson(s) learned and person(s) responsible for follow up of corrective measures*

A) Identify any local water intakes- Facility Personnel

B) Identify barge for equipment delivery and debris collection and storage-OSRO

I certify that the deployment entailed above shows that we as an Oil Spill Response Organization meet the criteria and requirements under the National Preparedness for Response Exercise Program (PREP) under OPA 90' for the year 2012.



Certifying Signature
Patrick S. McGovern
Operations Manager

Date: May 10, 2012

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications**

**DELAWARE BAY AND RIVER COOPERATIVE, INC.
OIL SPILL RESPONSE**

**PLANNING RESOURCES
FOR MEMBER**

**FACILITY AND VESSEL OIL SPILL RESPONSE PLANS
REQUIRED BY**

33CFR 154 Subpart F - Response Plans

and

33CFR 155 Subpart D - Response Plans

Philadelphia Energy Solutions is enrolled within the Delaware Bay River Cooperative, Inc. Membership.

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications**



DELAWARE BAY & RIVER COOPERATIVE, INC.

P.O. Box 1197, Linwood, PA 19061
Phone 610-859-2830 FAX 610-859-2834

January 3, 2013

Letter of Intent to Respond to an Oil Spill Incident

Philadelphia Energy Solutions
3144 W. Passyunk Avenue
Philadelphia, PA 19145

Dear Tim,

This is to confirm that Philadelphia Energy Solutions is an active member of the Delaware Bay and River Cooperative, Inc., as of January 1, 2013, and may site the Delaware Bay and River Cooperative, Inc. (DBRC) in the Facility Response Plan in accordance with 154.1028(a)(3). Philadelphia Energy Solutions will remain an active member of DBRC as long as dues are paid in a timely manner. DBRC will provide oil containment and clean up services to Philadelphia Energy Solutions and its affiliates in accordance with the terms and conditions of the Delaware Bay and River Cooperative, Inc. BYLAWS.

DBRC will respond to requests from personnel authorized by Philadelphia Energy Solutions in the current DBRC list of Philadelphia Energy Solutions, Inc. personnel authorized to activate DBRC, to incidents within the following area:

"Area of Interest" means the waters and public and private properties, beaches, and harbors in and adjacent to the Delaware River, extending southward from the Betsy Ross Bridge to the mouth of the Delaware Bay; The Delaware-Chesapeake Canal up to but not West of Elkton, Maryland; and the tidal portion of the Schuylkill River.

Sincerely,

Richard M. Gaudiosi
President

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications**

**TO ALL WHO SHALL BEAR WITNESS
THIS CERTIFIES THAT**

Philadelphia Energy Solutions

INCLUDING AFFILIATES AS DEFINED IN THE BYLAWS

**IS A MEMBER IN GOOD STANDING AS OF JANUARY 1, 2013 AND
IS THUS ENTITLED TO OIL SPILL RESPONSE SERVICES WITHIN DBRC'S
AREA OF INTEREST IN THE DELAWARE BAY AND RIVER. MEMBERSHIP
REMAINS VALID AS LONG AS ALL DUES ARE PAID IN A TIMELY MANNER.**

**DELAWARE BAY AND RIVER COOPERATIVE, INC. (DBRC)
A NOT-FOR PROFIT CORPORATION**



Richard M. Gaudiosi, President



OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications



DELAWARE BAY & RIVER COOPERATIVE, INC.

P.O. Box 1197, Linwood, PA 19061
Phone 610-859-2830 FAX 610-859-2834

MEMORANDUM

TO: ALL MEMBER COMPANIES AND SUBSCRIBERS

FROM: RICHARD M. GAUDIOSI, PRESIDENT

DATE: January 3, 2013

SUBJECT: OSRO RESPONSE EQUIPMENT DEPLOYMENTS

1. I certify that the Delaware Bay and River Cooperative, Inc. has exceeded the equipment deployment requirements of the National Preparedness for Response Exercise Program (PREP) Guidelines for calendar year 2012. All DBRC personnel and personnel contracted to operate DBRC equipment are included in a comprehensive training program and DBRC has a comprehensive program to ensure that all equipment is periodically inspected and maintained in good operating condition.

2. Detailed records of the training, equipment deployments, and maintenance are available for your inspection at the DBRC office. A listing of this training is available electronically.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Richard M. Gaudiosi', is written in black ink.

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications**

DBRC EQUIPMENT, RESOURCES AND CAPABILITIES

Listed in this section is DBRC oil spill equipment available at numerous locations in the Delaware Bay and River.

Available DBRC equipment is divided into the following categories in this section:

SPILL RECOVERY VESSELS	p. 3-2
SUPPORT VESSELS	p. 3-5
SPILL RECOVERY EQUIPMENT	p. 3-10
SPILL CONTAINMENT EQUIPMENT	p. 3-15
COMMUNICATION EQUIPMENT	p. 3-19
DISPERSANT APPLICATION EQUIPMENT	p. 3-23
ADDITIONAL EQUIPMENT	p. 3-24

Revised 01/01/2012

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications**

SPILL RECOVERY VESSELS

Table 3-1. DBRC Oil Spill Recovery Vessel Profiles

Vessel	Draft (light)	Recovered liquid storage capacity (bbl)	Rated skimming capacity (bbl/day)	De-rated skimming capacity (bbl/day)	Location	Response time to Big Stone Anchorage area	Response time to Delaware City area	Response time to Upriver areas (Marcus Hook and above)
DEL RIVER	7.5'	3,010	68,760	13,752	Lewes	1 Hour	Within 6 hrs	within 12 hrs
DEL BAY	5'	238	63,600	13,714	Marcus Hook	10 hrs	4 hrs	2 hrs
DEL CREEK	4' 8"	35	39,696	6,857	Philadelphia		8 hrs	4 hrs
Lori Bow Collector (LBC-3) (4 ea.)			18,576 ea.	3,715 ea.				
2 on Schat Workboats	2'	5			1-Linwood 1-Delaware City	4 hrs 4 hrs	4 hrs 2 hrs	2 hrs 4 hrs
2 for Eagle Barges on semi @ Linwood	1'	230			Eagle Barges 1-Linwood 1-Delaware City 1-Slaughter Beach	4 hrs	3 hrs	3 hrs

The DEL RIVER



Revised 01/01/2012

OPA 90 PLAN for the Philadelphia Energy Solutions Complex APPENDIX D: Equipment List and Records/OSRO Certifications

The largest member of the DBRC fleet is a converted offshore supply vessel. This 425-ton multi-purpose vessel measures 166 feet in length. It can provide an on-board command center and a variety of equipment including skimming equipment and boom. The DELRIVER has 2,000 horsepower with a normal speed of 12 knots, a 60,000-gallon fuel capacity and a 126,420-gallon (3,010 bbl) recovered oil capacity. The vessel has built in LORI 5 brush skimming systems on both sides in addition to a GT-185 skimming system. Two DOP-250 weir skimmers each with a derated capacity of 3,017 bbl/day are stored on board the DELRIVER. This could be used in lieu of a LORI Brush System if a particular spill indicated that this might be a better system to use. The DELRIVER has the capability of deploying 3,200 feet of Expandi 43-inch boom and 1,000 feet of air inflatable Oil Stop 56" Deep Sea Boom from reels on the vessel. The vessel is equipped with two (2) Zodiac 25 ft. rigid hull inflatable boats with twin 115 horsepower outboards for handling boom. The DELRIVER is berthed in Lewes, with a permanent four man crew on duty 24 hours a day, 7 days a week.

The DELBAY



The 68-foot, 100-ton oil skimming vessel has two (2) 250 horsepower engines with a maximum speed of 9 knots, a 1,000 gallon fuel capacity and a 10,000 gallon (238 bbl) storage capacity. The vessel uses the Dynamic Inclined Plane (DIP) system of spill recovery. The bow of the vessel opens up and two sweeps extend, funneling the oil onto a moving belt. The DELBAY is berthed at Sunoco Marcus Hook Refinery. The DELBAY has an operator on duty 24 hours a day, 7 days a week and a deck hand available within 1 hour.

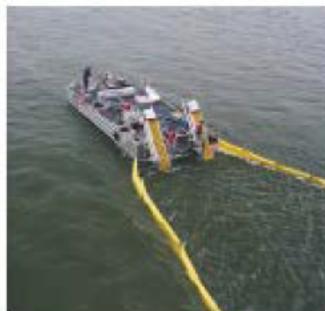
OPA 90 PLAN for the Philadelphia Energy Solutions Complex APPENDIX D: Equipment List and Records/OSRO Certifications

The DELCREEK



The DELCREEK is a 30-foot self propelled skimmer with a maximum speed of 4 knots. The DELCREEK also uses the Dynamic Inclined Plane (DIP) skimming system. The DELCREEK is propelled by a 75 horsepower diesel engine and has a storage capacity of 1,500 gallons (35 bbl). The DELCREEK is dry stored on the Schuylkill River at Vane Brothers City Dock. This unit is for use in protected waters.

LORI BOW COLLECTOR UNITS



DBRC has four LORI (LBC-3) bow mounting skimming systems. The skimmer is a chain driven brush skimmer rated for use in protected waters. Two (2) of DBRC's Schat work boats are capable of mounting 2 of these units with an approximate skimming width of 16 ft. in the advancing mode (pictured above left). The Lori units on the Schat Boats are at DBRC's Linwood facility and at the Delaware City Refining Co. Portable tanks provide storage for these units. Two LORI units mount on American Eagle Aluminum Barge units (pictured above right) and the units are stored at Linwood. The skimming width with the barge units will be determined by the amount of boom used for the V-configuration. With 300 ft. lengths on each of the V legs, the skimming width is approximately 180 ft. The LORI units on the Schats can be switched to American Eagle Aluminum Barge units and deployment during a spill, depending on the situation.

Revised 01/01/2012

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications**

SUPPORT VESSELS

Table 3-2. DBRC Support Vessel Profiles

Vessel	Length	Draft (light)	Location (Quantity)
Pontoon Boat	25 ft	2 ft	Paulsboro (1)
Thomas Marine Al. Push Boat	27 ft	2 ft	DBRC's Linwood Facility (1)
RHI (Zodiac)	21 ft	2 ft	DBRC's Linwood Facility (1)
Jon Boat	16 ft	1 ft	DBRC's Linwood Facility (1)
Jon Boat	20 ft	1 ft	DBRC's Linwood Facility (1)
Schat Sea Responder	34 ft	2 ft	DBRC's Linwood Facility (1), Slaughter Beach (2), Delaware City (1)
American Eagle Aluminum Barge 40 ft. X 16 ft X 4 ft – (230 BBL capacity)	40 ft	1 ft	DBRC's Linwood Facility (1), Slaughter Beach (1), Delaware City (1)
DELSPIRIT-Monark Workboat	28 ft	3 ft	DBRC Linwood
Steel Crane/Spud Barge	36 ft	1 ft	Marcus Hook

Pontoon Boat



DBRC has one (1) Mon-Ark 25 by 14-foot pontoon boats powered by twin 150 horsepower outboard engines. It is designed for deployment and retrieval of boom and can carry approximately 800 feet of boom. The pontoon boat is located at the Paulsboro Refining Company in Paulsboro. The primary use is booming of Mantua Creek, and it has 800 feet of boom stored on board. Gross weight is 10,000 lbs.

Revised 01/01/2012

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications

Thomas Marine Aluminum Push Boat



DBRC has one (1) Thomas Marine 27' Aluminum workboat which is powered by a 200 horsepower diesel engine with a single counter-rotating propeller. This boat is a utility vessel that may be used with the American Eagle units, for towing boom or for logistics support. The boat is stored on a trailer at the Linwood Facility. Gross weight is 7,500 lbs.

Rigid Hull Inflatable (Zodiac)



DBRC has one (1) 21-foot Zodiac 640 OB. This is a versatile, fast boat with dual 90 horsepower outboard engines. It is primarily used to survey the spill area. The boat is stored on a trailer at DBRC's Linwood Facility for rapid mobilization to various locations. Gross weight is 5,000 lbs.

Revised 01/01/2012

OPA 90 PLAN for the Philadelphia Energy Solutions Complex APPENDIX D: Equipment List and Records/OSRO Certifications

Jon Boat



DBRC has two (2) Jon boats. The 16-foot Jon boat is equipped with a 30 HP outboard. The 20-foot Jon boat is equipped with a 90 HP outboard. These are wide beam shallow draft boats and can be used to beach equipment, install anchors, etc. They are stored on trailers at the Linwood Facility. Gross weights are: 500 lbs. For 16-ft. and 1,680 lbs for the 20-ft.

Schat Sea Responders



DBRC has four (4) Schat 34-foot Sea Responder fiberglass boats powered by twin 115 horsepower outboard engines. The operating draft is approximately 2 feet and the boats have 100 gallons of fuel capacity. Three of the boats are equipped to mount the LORI skimmers or push knees to be used with the American Eagle Aluminum Barges. The boats can carry approximately 1200 feet of boom at a speed of about 20 knots. Two are fitted with a drop bow ramp and towing bit. One (1) boat is located at DBRC's Linwood Facility, one (1) at Delaware City, and two (2) are at Slaughter Beach. All are mounted on trailers for rapid mobilization to various locations. Gross weight with LORI skimmer is 15,000 lbs. and 13,500 lbs without the Lori system.

Revised 01/01/2012

OPA 90 PLAN for the Philadelphia Energy Solutions Complex APPENDIX D: Equipment List and Records/OSRO Certifications

American Eagle Aluminum Barges



DBRC has three (3) American Eagle Aluminum Barge units consisting of two aluminum barges that can be hauled on a flat bed truck, 2 barges per truck; 13' 6" overhead clearance is required, or by trailer. The barges measure approximately 40 feet in length, 8 feet in width, and are 3' 9" high. They are designed such that two (2) will fit together to form a 40 x 16 ft. work platform with a skimming outrigger. Each barge has a 115 barrel storage capacity. The decks are reinforced to accommodate skimming equipment such as the Trans-Vac or DESMI (see page 3-6). The units are fitted to mount Lori Bow Collector units on the stern. One (1) unit is located in Slaughter Beach, one (1) in Delaware City, and one (1) at DBRC's Linwood Facility. Gross weight per barge is 6,500 lbs.

The DELSPIRT - Monark 28 ft. Workboat



DBRC has one (1) 28 feet Monark aluminum workboat is powered by twin 130 HP Detroit Diesel 4-53 engines. It is equipped with a 120/240 volt generator and light poles. This is a utility boat that may be used with the American Eagle Aluminum barge units, for towing boom, or for logistics support. The cabin is heated and air-conditioned, and will seat 6 persons. The boat is stored on a Trailer at Linwood. The gross weight is: 12,000 lbs. approximately.

Revised 01/01/2012

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications**

Steel Spud/Crane Barge



DBRC has a steel crane spud barge measuring 36' x 16' x 4' with a draft of approximately 1ft. The crane has a maximum lift of 7,000 lbs and minimum lift of 3,450 lbs. The crane is hydraulic and is supplied by a diesel hydraulic power unit. The hydraulic unit also powers a 500 gal/min wash down pump. The crane has two spuds that are worked hydraulically and are capable of operating in water depths up to 20 ft. The barge is moored at the Sunoco Marcus Hook Refinery, however, the barge may be moved to dry stored on land depending on the ice season. The gross weight of the barge is 40,000 lbs.

Revised 01/01/2012

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications**

SPILL RECOVERY EQUIPMENT

Table 3-3. DBRC Recovery Equipment Capacities

Skimmer	Rated skimming capacity	De-rated skimming capacity
DESMI (1)	15,085 bbl/day	3,017 bbl/day
Trans-Vac (1)	17,145 bbl/day	3,429 bbl/day
Walosep WM (1)	1,680 bbl/day	336 bbl/day
Komara 12K (2)	2,712bbl/day	542 bbl/day
Lori Mini Skimmer LMS-20 (3)	4,025 bbl/day	805 bbl/day
D.E. Skim-Pak (2)	10,285 bbl/day	2,057 bbl/day

DESMI



The DESMI Ocean Skimmer is a floating weir skimmer rated for open water operation in water depths of 5' or more. The skimmer pump can be converted from a skimmer system and used for a wide range of emergency and auxiliary pumping operations, such as emergency off-loading of heavy crude, emulsions, etc. The DESMI is stored on a trailer at DBRC's Linwood Facility. Gross weight is 10,000 lbs.

Revised 01/01/2012

OPA 90 PLAN for the Philadelphia Energy Solutions Complex APPENDIX D: Equipment List and Records/OSRO Certifications

Trans-Vac



The Trans-Vac 500D is an oil recovery unit that combines the air handling capacity of a vacuum pump and the high transfer capability of a positive displacement pump. The Trans-Vac uses the vacuum created by a high capacity pump to recover and transfer oil into a receiving tank on the unit. The system is equipped with hoses and skimmer heads which allow the unit to skim oil in as little as 6" of water. The Trans-Vac will handle all types of oils and can be operated in remote "hard to get at" shoreline areas. DBRC can deliver the Trans-Vac on a trailer from DBRC's Linwood Facility or by water on an American Eagle Aluminum barge unit. Gross weight is 15,000 lbs complete, 7,000 lbs vacuum unit only.

Walosep WM Skimmer



The Walosep WM Skimmer is a smaller weir skimmer for use in shallow waters and around docks with a water depth of 2' or more. This unit can operate in waves up to 4 ft. It is a lightweight unit and can be easily handled by two (2) people. The Walosep is stored in the DBRC Small Skimmer Trailer (BT-9401), along with the Lori drum brush skimmers (3), 2 manta ray heads, a Komara 12K disk skimmer and a Douglas Skim Pak, at DBRC's Linwood Facility. The dry weight of the skimming unit is 210 lbs.

Revised 01/01/2012

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications**

Komara 12K MRK2 Disk Skimmer



The Komara 12K MRK2 is an oleophilic disk skimmer designed for use in protected waters. The skimmer is used in a stationary mode and has a maximum draft of 9.6 inches. The skimmer works best on oil types I and II. One skimmer is stored as a complete unit with all required equipment for sustained operation in trailer BT-9801 at the Paulsboro Refining Co. in Paulsboro. The other skimmer is stored in the DBRC Small Skimmer Trailer (ET-0901) at DBRC's Linwood, PA Facility. The dry weight of the skimming unit is 123 lbs.

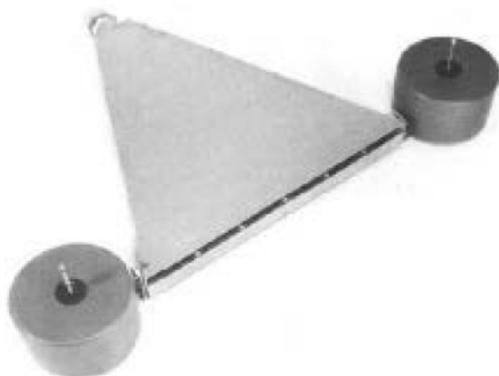
Lori Mini Skimmer LMS-20



The Lori Mini Skimmer is a drum brush skimmer that works well in a wide range of oils. The unit is made of marine grade aluminum and is easily handled by one person. It is powered by a hydraulic power pack and has a 3" quick connect fitting for attaching a vacuum hose. When in operation this unit has a draft of less than 6 inches. It is ideal for use in protected waters and especially in very shallow waters. All three are stored in the DBRC Small Skimmer Trailer (ET-0901) at DBRC's Linwood Facility.

Revised 01/01/2012

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications



Slickbar High Capacity skim head



Manta Ray skim head

The Slickbar high capacity skim head weighs 76 lbs. and has a 3" male quick coupling hose connection and is stored with the TransVac. The Manta Ray skim head weighs 58 lbs. and has a 3" male quick coupling hose connection. DBRC has 2 that are stored in the DBRC Small Skimmer Trailer (ET-0901) at DBRC's Linwood Facility.

Revised 01/01/2012

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications

SPILL CONTAINMENT EQUIPMENT

Boom

Over 88,0000 feet of spill boom is located at various storage sites throughout the Delaware Bay and River area (see Table 3-4). The quantity of boom available is less than the total inventory because certain boom has been reserved for use at upriver pre-planned boom sites. Depending on the location and size of the spill, however, some additional boom may be available. DBRC has thirty (20) small spill boom transport trailers, and six (6) semi-trailers for land transportation of spill boom (see Table 3-5).

Table 3-4. DBRC Boom Inventory

Oil Containment Boom	Total Inventory	Feet Available	Status
Expandi 4300 20" flotation x 23" draft	3,600	3,600	Located on the DELRIVER and deployed by DELRIVER personnel.
Oil Stop Deep Sea Air-Filled Boom 20" flotation x 36" draft	1,000	1,000	Located on the DELRIVER and deployed by DELRIVER personnel.
Various Manufacturers 9" flotation x 18" draft	1,050	1,050	Can deliver boom to specified site as requested. No provisions for deployment.
Bottom Seal Boom : Shore Guardian 8" flotation x 12" draft	2,040	2,040	Can deliver boom to specified site as requested. No provisions for deployment.
Various Manufacturers 6" flotation x 6" draft	60,600	3,000	Can deliver boom to specified site as requested. No provisions for deployment.
Oil Stop 6" flotation x 12" draft	17,100	17,100	Can deliver boom to specified site as requested. No provisions for deployment.
AFTI - Inflatable 10" flotation x 16" draft	220	220	Can deliver boom to specified site as requested. Boom contained on boom reel.
AFTI - Inflatable 10" flotation x 20" draft	2500	2500	Can deliver boom to specified site as requested. Boom contained on boom reel.
AFTI - Inflatable 6" flotation x 12" draft	220	220	Can deliver boom to specified site as requested. Boom contained on boom reel.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications

Table 3-5. Boom Transport Trailers

Number	Location	Length ft.	Boom Make	Freeboard	Draft	Site
BT-8902	San Marcus Hook	1500	Oil Stop - UN	6	12	AMPD's
BT-8904	DBRC LINWOOD	1500	Oil Stop - UN	6	12	AMPD's
BT-9401	San Marcus Hook	1500	Oil Stop - UN	6	12	AMPD's
BT-8602	San Eagle Point	1400	Oil Stop - UN	6	6	Big Timber Creek
BT-9117	San Eagle Point	1400	Oil Stop - UN	6	6	Big Timber Creek
BT-9113	DBRC LINWOOD	1700	Oil Stop - UN	6	6	Christina River
SV-9601	City Dock	5100	Applied Fabric - UN / 510 feet of Shore Guardian	6	12	City Dock
SC-7	Citgo Petty Island	3000	Oil Stop - UN	6	6	Cooper River
SC-6	Excelon Eddystone	4700	2700 ft. AM-UN / 2000 ft. Oil Stop	6	6	Darby, Chester, Crum, & Ridley
PONTOON	PRC Painsboro	600	American Marine - UN	6	6	Manna Creek
BT-8903	DBRC LINWOOD	1600	Oil Stop - UN	6	6	Nammans Creek
SV-8001	DBRC LINWOOD	7000	2800 Oil Stop-UN / 4200 AFTI / 510 of S.G.	6	6	New Castle / Christina
BT-9106	Gloucester City FD	800	Oil Stop - UN	6	6	Newton Creek
BT-9102	DBRC LINWOOD	1500	Oil Stop - UN	6	6	Old Canal, Armt Debs, Weeks
BT-9107	DBRC LINWOOD	1600	Oil Stop - UN	6	6	Oldmans Creek
BT-9108	DBRC LINWOOD	1600	Oil Stop - UN	6	6	Oldmans Creek
SC-2	DCR.De. City		Anchors / 510 feet of Shore Guardian			Pea Patch Island
SC-3	DCR.De. City	5000	American Marine - UN	6	6	Pea Patch Island
SC-4	DCR.De. City	6800	Oil Stop - UN	6	6	Pea Patch Island
SV-7902	DCR.De. City	7000	Oil Stop - UN	6	6	Pea Patch Island
SV-8902	DCR.De. City	7300	6300' Oil Stop - UN / 900' AFTI - UN / 100' sample	6	12	Pea Patch Island
SC-5	Phillips 66	3500	1300 ft. Oil Stop / 2200 ft. AB-UN	6	6	Raccoon Creek
SV-8901	PSEG	7000	AFTI - UN / 510 feet of Shore Guardian	6	6	Salem River / Goose Pond
BT-8701	CALPINE	1000	Oil Stop - UN	6	6	Shell Pot
BT-8905	Slaughter Beach	1000	600 AM-UN V BOOM / 400 AB - UN	9	18	V-Boom Deployment
BT-9104	MILLER	1400	Oil Stop - UN	6	6	Woodbury Creek
BT-9110	MILLER	1500	Oil Stop - UN	6	6	Woodbury Creek
Box One	Slaughter Beach	1000	AFTI - UN Inflatable Curtain Boom	10	20	
BR. 1	Slaughter Beach	500	AFTI - UN Inflatable Curtain Boom	10	20	
BR. 2	Slaughter Beach	500	AFTI - UN Inflatable Curtain Boom	10	20	
BR. 3	Slaughter Beach	500	AFTI - UN Inflatable Curtain Boom	10	20	
BR. 4	Slaughter Beach		AFTI - UN Inflatable Curtain Boom	10	20	
BR. 5	SV-7401	200	AFTI - UN Inflatable Curtain Boom	6	12	
BR. 5	SV-7401	220	AFTI - UN Inflatable Curtain Boom	10	16	

Revised 01/01/2012

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications**



Revised 01/01/2012

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications**

Upriver Pre-Planned Boom Sites

DBRC has established pre-planned booming sites to protect environmentally sensitive areas in the upper Delaware River. These locations are listed below in Table 3-6 and are consistent with the Area Contingency Plan. Dedicated boom and ancillary equipment are located near the designated sites. During emergencies, the spiller, in consultation with DBRC, will select designated sites depending on the anticipated trajectory of the oil.

Table 3-6. Designation of Pre-Planned Boom Sites and Emergency Deployment Personnel.

SITE	Deployment By
Cooper River	DBRC Contractor
Newton Creek	DBRC Contractor
Big Timber Creek	DBRC Contractor
Woodbury Creek	DBRC Contractor
Mantua Creek	Paulsboro Refining Co
Aunt Debs Ditch	DBRC Contractor
Old Canal	DBRC Contractor
Raccoon Creek	DBRC Contractor
Oldmans Creek	Sunoco Marcus Hook Refinery
Darby Creek	Sunoco Philadelphia Refinery
Crum Creek	DBRC Contractor
Ridley Creek	DBRC Contractor
Chester Creek	DBRC Contractor
Naaman's Creek	DBRC Contractor
Shellpot Creek	DBRC Contractor
Christina River	DBRC Contractor
New Castle	DBRC Contractor
Pea Patch Island	Delaware City Refining Co, DBRC Contractors

NOTE: DBRC will first contact the member company (where designated), and then a DBRC Contractor if the Member company cannot conduct the deployment.

Revised 01/01/2012

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications**

COMMUNICATION EQUIPMENT

An effective communication system is critical in the management and control of day-to-day operations and during emergency response situations. A communication system is used to direct personnel, vessels, aircraft and vehicles and to receive information regarding status, surveillance, logistical needs or other emergency requirements.

It is essential to have a command and control point from which to direct communications. This may be from a fixed base or a mobile base station. The fixed base or mobile command units must have multiple communication capabilities - i.e., a frequency range covering VHF-FM and marine channels, cellular phone service, and regular landline phone service.

DBRC has an established communications network that links DBRC personnel and its major resources to the Incident Commander and response personnel during spill response activities (Figure 3-1). The system is comprised of three (3) repeater stations located in Bethel, PA; Westville, NJ (Sunoco Eagle Point) and Lewes, DE. This network is utilized for important response activity communications using DBRC's portable base station, hand-held portables radios.

All DBRC communications are transmitted and received on FCC licensed VHF spill response channels, 1 or 2, depending on the user's location. All three (3) repeaters transmit on the same frequency. The Sunoco Eagle Point and the Lewes repeaters both receive on the same frequency since the areas of reception for the two repeaters do not overlap. The Bethel, PA repeater covers the largest area due to its elevation and receives on a different frequency.

Channels 1 (Sunoco Eagle Point or Lewes repeater) and 2 (Bethel repeater) are restricted to the transmission of critical information related to spill response activities. Channel 3 is a talk-around channel that allows radio users to monitor network communications and to transmit and receive local communications. To transmit a message on the network, the user must switch to channel 1 or 2 according to where the user is located. Channel 4 is for communications with either a NRC or MSRC repeater in the event either organization sets up a repeater during a spill. DBRC has coordinated the use of the oil spill response frequencies with these organizations to provide the best communications possible during a spill. Channel 5 is a talk around channel that will monitor the NRC/MSRC network. Channel 6 is a chatter channel for local off network communications.

Revised 01/01/2012

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications

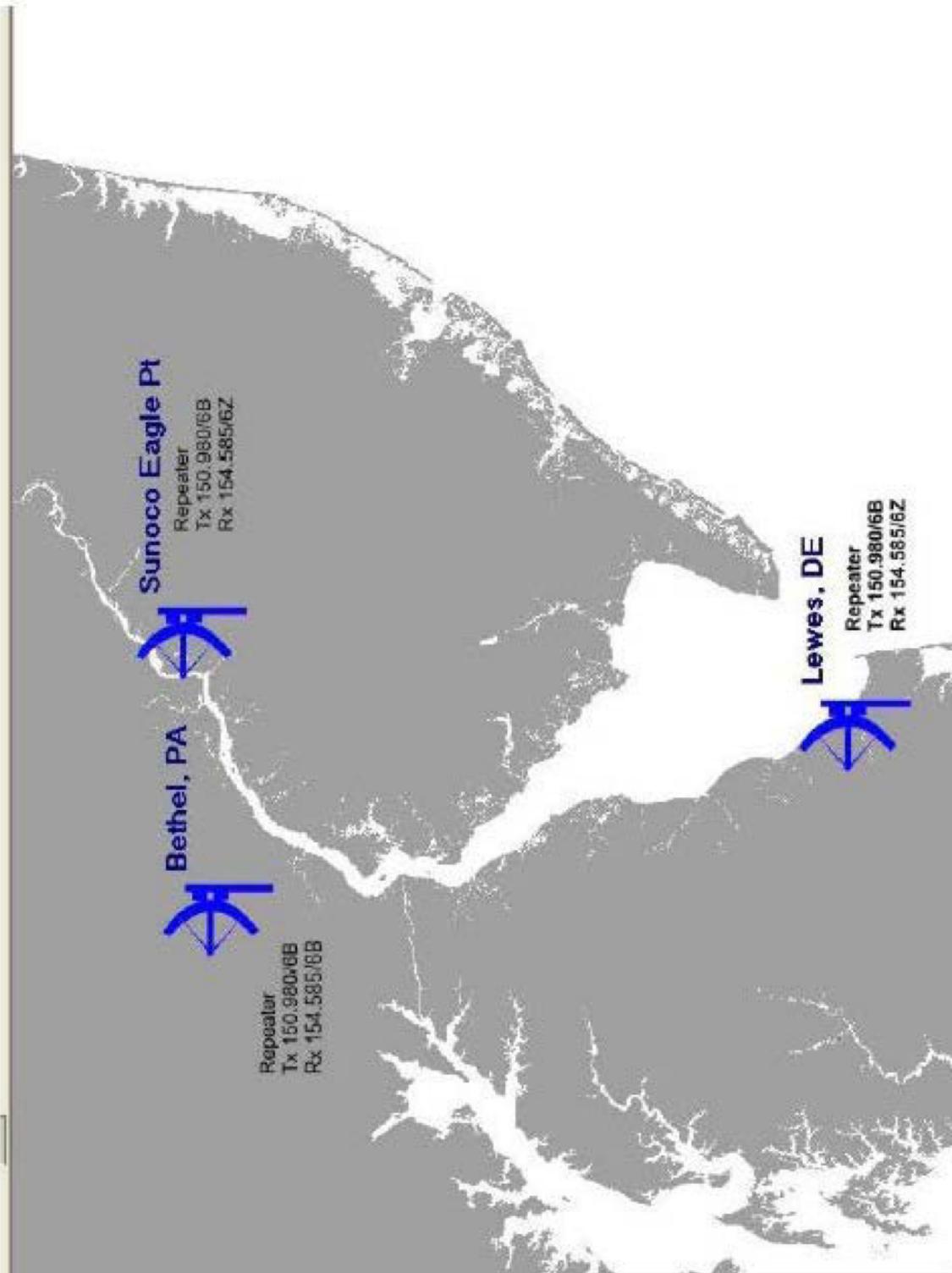


Figure 3-1 DBRC Radio Communication System

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications**

Base Stations

DBRC has fixed base stations located at the Lewes office and the Linwood Facility.

Portable Base Station

One (1) mobile base station is contained in a portable trunk at DBRC's Linwood Facility. The radio is 25 watts and provides full channel coverage. The radio may be operated on either 115-volt AC or 12-volt DC. A small magnetic whip antenna or 200 feet of RG213 cable and a 8 ft. antenna with a tripod base are available.

Hand-Held Portable Radios

Twenty Four (24) hand-held portable radios are available for use during a spill. These are 3 or 5 watt units and provide full channel coverage. Two of the radios are set up for use in helicopters.

Mobile Radios

All DBRC vehicles and boats are equipped with 25 watt mobile radios.

Table 3-7: Channels and Frequencies of DBRC Hand Held Radios

Channel	Function	Transmit	Receive
Channel 1	Network Communications from Philadelphia/Lewes areas	154.585/6Z	150.9800/6B
Channel 2	Network Communications from Bethel area (mid-Bay)	154.585/6B	150.9800/6B
Channel 3	DBRC Net Monitor	150.9800/6B	150.9800/6B
Channel 4	NRC/MSRC Repeater	158.445/1A*	159.480/1A*
Channel 5	NRC/MSRC Net Monitor	159.480/1A*	159.480/1A*
Channel 6	Chatter	159.480/6B	159.480/6B

* 103.5 Hz

Weather and marine channels are also programmed in the hand held radios

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications**

DBRC Phone and FAX Numbers

DBRC phone numbers are provided below.

The 24 hour emergency phone number is 302 645-7861.

The Lewes phone number serves as both telephone and FAX lines and will detect incoming calls and switch automatically to the appropriate device. However, this dual lines will only detect FAX numbers dialed automatically by the FAX machine. Voice-assisted FAX machines must use the Lewes Facilities' dedicated FAX, the University line.

DBRC Linwood Facility	Phone: 610/859-2830, 2831 or 2832 FAX: 610/859-2834
DBRC Lewes Facility	Phone: 302/645-7861 FAX (University line): 302/645-4006

DBRC Cellular Phones

DBRC has cellular phones which are carried by the following personnel at all times.

President	Rich Gaudiosi	302-462-0191 Cell
Field Supervisor	Bob Poole	302-462-0194 Cell
Marine Supervisor	Scott Bossert	302-462-0193 Cell

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications

DISPERSANT APPLICATION EQUIPMENT

DBRC dispersant application equipment includes the following:

Dispersant

DBRC stores 1-Tote with 300 Gallons of Corexit 9500 at the Delaware Bay Launch Service in Slaughter Beach, DE.

Sea Spray II portable dispersant spraying unit

The unit can be mounted on Delaware Bay Launch Service boats or other vessels of opportunity for water dispersant application and is located at Slaughter Beach, DE.

Due to the short window of time in which dispersants can be used after an oil spill, it is recommended that the spiller begin to mobilize the necessary equipment for dispersant application while approval from the U.S. Coast Guard is pending.

Any use of dispersants related to oil spills must be approved by the Coast Guard On-Scene Coordinator (OSC) and other federal and state agencies. This applies to "pre-approved" areas as well as to areas where no pre-approval has been granted. Refer to the Sector Delaware Bay Area Contingency Plan to obtain guidance on policies and protocols for dispersant use in the Delaware Bay. When proper approval to activate DBRC dispersant equipment has been obtained from the Coast Guard OSC, the spiller's representative or Qualified Individual will notify the DBRC President, who will then direct operation of the equipment.

DBRC inventory and equipment is primarily intended for smaller spills and for test application in larger spills.

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications**

ADDITIONAL EQUIPMENT

Portable Tanks for Recovered Fluid Storage

Five (5) ILC 400 gallon portable Ziptanks

One (1) 2,500 gallon Fasttank

One (1) 2,500 gallon Texatank

One (1) 1321 gallon Ro-Tank 5

DBRC has a letter of commitment with Baker Tanks, Swedesboro, NJ to provide portable tanks in various sizes to a spill site within 12 hours, and a letter of commitment with OSG Ship Management for waterborne temporary storage.

Anchor systems

Four 5' x 8' containers with a gross weight of 700 lbs each containing 12 complete anchor systems are available. Two (2) are stored at DBRC's Linwood Facility and (2) are stored at Delaware City. Two deep water storage boxes containing 6 complete anchor systems are available and are stored at DBRC's Linwood Facility.

IR Camera Units

DBRC has an Infrared camera which can be used to find oil on the water at night. The fixed unit is installed on the DELRIVER.

Fire Pump



This is a high volume, high pressure output, skid-mounted 250 GPM at 125 psi fire pump unit powered by a Lombardini diesel engine. This unit may be used for flushing oil from rock and man-made structures and/or herding of oil toward skimmers. The removable accessory box mounted above the pump includes hoses (2 - 2 ½ in suction hoses, 2 - 1 ½ in discharge hoses), Two (2) nozzles, adapters, fittings, fire extinguisher, and tools. Gross Weight is 1,442 lbs.

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications**

Apparatus

Command Vehicle

Car-2 Plant Protection Shift Supervisor Vehicle

2013 Ford Expedition

Accountability Equipment, Medical Response equipment, HF First Aid Kit, Air Pack, PFDs, Hazardous Materials references, Industrial Hygiene meters, and Tape (Red and Yellow & Black).

Tires: P235/70R16 - 44 psi front and rear

Engines

Engine 4

1991 GMC / National Foam Pumper / Tanker

VIN#: 4V2BCBC6XNN64645

Tag#: (PA) EV18126

GVW: 66,800 lbs

Caterpillar 3406 400HP engine with Allison HT 740 transmission

2,000 gpm, Hale Single Stage Pump Model QSMG-200

3000 Gallons National Foam Universal Gold Foam Concentrate

4" Fixed Manual Monitor

CNF TA2000 Foam Nozzle (1750-2000 gpm)

TFT Monsoon F06 Nozzle (350-2000 gpm)

800' of 5"

800' of 2½"

500' of 1½"

3.0 kW Generator

Tires: Front 365/80R20 – 130 psi, Rear 11.00R20 - 115 psi

Job Number: ME 1525

Engine 5

1993 International / National Foam Pumper

VIN#: 1HT50N6A7NH433729

Tag#: (PA) EV18124

GVW: 35,000 lbs

International DT-466A diesel engine with Allison MT 647 automatic transmission

1500 GPM Hale Single Stage Pump Model QSMG 150

750 Gallons National Foam XL- Universal Gold Foam Concentrate

250 gallons water

4" Fixed Manual Monitor

1000 gpm Gladiator Foam / Water Nozzle

800' of 5"

800' of 2½"

400' of 1½"

4.5 kW Generator

Tires: 11.00X22.516PF - 120 psi front, 110 psi rear

Job Number: ME 1612

Engine 9

2003 Williams Pump mounted on a trailer

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications

Model#: 12 X 8 MMA
 Serial#: 31395RD1002
 Tag#: (PA) XCX5245
 GVW: 27,600 lbs
 Caterpillar 3412 Engine
 6,000 gpm Patterson pump
 Pintle Hitch
 Tires: 215/75R17.5 - 125 psi front, intermediate and rear

Engine 11

2001 International / National Foam Pumper
 VIN#: 1HTSDADR824405834
 Tag#: (PA) EV25205
 GVW: 44,000 lbs
 International DT-466A diesel engine with Allison MD-3060P automatic transmission
 1500 GPM Hale single stage pump model QMAX-150
 1000 Gal National Foam Universal Gold Foam Concentrate
 4" Manual monitor
 1000 gpm Gladiator Foam / Water Nozzle
 800' of 5"
 800' of 2½"
 400' of 1½"
 5.0 kW Aura Gen Generator
 Tires: 12R22.5 Unisteel G159 - 120 psi front, 315/80R22.5 Unisteel G286 - 120 psi rear
 Job number: ME 1785

Haz Mat**Haz Mat 1**

1980 Chevrolet Truck, 6VW
 VIN#: N17DDAV110562
 Tag#: (PA) EV18125
 GVW: 26,000 lbs
 Chevrolet Diesel 70 engine with standard transmission
 Contains equipment for Hazardous Materials Incident
 ONAN 6.0 kW Generator
 Tires: 10.00X20F - 60 psi front, 75 psi rear

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications**

Marine Units and Trailers

Marine Fort Mifflin

1992 24' Sea Ark
Twin O/B 90 HP Evinrude
Hull # SAMA0403K292
Reg#: (PA) 9866 BF

Marine Fort Mifflin Boat Trailer

1993 EZ Load 24'
VIN#: 1ZE1SL221PLO14221
Tag#: (PA) XM62607
GVW: 9,480 lbs
Ball Size: 2"
Tires: H78-15SJ, 65 psi

Marine Girard Point

1977 Mon Ark 21'
Twin Evinrude E-Tec 115 HP OB
Hull#: MAK220620877
Reg#: (PA) 3488PP

Marine Girard Point Boat Trailer

1977 EZ Load 21'
VIN#: 71044L
Tag#: (PA) XR95246
GVW: 5,890 lbs
Ball Size: 2"
Tires: 75E78-15, 32 psi

Marine Point Breeze

1990 Sea Ark 24'
Twin O/B 100 HP Johnson
Hull#: SAMA0201H90
Reg#: (PA) 9154 BN

Marine Point Breeze Boat Trailer

1990 EMF
VIN#: 235321190175
Tag#: (PA) XBD7494
GVW: 20,000 lbs
Ball Size: 2-¹/₂"
Tires: 7.5 16 Nylon, 60 psi

Pipeline and High Flow Units

Pipeline 1

1982 Ford 8000 Stake Body
VIN#: 1FDXR80VXCVA34262
Tag#: (PA) YSW0174
GVW: 31,000 lbs
Caterpillar engine with Automatic Transmission
3000' of 7¹/₄"
6" x 2-¹/₂ Gated Wye and 5 – 7-¹/₄" Pony Lines
Tires: 144/142L – 105 psi front and rear

Terminator 1

2000 gpm Towable Fixed monitor
2000 gpm Gladiator Foam / Water nozzle
Ball Size: 2"
Tires 20.5X8.0-10 - 35psi

Terminator T-2000

2000 gpm Towable Fixed monitor
TFT 500-2000 gpm Water Nozzle
National Foam T-2000, 2000 gpm Foam Nozzle
Ball Size: 2"
Tires 5.70-8 - 50psi

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications**

Quick Attack Unit

TAC 2

2008 Ford F-450 Crew Cab
 VIN#: 1FDXW47RX8ED96229
 Tag#: (NJ) XP880B
 GVW: 16,000 lbs
 6.4 Liter V-8 Turbo Diesel with Automatic transmission
 Four Wheel Drive with Class 4 Hitch
 Ranger 3+ monitor / nozzle 1000 to 4000 gpm
 (2) 1000 gpm Ranger Hydro-foam nozzles
 (1) Blitzfire with 500 gpm monitor
 (2) JP 30 / 60 Jet Pumps
 400' of 5"
 200' of 2 1/2"
 150' of 1 3/4"
 (2) 6" Intakes
 (2) 2 1/2" discharges
 Rescue equipment including ropes, rigging and patient packaging equipment for elevated and confined space rescues
 Misc. hand tools Emergency Response Lighting
 Air Pack and 20lbs Purple K extinguisher
 Medical Response Equipment and PFDs
 Tires: 225/70R19.5 - 110 psi front and rear

Support Units

Car #3 - Emergency Response Technician Vehicle

2008 Ford F450 Truck with Knapheide Body
 Manifold supplies one fixed monitor with 1500 gpm Williams nozzle
 200' of 5"
 200' of 2 1/2"
 Equipment for Medical Emergencies, HF Kit, AED and small amount of Rope Rescue equipment

Car #3A- Maintenance and Utility Vehicle

2012 F350 Truck
 Manifold supplies one fixed monitor with TFT 500 gpm nozzle
 Equipment for Medical Emergencies, HF Kit, AED and small amount of Rope Rescue equipment

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications

Tankers

Tanker 9

1987 Mack
 VIN#: 1M1W1886Y6TH021244
 Tag#: (PA) EV20017
 GVW: 46,000 lbs
 Mack Thermodyne engine with standard transmission
 1980 Gallons of National Foam Universal Gold Foam Concentrate
 Necessary hoses and fittings to transfer foam concentrate
 Tires: 22.5x8.25 - 100 psi front and rear

Truck

Truck 7

1981 International / Snorkel 75' Telescopic Boom with Ladder
 VIN#: 1HTCF2559CHA13515
 Tag#: (PA) EV18123
 GVW: 50,000 lbs
 International 2500 Diesel DT-466A engine with standard transmission
 1000 gpm Hale QLF-100 Two Stage Pump
 1000 Gal National Foam Universal Gold Foam Concentrate
 1000 gpm, Adjustable Pattern Water Nozzle
 1000 gpm AER-O-Foam Adjustable Pattern Foam Nozzle
 500' of 5"
 500' of 2½"
 450' of 1½"
 1.5 kW Generator
 Tires: Front 10.00-20 12 ply 140/135, 85 psi; Intermediate 10.00-20 6 Tube, 80 psi; Rear 10.00-20 146/143, 110 psi
 Job number: ME 1098

Fire Resources

Foam Concentrate Supplies

(26) 55 gallon drums of Ansul 3% Foam Concentrate
 (3) pallets of National Foam XL-3 Foam Concentrate
 (8) 55 gallon drums of National Foam XL-3 Foam Concentrate
 (10.5) 275 gallon totes of National Foam XL-3 Foam Concentrate
 (5) 330 gallon totes of National Foam XL-3 Foam Concentrate
 (4) 275 gallon totes of National Foam Universal Gold Foam Concentrate
 (23) 55 gallon drums of National Foam Universal Plus Foam Concentrate

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications

Pumps

Fire Pumps

Location	Pump No.	Capacity GPM	Head PSI	Speed (RPM)	Type	Driver & HP	Water Source	Starting
Point Breeze South Yard	24P-1	2000	125	1760	Vertical Turbine	Diesel 280	Schuylkill River	Manual / Remote
Point Breeze South Yard	24P-2	2000	125	1760	Vertical Turbine	Diesel 280	Schuylkill River	Manual / Remote
Point Breeze South Yard	24P-3	2000	125	1760	Vertical Turbine	Diesel 280	Schuylkill River	Manual / Remote
Point Breeze South Yard	24P-4	2000	125	1760	Vertical Turbine	Diesel 280	Schuylkill River	Manual / Remote
Point Breeze North Yard	24P-5	2000	125	1760	Vertical Turbine	Diesel 280	Schuylkill River	Manual / Remote
Point Breeze North Yard	24P-6	2000	125	1760	Vertical Turbine	Diesel 280	Schuylkill River	Manual / Remote
Girard Point SRTF Fire Pump House	10950 (4)	2000	110	1770	Vertical Turbine	Diesel / 250	Tank/City Water	Manual
Girard Point SRTF Fire Pump House	10952 (5)	2000	125	1750	Vertical Turbine	Diesel / 290	Tank/City Water	Manual
Terminal Godwin	N/A	3000	142	2000	Horizontal Centrifugal	Diesel / 475	Schuylkill River	Manual / Remote

Foam Pumps

Location	Pump No.	Capacity GPM	Head PSI	Speed RPM	Type	Driver & HP	Foam Source	Starting
SRTF Fire Pump House	45P-525	100	175	370	Horizontal Centrifugal	Gasoline / 5	Tanks 213 / 214	Manual
SRTF Fire Pump House	45P-524	100	175	370	Horizontal Centrifugal	Electric / 20	Tanks 213 / 214	Manual

Mitigation Pumps

Location	Pump No.	Capacity GPM	Head PSI	Speed RPM	Type	Driver & HP	Water Source	Starting
GP Unit #433 Mitigation Pump House	EP-1150A (A)	3500	135	1785	Horizontal Centrifugal	Diesel / 487	Tank	Manual / Remote
GP Unit #433 Mitigation Pump House	EP-1150B (B)	3500	135	1785	Horizontal Centrifugal	Diesel / 487	Tank	Manual / Remote

Pressure Maintenance (Jockey) Pumps

OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications

Location	Pump No.	Capacity GPM	Head PSI	Speed RPM	Type	Driver & HP	Water Source	Starting
Girard Point #2 Boiler House	#1	700	134	1800	Horizontal Centrifugal	Electric / 100	Low Pressure Water System	Manual / Remote
Girard Point #2 Boiler House	#2	700	134	1800	Horizontal Centrifugal	Electric / 100	Low Pressure Water System	Manual / Remote
Girard Point Alley A & Ave L	#938	1500	138	1750	Horizontal Centrifugal	Steam / 207	Low Pressure Water System	Manual
Service Water Pump House	#426	1500	134	1780	Horizontal Centrifugal	Electric / 159	Schuylkill River	Manual
Service Water Pump House	#427	1500	150	2500	Horizontal Centrifugal	Steam / 205	Schuylkill River	Manual
East of Point Breeze Garage	#38	2500	109	1790	Horizontal Centrifugal	Electric / 210	Low Pressure Water System	Manual / Remote
Point Breeze Change House	#37	1500	105	1790	Horizontal Centrifugal	Electric / 145	Low Pressure Water System	Manual / Remote

Spill Resources

Absorbent Supplies

Central Warehouse

30 bales of Absorbent Pads
30 bales of Absorbent Sweep
30 bales of Sausage Boom

G. P. Warehouse

30 bales of Absorbent Pads
30 bales of Absorbent Sweep
30 bales of Sausage Boom

Boom Trailers

BT-1

1992 Pennstyle
Point Breeze North Yard
1000' of River Boom
VIN#: 1P9C716F0PLO16303
Tag#: (PA) TY54846
GVW: 4,400 lbs
Ball Size: 2"
Tires: 20.5X8.0-10, 60 psi:

BT-2

1994 Cargo
Point Breeze North Yard
1000' of River Boom
VIN#: 1P9C716D7RL016321
Tag#: (PA) XCH7515
GVW: 6,000 lbs
Ball Size: 2"

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications**

Tires: 20.5X75R15, 60 psi:

BT-3

1992 Pennstyle
Girard Point
1000' of River Boom
VIN#: 1P9C716DOPL016304
Tag#: (PA) XCH7516
GVW: 4,400 lbs
Ball Size: 2"
Tires: 20.5X8.0-10, 60 psi:

BT-519 (TR-001)

1992 Car-mate Model CM-716C-HD
Girard Point
1000' of River Boom
VIN#: 1P9C716D5NL016876
Tag#: (PA) XR95968
GVW: 6,000 lbs
Ball Size: 2"
Tires: 20.5X75D14, 60 psi:

Spill Trailers

NER Spill Trailer

1992 Pennstyle Car-Mate Model CM716C-HD
Lights, PFDs, Handtools, Absorbent Materials, 85-Gal Over-Pack Drum and 2kW Generator
VIN#: 1P9C716D2PL016207
Tag#: (PA) XS82639
GVW: 6,000 lbs
Ball Size: 2"
Tires: ST205/75R14 – 50 psi

Vacuum Trucks

2 at Girard Pt. Garage

TIERED RESPONSE EQUIPMENT—DELAWARE BAY & RIVER COOPERATIVE

TIER 1 - 10,000 bbl/day cap

Skimming:	
Oil Recovery Vessel Delbay, derated capacity:	3,429 bbl/day
Oil Recovery Vessel DELCREEK, derated capacity:	686 bbl/day
DESMNI Ocean Skimmer, derated capacity:	3,017 bbl/day
WALLOSEP Skimmer, derated capacity:	336 bbl/day
TRANSVAC Oil Recovery System, derated capacity:	3,429 bbl/day
LORI-BOW collector system, derated capacity:	891 bbl/day

TOTAL: 11,788 bbl/day

Note: All of this equipment is owned by DBRC and will be on the scene in less than 6 hours.

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications**

TIER 2 - 20,000 bbl/day cap

Skimming:

Oil Recovery Vessel DELRIVER, derated capacity:	7,405 bbl/day
Oil Recovery Vessel DELBAY, derated capacity:	3,429 bbl/day
Oil Recovery Vessel DELCREEK, derated capacity:	686 bbl/day
DESMI Ocean Skimmer, derated capacity:	3,017 bbl/day
WALLOSEP Skimmer, derated capacity:	336 bbl/day
TRANSVAC Oil Recovery System, derated capacity:	3,429 bbl/day
LORI-BOW Collector System, derated capacity:	891 bbl/day
Vacuum Trucks with Skimmers:	900 bbl/day

TOTAL: 20,093 bbl/day

Note: All of this equipment is owned by DBRC with the exception of the vacuum trucks and will be on the scene in less than 30 hours.

TIER 3 - 40,000 bbl/day/cap

Skimming:

Oil Recovery Vessel DELRIVER, derated capacity:	7,405 bbl/day
Oil Recovery Vessel DELBAY, derated capacity:	3,429 bbl/day
DBRC Oil Recovery Vessel DELCREEK, derated capacity:	686 bbl/day
Equip. DESMI Ocean Skimmer, derated capacity:	3,017 bbl/day
WALLOSEP Skimmer, derated capacity:	336 bbl/day
TRANSVAC Oil Recovery System, derated capacity:	3,429 bbl/day
LORI-BOW Collector System, derated capacity:	891 bbl/day
(2) Oil Response Vessels (210" X 50") w/Trans Rec heavy duty skimming system derated MSRC capacity of 4,000 bbl/day each =	8,000 bbl/day
(2) 3 Weir Boom Skimmers, derated capacity, Equip. 5664 bbls/day:	11,328 bbl/day
Walosep W-4 Skimmer, derated capacity:	3,024 bbl/day
GT-185 Weir-Type Skimmer, derated capacity:	1,368 bbl/day

TOTAL: 42,913 bbl/day

Note: All equipment is owned by DBRC and will be on the scene in less than 54 hours.

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

APPENDIX D: Equipment List and Records/OSRO Certifications

EMERGENCY SERVICES CONTRACT	
	Authorized By <u>C. G. Borkland / G. D. Lehman</u>
	Requested By <u>CG</u> <u>[Signature]</u> Date <u>March 11, 2005</u> C. G. Borkland / G. D. Lehman
Project Number / Facility Number	Approved By <u>C. G. Borkland / G. D. Lehman</u>
Information Regarding This Contract Can Be Supplied By <u>Anthony F. Acarbo, Jr</u>	Telephone No. <u>215 / 977-6874</u>
Contract or Appropriation Number	Contract Number <u>2005000262</u>
To Contractor: <u>Clean Venture, Inc.</u> <u>600 Cenco Boulevard</u> <u>Clayton, NJ 08312</u> <u>Attn: Pat McGovern</u> <u>856-863-8778 (ph) 856-863-3725 (fx)</u>	Invoice to: Invoice address to be identified upon each occurrence

This CONTRACT, effective April 1, 2005 between Sunoco, Inc. (R&M), including Sunoco Logistics Partners L.P., hereinafter called "Sunoco", having an office at 10 Penn Centor, 1801 Market Street, Philadelphia, PA 19103 and the "Contractor" shown above.

WITNESS in consideration of the mutual promises herein made, Sunoco and Contractor agree as follows:

ARTICLE 1 - THE WORK: The Work shall consist of Contractor's response to hazardous materials transportation incidents and releases of hazardous materials to the environment. For purposes of example only and not limitation, Contractor may be required to: travel to the location of the release immediately upon notification by Sunoco; prevent or stop releases at the point of origin (e.g. transferring materials from tanks, pipelines or vessels, plugging leaks in rail, truck or pipeline equipment); secure the site of the release to prevent harm to human health and the environment (e.g. sandbagging storm drains, relieving pressure on vessels or tanks to prevent explosion, establishing a water spray on a vapor release, covering a liquid pool with foam, extinguishing fires); coordinate with Sunoco, local authorities and other emergency responders; remove and contain hazardous materials from the environment; arrange for the disposal of hazardous materials; report and keep records of the Work. The Work shall be performed at the site location of the release, which may be on public highways or property, private roadways, railways or property, pipeline or railroad rights of way, Sunoco facilities, or other industrial, commercial, or residential property. This Contract and its Terms & Conditions supercedes and replaces Contract #98004702 in its entirety.

CONTRACTOR: shall perform all work hereunder in accordance with the terms and conditions of this Contract and the following Exhibits as noted:

- | | |
|--|---|
| A-Emergency Services Contract General Terms and Conditions | G-Manner and Times of Payment |
| B-Contractor Proposal Package | H-Accounting and Auditing Procedures |
| C-Pre-planning Requirements | I-Safety and Security Requirements (site specific) |
| D-Facility "Worst Case Discharge" Information | J-Department of Transportation (D.O.T.) Requirements |
| E-Facility Listings | K-Insurance Certificate |
| F-Sunoco System Maps | L-Sunoco Approved Disposal / Recycler Facilities & Transporters Listing |

Contractor shall furnish any and all personnel, equipment and other things necessary for the performance and completion of all work authorized hereunder. All personnel shall be fully trained, certified and competent to perform the Work. This agreement, including General Terms and Conditions and all attachments and Exhibits appended hereto or referenced herein shall constitute the Contract between the parties. SEE LIABILITY AND INDEMNITY WORDING ON EXHIBIT A.

ARTICLE 2 - ITEMS PROVIDED BY SUNOCO: Items noted to be specifically supplied by Sunoco are as follows: Information regarding the location of the Work and the nature and hazards of the materials to be managed hereunder, including but not limited to MSDS's.

ARTICLE 3 - COMPENSATION: For satisfactory performance of the Work hereunder, Sunoco agrees to pay Contractor in the manner and at times specified in Article 4, and Contractor agrees to accept full and complete payment for providing such Work, compensation as follows: **As specified in Exhibit "B"**. Any changes to pricing and/or terms of this Contract must be submitted in writing thirty (30) days prior to the annual Contract anniversary date. Any agreed-to changes will be authorized by issuance of a written supplement to the Contract.

ARTICLE 4 - TERMS OF PAYMENT: Net thirty (30) days upon receipt of each correct and proper invoice and approval of Owner's authorized representative. The contract number must be identified on all invoices and supporting documentation.

Prior to final payment hereunder, and as a condition thereto Contractor shall satisfy the requirements of General Terms and Conditions, Article 13.

ARTICLE 5 - TERM: This Contract shall commence on the effective date hereof and shall remain in effect for a term of three years, and shall be automatically renewed for three year terms upon mutual agreement of both parties. This Contract may be terminated by either party upon 30 days written notice. Work under this Contract shall commence immediately upon request from Sunoco to Contractor to respond to a release. All work shall be completed as quickly, expeditiously, efficiently and safely as reasonably possible.

ARTICLE 6 - CHANGES, ADDITIONS AND/OR DELETIONS: Sunoco reserves the continuing right to make changes, additions and/or deletions to the Work as it may deem necessary. All changes, additions or deletions shall be made in writing and accepted by both parties before Contractor proceeds with such Work. Contractor shall make no changes, additions or deletions to the Work without Sunoco's prior written instructions. Notwithstanding the foregoing, during a response to a release or other emergency, the parties may expand or limit the scope of the work by oral agreement, which shall be confirmed in writing as soon as reasonably possible. The cost of such changes, additions or deletions shall be determined as set forth in Article 3.

Contractor shall make no changes in any performance schedule(s) provided for in Article 1 or in any other term of this Contract without the prior written approval of Sunoco.

ARTICLE 7 - INSURANCE: Contractor shall take out, carry and maintain in insurance company or companies, and in policies of insurance acceptable to Sunoco, insurance with limits not less than indicated for the respective items, as specified in General Terms and Conditions, Paragraph 25, or as amended below:

ARTICLE 8 - GOVERNING LAW: This Contract shall be governed by the laws of the State wherein the Work is performed unless stated otherwise:

ARTICLE 9 - CONTACTS: The authorized persons to initiate Work hereunder are identified in Exhibit E. The list of authorized personnel in Exhibit E, including contact information such as telephone, cell phone, pager and fax numbers, shall be immediately updated via fax or e-mail by the party making a change thereto.

Contract Instructions:
Sunoco, Inc. (R & M)
1801 Market Street
Philadelphia, PA 19103-1699
Attn: Anthony R. Acarbo, Jr.

The term "State" wherever used in this contract shall be deemed to include the Commonwealth of Puerto Rico. In witness whereof, the parties have executed this Contract. This contract is subject to the terms and conditions shown on the reverse side hereof or attached hereto which are incorporated herein.

SUNOCO DATE 3-11-2005
BY: Anthony R. Acarbo
TITLE: Contract Manager

CONTRACTOR DATE 4/14/05
BY: Michael P. Acarbo
TITLE: President

1983-E

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

APPENDIX D: Equipment List and Records/OSRO Certifications

JUN-03-2005 14:19 CUI		8568633725 P.02/02	
AMENDMENT # 1 TO CONTRACT # 11412 MH - 10042 PH - 10014 EP			
	Requested By C. G. Borkland / G. D. Lehman	Authorized By Barry Brodwater Date of this Amendment 06/01/05	Date of Original Corporate Contract 04/01/05
	Project Number / Facility Number	Approved By Barry Brodwater	Telephone No. 610-855-1456
Information Regarding This Contract Can Be Supplied By Mary Ann Stritzinger		<input type="checkbox"/> One-Time Contract <input checked="" type="checkbox"/> On-Going Services Contract <input type="checkbox"/> Release Against On-Going Services Contract	
Account or Appropriation Number		Contract Number of Original Contract 11412 MH - 10042 PH - 10014 EP	
To Contractor: Clego Venture, Inc. Mr. Pat McGovern 800 Cenco Boulevard Clayton, NJ 06312		Return To: Sunoco Inc. (R&M) Mary Ann Stritzinger 100 Green Street Marcus Hook, PA 19061	
<p>This AMENDMENT is entered into, effective 06/01/05 between Sunoco Inc. (R&M) hereinafter called "Owner", having an office at 100 Green Street, Marcus Hook, PA, and the Contractor shown above.</p> <p>Owner and Contractor entered into the Original Contract, effective as of 04/01/05, for the performance of the WORK set forth in ARTICLE 1 of the Original Contract. Pursuant to SECTION 16 of the General Terms and Conditions of the Original Contract, Owner and Contractor now desire to amend the Original Contract as hereinafter set forth.</p> <p>WITNESS, In consideration of the mutual promises herein made, and intending to be legally bound hereby, Owner and Contractor agree as follows:</p> <p>ARTICLE 1 - AMENDMENTS: The Original Contract is hereby amended in the following respects:</p> <p>A. NERC Contracts are based on Corporate Contract # 2005000262 Effective date 4/1/05 B. NERC Contracts extended to 4/1/08 with automatic 3 year term renewals upon mutual agreement of both parties in accordance with Corp. Contract C. Corporate Contract # 2005000262 supercedes and replaces all previous NERC contracts</p> <p>ARTICLE 2 - EFFECT AND CONSTRUCTION OF AMENDMENT: This Amendment is executed as, and shall be considered, an amendment to the Original Contract and shall form a part thereof, and the provisions of the Original Contract, as amended by this Amendment, are hereby ratified and confirmed in all respects. Except as expressly provided in this Amendment, (i) the Original Contract shall remain in full force and effect in accordance with its terms, and (ii) this Amendment shall not be construed to waive or impair any rights, powers or remedies of Owner or Contractor under the Original Contract. To the extent any of the terms and provisions of this Amendment are inconsistent with those of the Original Contract, the terms and provisions of this Amendment shall govern.</p> <p>ARTICLE 3 - ENTIRE AGREEMENT: Except as expressly set forth herein or in the Original Contract, there are no agreements or understandings, written or oral, between Owner and Contractor with respect to the subject matter contained herein or in the Original Contract.</p> <p>ARTICLE 4 - SEVERABILITY OF PROVISIONS - The invalidity, illegality or unenforceability of any provision of this Amendment shall in no way affect or impair the validity, legality or enforceability of the remaining provisions hereof.</p> <p>ARTICLE 5 - CAPTIONS: Captions used in this Amendment are not part of this Amendment, are for convenience of reference only and shall not affect the meaning or construction of any of its provisions.</p> <p>ARTICLE 6 - COUNTERPARTS, EFFECTIVENESS: This Amendment may be executed in counterparts, each of which shall be deemed an original, but all of which taken together shall constitute one and the same instrument. This Amendment shall become effective when each party to this Amendment has executed counterpart of this Amendment.</p> <p>ARTICLE 7 - BENEFIT OF AGREEMENT: This Amendment shall be binding upon and shall inure to the benefit of and be enforceable by the parties hereto, their respective successors and assigns. No other person or entity shall be entitled to claim any right or benefit hereunder, including, without limitation, the status of a third-party beneficiary of this Amendment.</p> <p>ARTICLE 8 - GOVERNING LAW: This Amendment shall be governed by the laws of the jurisdiction set forth in ARTICLE 8 of the Original Contract, without regard to its conflicts of laws principles.</p>			
Contract Instructions: SUNOCO, INC. (R&M) ATTN: MARY ANN STRITZINGER 100 GREEN STREET MARCUS HOOK, PA 19061		In witness whereof, the undersigned corporate officers of the parties hereto (or their duly authorized representatives) have executed this Amendment.	
Contractor shall sign and return one fully executed copy of this Amendment and all future contract notices to the address shown above. If no address is shown above, copy shall be returned to the "Invoice To" address at the top.		OWNER: DATE <u>6/1/05</u> BY: <u>Mary Ann Stritzinger</u> TITLE: <u>Contract Manager</u>	CONTRACTOR: DATE <u>6/1/05</u> BY: <u>[Signature]</u> TITLE: <u>Manager</u>
Distribution:	Contractor	Owner	Accounts Payable Materials Management

Sun-0234-E

JUN 03 2005 12:01

16126591452

Uncontrolled Copy
 With Contract File # PH
 TOTAL P.02

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX D: Equipment List and Records/OSRO Certifications**

PURCHASE ORDER FOR CONTRACT SERVICES CONTRACT WORK ON TIME & MATERIAL BASIS SUNOCO, INC (R and M), EAGLE POINT	
CONTRACTOR CLEAN VENTURE, INC. 600 CENCO BOULEVARD CLAYTON, NJ 08312	CONTRACT#: 10423 SPO#: 06-ET1758 DATE: 03/08/2006 WORK ORDER#: 06-001427-005 MAIN ACCT: 550 - Refinery Admin Support
START 03/08/2006 EXPECTED 12/31/2006	SUN CONTACT#:
DESCRIPTION: On a time and material basis provide: Supervi	
LOCATION: EG	
SALES OR USE TAX:	
SCOPE OF WORK	
On a time and material basis provide: Supervision, labor, material, equipment and other incidentals required for: To provide manpower when conducting emergency response training at the Eagle Point Refinery for the year of 2006 Plant contact: Scott Ewan 856-853-4012 Ext 4012 All invoices/time sheets through Tracks system attention Scott Ewan All invoices shall be sent to: Sunoco, Inc. (R & M) Eagle Point Refinery Attn. Accounts payable 1818 Market St. Suite 1500 Philadelphia, PA. 19103-3687	
UNCONTROLLED COPY	
SAFETY CONDITIONS FOR THIS CONTRACTOR	
AUTHORIZED:	DATE:
APPROVED:	DATE:
ACCEPTANCE SIGNATURES	
CONTRACTOR REPRESENTATIVE X _____	CONTRACT ADMINISTRATOR X <i>Scott Ewan</i> 3-8-06
DATE	DATE
TERMS AND COONDITIONS FOR CONTRACT #10423 APPLY TO THIS AGREEMENT	
*** END OF REPORT (121815) ***	

OPA 90 PLAN for the Philadelphia Energy Solutions Complex

APPENDIX D: Equipment List and Records/OSRO Certifications

11-24-08:09:48AM:

1 / 57

EMERGENCY SERVICES CONTRACT			
	Authorized By	Don Zoladkiewicz	
	Requested By	Bill Kelly	Date June 23, 2008
Project Number / Facility Number	Approved By	Lisa Lekawa	
Information Regarding This Contract Can Be Supplied By Anthony R. Acerbo, Jr.	Telephone No.	215 / 977-6874	<input type="checkbox"/> One-Time Contract <input checked="" type="checkbox"/> On-Going Services Contract <input type="checkbox"/> Release Against On-Going Services Contract
Account or Appropriation Number	Contract Number	CW 110918 CW-8000	Contract
To Contractor: Clean Venture, Inc. 600 Cenco Boulevard Clayton, NJ 08312 Attn: Patrick S. McGovern Phone: (856)863-8773 Fax: (856)863-3725	Invoice to: As Specified Per Contract Release		

This CONTRACT, effective July 1, 2008 between Sunoco, Inc. (R & M), hereinafter called "Sunoco", having an office at 1818 Market Street, Suite 1500, Philadelphia, PA 19103-7583 and the "Contractor" shown above.

WITNESS in consideration of the mutual promises herein made, Sunoco and Contractor agree as follows:

ARTICLE 1 - THE WORK: The Work shall consist of Contractor's response to hazardous materials transportation incidents and releases of hazardous material to the environment. For purposes of example only and not limitation, Contractor may be required to: travel to the location of the release immediately upon notification by Sunoco; prevent or stop releases at the point of origin (e.g. transferring materials from tanks, pipelines or vessels, plugging leaks in rail, truck or pipeline equipment); secure the site of the release to prevent harm to human health and the environment (e.g. sandbagging storm drains, relieving pressure on vessels or tanks to prevent explosion, establishing a water spray on a vapor release, covering a liquid pool with foam, extinguishing fires); coordinate with Sunoco, local authorities and other emergency responders; remove and contain hazardous materials from the environment; arrange for the disposal of hazardous materials; report and keep records of the Work. The Work shall be performed at the site location of the release, which may be on public highways or property, private roadways, railways or property, pipeline or railroad rights of way, Sunoco facilities, or other industrial, commercial, or residential property.

CONTRACTOR shall perform all work hereunder in accordance with Sunoco Inquiry # SUN-28009 as if contained herein, the terms and conditions of this Contract and the following Exhibits:

A-Emergency Services Contract General Terms & Conditions - May, 2008

B-Scope of Work

C-Contractor Rate Schedule / Information Form

D-Safety and Security Requirements

E-Sunoco Fuel Surcharge Policy

F-Pre-planning / Contractor Response Requirements

G-Facility Listings

H-Sunoco System Maps

I-Manner and Times of Payment / Accounting and Auditing Procedures

J-Insurance Certificate

Contractor shall furnish any and all personnel, equipment and other things necessary for the performance and completion of all work authorized hereunder. All personnel shall be fully trained, certified and competent to perform the Work. This agreement, including General Terms and Conditions and all attachments and Exhibits appended hereto or referenced herein shall constitute the Contract between the parties. SEE LIABILITY AND INDEMNITY WORDING ON EXHIBIT A.

ARTICLE 2 - ITEMS PROVIDED BY SUNOCO: Items noted to be specifically supplied by Sunoco are as follows:

Information regarding the location of the Work and the nature and hazards of the materials to be managed hereunder, including but not limited to MSDS's

ARTICLE 3 - COMPENSATION: For satisfactory performance of the Work hereunder, Sunoco agrees to pay Contractor in the manner and at times specified in Article 4, and Contractor agrees to accept full and complete payment for providing such Work, compensation as follows:

ARTICLE 4 - TERMS OF PAYMENT: Net thirty (30) days upon receipt of each correct and proper invoice and approval of Owner's authorized representative. The contract number must be identified on all invoices and supporting documentation.

Prior to final payment hereunder, and as a condition thereto Contractor shall satisfy the requirements of General Terms and Conditions, Article 13.

ARTICLE 5 - TERM: This agreement shall commence on the effective date hereof and shall remain in effect for a term of three years (the Initial Term), and shall be automatically renewed for two additional years (Renewal Term) upon agreement of the parties, unless terminated by either party upon thirty (30) days written notice. Work under this Contract shall commence immediately upon request from Sunoco to Contractor to respond to a release. All work shall be completed as quickly, expeditiously, efficiently and safely as reasonably possible.

ARTICLE 6 - CHANGES, ADDITIONS AND/OR DELETIONS: Sunoco reserves the continuing right to make changes, additions and/or deletions to the Work as it may deem necessary. All changes, additions or deletions shall be made in writing and accepted by both parties before Contractor proceeds with such Work. Contractor shall make no changes, additions or deletions to the Work without Sunoco's prior written instructions. Notwithstanding the foregoing, during a response to a release or other emergency, the parties may expand or limit the scope of the work by oral agreement, which shall be confirmed in writing as soon as reasonably possible. The cost of such changes, additions or deletions shall be determined as set forth in Article 3.

Contractor shall make no changes in any performance schedule(s) provided for in Article 1 or in any other term of this Contract without the prior written approval of Sunoco.

ARTICLE 7 - INSURANCE: Contractor shall take out, carry and maintain in insurance company or companies, and in policies of insurance acceptable to Sunoco, the insurance with limits not less than indicated for the respective items, as specified in General Terms and Conditions, Article 23, or as amended below:

ARTICLE 8 - GOVERNING LAW: This Contract shall be governed by the laws of the State wherein the Work is performed unless stated otherwise:

ARTICLE 9 - CONTACTS: The authorized persons to initiate Work hereunder will be identified upon start of project. A listing of authorized personnel, including contact information such as telephone, cell phone, pager and fax numbers, shall be immediately updated via fax and/or e-mail by the party making a change thereto.

Contract Instructions:
 Sunoco, Inc. (R & M)
 1818 Market Street - Suite 1500
 Philadelphia, PA 19103-3687
 Attn: Anthony R. Acerbo, Jr.
 215-977-3874 (phone)
 866-815-0255 (fax)
 aracerboj@sunoco.com

Sun-40683-E

The term "State" wherever used in this contract shall be deemed to include the Commonwealth of Puerto Rico.

In witness whereof, the parties have executed this Contract. This contract is subject to the terms and conditions shown on the reverse side hereof or attached hereto which are incorporated herein.

SUNOCO: DATE July 1, 2008

BY: Anthony R. Acerbo, Jr.

TITLE: Contract Manager

CONTRACTOR: DATE July 1, 2008

BY: Patrick S. McGovern

TITLE: Customer Service Manager

OPA 90 PLAN for PHILADELPHIA ENERGY SOLUTIONS COMPLEX
APPENDIX E: Communications Plan

COMMUNICATIONS PLAN

In the event of a spill in the Delaware River, Schuylkill River or their tributaries radio communications between the shore command and the spill response will be the main means of communications. The refinery is equipped with a radio communications system and response personnel and the Spill Response Team is equipped with portable hand held radios. These radios are multi channel and can be selected to several different zones.

A primary channel is utilized for emergency communications traffic for incidents in the Refinery. In addition to emergency traffic, this channel is used for communication between Fire, Safety, Security, and Fire personnel during normal operations.

Secondary channels are available as a Spill channel. The hand held portables are capable of switching to this during extended operations or due to heavy traffic on the emergency channel.

These two channels and all other Refinery channels are monitored 24 hours a day by the PES Communications Center. This facility normally coordinates all activity during standard and emergency operations.

Operations that are larger than the scope of our immediate area can be coordinated through the DBRC radio system. As necessary, portable DBRC radios are available to PES responders and are usually utilized by the PES spill boats.

INTERNAL AND EXTERNAL COMMUNICATIONS AND ALARM SYSTEMS

Alternate Means of Communications

The alternate method of communications will be by telephone, landline and cellular.

Initially, the first response Emergency Response Team will maintain communications with Incident Command using portable radios that are multi-channel and are monitored 24 hours day by PES's Communication Center.

Incident Command (Mobile Command Post - MCP), set up shore side, has the same radio capabilities as the Emergency Response Team.

Normal communication at the facility can be carried out by telephone and/or radio and will not have any impact on the emergency operations being conducted.

Available on site communications equipment for use during a spill response is as follows:

Fixed Land Based Telephone System

PBX telephone system with approximately 800 telephones

Local access B Bell Atlantic

Long distance B AT&T/MCI

Plant switchboard, staffed 24 hours a day

Two pre-programmed call out systems for emergencies

OPA 90 PLAN for PHILADELPHIA ENERGY SOLUTIONS COMPLEX

APPENDIX E: Communications Plan

Fixed Land Based Telephone System

The PES Communication Center is equipped with three (3) power fail phones utilized in the event of a PBX system outage. One (1) of the three phones is connected to a service provider other than the local carrier to ensure secondary back-up means of communications should the PBX system fail.

Text Messaging Systems

The PES Communication Center possesses the ability of transmitting alpha / numeric text messaging information to Emergency Response and Spill Management team members via cell phones. Primary and secondary methods have been established to activate Emergency Response & Spill Team members. Tests of the text messaging systems in addition to primary and secondary notification systems are completed weekly and documented appropriately.

Radio System

Approximately 600 multi-channel facility radios are available throughout PES. The PES Communication Center is staffed by two (2) Communication Coordinators 24 hours a day, 7 days per week with responsibilities for:

- Maintain/Coordinate Radio Communications with the refinery
- Point of Contact for Emergency Response
- Dispatch Emergency Response Personnel
- Accurately track and document incidents
- Make appropriate notifications

In addition, Philadelphia Fire Department, Delaware County Fire Board, New Castle County Fire Board, Marine radio and DBRC radios are available.

Internal Notification of a Fire Emergency

All fire emergencies are reported immediately by activating the facility fire alarm systems or by radio or phone notifications to the PES Communication Center.

**OPA 90 PLAN for PHILADELPHIA ENERGY SOLUTIONS COMPLEX
APPENDIX E: Communications Plan**

PES RADIO COMMUNICATIONS NETWORK

PES: Radio Configuration				
Zone: Phila A				
CH #	Display Label	RX FREQ	RX PL	TX FREQ
1	HDS	464.2625	167.9	469.2625
2	ENV/BFW	464.0625	167.9	469.0625
3	868 FCC U	464.1625	167.9	469.1625
4	PB B&S	464.3625	167.9	469.3625
5	COMPLEX	463.8625	167.9	468.6825
6	210 CRUDE	463.7625	167.9	468.7625
7	PB MAINT	464.7625	167.9	469.7625
8	HQ - SEC	464.8625	167.9	469.8625
9	SHUT DOWN	451.65	167.9	456.65
10	MC	451.75	167.9	456.75
11	CHAT 9	451.5375	167.9	451.5375
12	FS & S/ HQ	451.6	167.9	456.6
13	867 UNIT	451.2125	167.9	456.2125
14				
15				
16				
ZONE: Phila B (Girard Pt.)				
17	GP B&S	451.4875	162.2	456.4875
18	LT. OIL	451.5875	162.2	456.5875
19	CRACKINC	451.3875	162.2	456.3875
20	UTILITIES	451.2875	162.2	456.2875
21	CHEMICALS	451.6625	162.2	456.6625
22	GP MAINT	451.4125	162.2	456.4125
23	GP MAINT	451.4125	162.2	456.4125
24	HQ STAND BY	451.2625	162.2	456.2625
25	CHAT 9	451.5375	162.2	451.5375
26	CHAT 10	451.2375	162.2	451.2375
27	TECH / CA'S	451.1625	162.2	456.1625
28	FS&S / HQ	451.6	167.9	456.6
29				
30				
31				
32				

**OPA 90 PLAN for PHILADELPHIA ENERGY SOLUTIONS COMPLEX
APPENDIX E: Communications Plan**

DELAWARE BAY & RIVER COOPERATIVE FREQUENCY LIST					
<i>Channel</i>	<i>Transmit</i>	<i>PL</i>	<i>Receive</i>	<i>PL</i>	<i>Display</i>
1	154.585	6B	150.980	6B	Lewes/North
2	159.480		150.980		Bethel
3	150.980		150.980		Talk Around
4	158.445		158.445		Local Chatter

OPA 90 PLAN for PHILADELPHIA ENERGY SOLUTIONS COMPLEX
Appendix F: Site Specific Safety & Health Plan

SITE SPECIFIC SAFETY & HEALTH PLAN

In emergency situations PES response personnel and in particular Refinery Safety and Health personnel are responsible for ensuring a site safety and health plan is instituted for the emergency. The PES site safety and health plan follows the requirements as outlined in section 120(b)(4) and 120(p)(1) and 120(q) of 29 CFR 1910.120.

The PES Refinery has an extensive safety and health program which outlines refinery safety and health issues, established safety procedures and protocols and various individualized programs to address specific concerns such as a hazard communication program and material safety data sheets for all raw materials, intermediate streams and products, an emergency response program, along with respiratory protection, confined space, hot work and process safety management programs.

In addition, an emergency Site Safety Plan format has been developed to ensure emergency response issues are evaluated, hazards listed and precautions outlined for response personnel, responding agency and OSRO personnel.

OPA 90 PLAN for PHILADELPHIA ENERGY SOLUTIONS COMPLEX

Appendix F: Site Specific Safety & Health Plan

Site Safety and Health Plan**Emergency Phase**

Incident Name: _____ Date: _____

Operational period: _____

Organization:*Name**Phone/Radio*

Site Safety Officer: _____

Safety Supervisor: _____

Attach response organization chart.

Communications: Radio _____ Phone _____

Other _____

Oil/Chemical(s) involved _____**Physical Hazards:**

Chemical		Slip/Trip/Fall		Cold Stress		Electrical	
Animal/Insect		Heat		Stress		Water Ops	
Plants		Fatigue		Night Op		Bio Waste	
Noise		Excavations		Radiation		Struck By	
Confined Space		Ergonomics		Other		Other	

Hazards

Explosive		Flammable		Reactive		Biomedical	
Toxic		Radioactive		Carcinogen		Oxidizer	
Corrosive		Other		Other		Other	

Target Organs

Eyes		Nose		Skin		Ears	
Respiratory		Nervous System		Throat		Lungs	
Heart		Liver		Blood		Kidney	
Bone		Gastrointestinal		Other		Other	

Exposure Routes

Inhalation		Absorption		Ingestion		Injection	
Membrane		Other		Other		Other	

General PPE

Face Shield		Glasses		Gloves		Inner Suite	
Splash suit		Level A		SCBA		APR	
SAR		Cartridges		Fire Resistant		Other	

See attached Data Sheet

Potential Emergencies: Fire _____ Explosion _____ Other _____**Task Specific Personal Protective Equipment**

Location	Major Tasks	Comments	Level of Protection				
			A	B	C	D	Other
			A	B	C	D	Other
			A	B	C	D	Other
			A	B	C	D	Other
			A	B	C	D	Other

OPA 90 PLAN for PHILADELPHIA ENERGY SOLUTIONS COMPLEX

Appendix F: Site Specific Safety & Health Plan

Evacuation Signal

Horn _____ # Blasts _____ Bells _____ #Rings _____ Radio Code _____ Other _____

Emergency Evacuation Procedures

In the event of an emergency during this operation all personnel will evacuate to:

Proceed to the evacuation site as quickly as possible for roll call to determine personnel status.

Emergency Medical Procedures

How to Call for Medical Help and information for local emergency service and medical facility:

Site Security

The On-scene Command Post has been established at _____

The following site security procedures have been established:

Monitoring Plan (Initial)

	Oxygen	Combustible Gas	Radiation	H ₂ S	Noise	Thermal
Reading						
	Total Hydrocarbons	Colormetric tubes	Other			
Reading						

See attached MSDS or chemical fact sheet for specific information such as LEL, IDLH, etc.

Site Map

Attach a site map that includes: work zones, hazard locations, security perimeter, places for shelter, decontamination line, evacuation routes, assembly points, and direction of North.

Decontamination Procedure

The following decontamination procedure has been established

No person will enter a site without knowledge of the approved site safety and health plan.

No person will enter a site without adequate training in hazardous waste/emergency response and the site safety plan relative to their work assignment and potential hazardous conditions.

This plan has been established as an initial assessment of the emergency scene and will be updated through Daily Safety Reports.

Approvals

Site Safety Officer: _____ **Date:** _____

Command Staff: _____ **Date:** _____

Command Staff: _____ **Date:** _____

Command Staff: _____ **Date:** _____

HAZARD EVALUATION

CHEMICAL HAZARDS (check appropriate category and attach MSDS if available)

OPA 90 PLAN for PHILADELPHIA ENERGY SOLUTIONS COMPLEX

Appendix F: Site Specific Safety & Health Plan

_____ Oils composed of an indefinite petroleum mixture. May contain benzene, toluene, xylene, naphthalenes, and polyaromatic hydrocarbons (PAHs) in concentrations that may vary widely depending on the source of the oil, weathering and aging.

Hazard Descriptions: May cause dermatitis by skin contact, nausea by inhalation, and eye irritation. Benzene can affect the blood and blood forming organs and is a carcinogen. Exposure to benzene, toluene, and xylene is most likely around freshly spilled oil and in poorly ventilated areas (such as in pits or under docks). Benzo(a)pyrene, a PAH, can cause skin cancer with prolonged skin contact. As oil weathers and ages, benzo(a)pyrene becomes more concentrated because it evaporates more slowly than other components.

Basic Precautions: Stay upwind from fresh spills. Wear respiratory protection and chemical resistant clothing to prevent skin or eye contact. Periodically change clothing to prevent the hydrocarbon from soaking through and immediately change clothing if the hydrocarbon comes in contact with skin. Wash skin with soap and water when changing into street clothing, before eating/drinking, or when exiting to a contamination reduction zone. Flush eyes with water if exposed directly to the hydrocarbon. Do not induce vomiting if hydrocarbon is swallowed - contact a physician immediately. A urinary phenol test is required at the end of the shift if exposed to benzene.

_____ Oils which are sour (contain hydrogen sulfide).

Hazard Description: Hydrogen sulfide (H₂S) is very irritating to the eyes at low concentrations. Although H₂S smells like rotten eggs at low concentrations, it can not be smelled at higher concentrations because it deadens the sense of smell. At moderate concentrations, H₂S is irritating to the eyes, nose and throat and can cause headaches, dizziness, and nausea. At higher concentrations, paralysis of the respiratory system can occur. H₂S is also a flammable gas.

Basic Precautions: Stay upwind of spill. Wearing a self-contained breathing apparatus, use direct reading instruments to determine exposure levels and, for confined spaces, also monitor for explosive atmospheres. For concentrations above 10 ppm, wear positive pressure supplied air respirator or self-contained breathing apparatus.

GENERAL SITE SAFETY AND HEALTH PROCEDURES (The following controls shall be observed on site. Check as appropriate.)

- _____ BUDDY SYSTEM - Personnel must work within sight of a partner at all times.
- _____ OCCUPATIONAL MEDICAL MONITORING
- _____ FIRES - A fully charged fire extinguisher should be available on site.
- _____ SLIPPERY ROCKS AND SURFACES
- _____ LIGHTING - Fixed or portable lighting should be maintained for dark areas or work after sunset.
- _____ WORK NEAR WATER - All personnel working in boats, on docks, or generally within 10 feet of water deeper than 3 feet, shall wear Coast Guard approved personal flotation devices (PFD's).
- _____ HEAT STRESS - Fluids shall be available at all times and encouraged during rest periods.
- _____ COLD STRESS - Adequate warm clothing, rest opportunities, exposure protection, warm and/or sweat fluids shall be available. For prolonged water temperatures below 59 degrees F, exposure suits preferred to be worn by personnel working/traveling in small boats or aircraft over water.
- _____ HIGH NOISE LEVELS
- _____ DRUM HANDLING - Manual lifting and handling of drums and containers shall be kept to a minimum.
- _____ CONFINED SPACES - Confined spaces shall not be entered during oil spill operations.
- _____ POISONOUS/PLANTS/INSECTS - All personnel should wear long sleeved clothing.
- _____ ELECTRICAL HAZARDS
- _____ CARBON MONOXIDE - Equipment operators shall ensure that personnel do not linger or work near exhaust pipes.
- _____ FALLING OBJECTS - Hard hat should be worn as appropriate.
- _____ UV LIGHT EXPOSURE
- _____ OTHER

OPA 90 PLAN for PHILADELPHIA ENERGY SOLUTIONS COMPLEX

Appendix F: Site Specific Safety & Health Plan

DECONTAMINATION PROCEDURES

Personnel with contaminated clothing and equipment shall leave the Work Area by following the prescribed decontamination below:

- Wipe oil off equipment and PPE clothing.
- Inspect PPE clothing for rips and other damage. Inspect the inside of PPE clothing for signs of oil penetration. Discard if damaged or oil penetration observed.
- Store oil equipment in contaminated equipment storage/PPE clothing in labeled containers.
- Discard oily articles in appropriate trash bins.
- Remove, clean, and inspect respirators. Store cleaned respirators in respirator storage.
- Place cloth coveralls in laundry basket or discard if excessively dirty.
- Wash face and hand with soap and water.

EMERGENCY PROCEDURES

In all cases when an on-site emergency occurs, personnel shall not re-enter the work area or re-start work until the condition resulting in the emergency has been investigated by supervisory personnel, and has been corrected; hazards have been reassessed; the site safety plan has been reviewed; and site personnel have been briefed on any changes in the operation and site safety plan.

Emergency Medical Procedures:

- Call for assistance if necessary. Report all injuries to your supervisor.
- Do not attempt to move seriously injured personnel, call for help.

Emergency Fire Procedures:

- YOU MUST call for help immediately. Alert nearby personnel and notify supervision.
- DO NOT attempt to fight fires other than small fires. A small fire is generally considered to be a fire in the early stages of development, which can readily be extinguished with personnel and equipment in the immediate area in a few minutes time.
- When the fire alarm is sounded, personnel shall immediately leave the work area to the designated entry/exit point for roll call.
- The Site Safety Officer or the Fire Department shall ensure that the fire is extinguished. BEFORE restarting work.

OPA 90 PLAN for PHILADELPHIA ENERGY SOLUTIONS COMPLEX
APPENDIX G: Acronyms & Definitions

ACRONYMS

ACP	Area Contingency Plan
API	American Petroleum Institute
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
COTP	Captain of the Port
CWA	Clean Water Act
DBRC	Delaware Bay and River Cooperative
DNREC	Delaware Natural Resources and Environmental Conservation
DOT	U. S. Department of Transportation
EPA	Environmental Protection Agency
EPCRA	Emergency Planning and Community Right to Know Act
ICS	Incident Command System
MSDS	Material Safety Data Sheet
MSRC	Marine Spill Response Corporation
NCP	National Oil and Hazardous Substances Contingency Plan
NJDEP	New Jersey Department of Environmental Protection
NOAA	National Oceanic and Atmospheric Association
NRC	National Response Center
OPA	Oil Pollution Act of 1990
OCS	On-Scene Coordinator
OSHA	Occupational Safety and Health Administration
OSRO	Oil Spill Removal Organization
PADER	Pennsylvania Department of Environmental Resources
RCRA	Resource Conservation and Recovery Act
SERC	State Emergency Response Commission
SPCC	Spill Prevention, Control and Countermeasures
UST	Under ground Storage Tank

DEFINITIONS

Barrel: 42 United States gallons at 60°F.

Environmentally Sensitive Area: An area of environmental importance which is in or adjacent to navigable waters.

Line Section: A continuous run of pipe that is contained between adjacent pressure pump stations, between a pressure pump station and a terminal or break out tank, between a pressure pump station and a block valve, or between adjacent block valves.

Oil: Oil of any kind or in any form, including, but not limited to, petroleum, fuel oil, vegetable oil, animal oil, sludge, oil refuse, oil mixed with wastes other than dredged oil.

Oil Spill Removal Organization (OSRO): An entity that provides response resources.

OPA 90 PLAN for PHILADELPHIA ENERGY SOLUTIONS COMPLEX
APPENDIX G: Acronyms & Definitions

On-Scene Coordinator (OSC): The federal official designated by the Administrator of the EPA or by the Commandant of the USCG to coordinate and direct federal response under subpart D of the National Contingency Plan (40 CFR Part 300).

Operator: A person who owns or operates on shore oil pipeline facilities.

Pipeline: All parts of an on shore pipeline facility through which oil moves including, but not limited to, line pipe, valves, and other appurtenances connected to line pipe, pumping units, fabricated assemblies associated with pumping units, metering and delivery stations and fabricated assemblies therein, and breakout tanks.

Qualified Individual: An English-speaking representative of an operator, located in the United States, available on a 24 hour basis, with full authority to: activate and contract with required Oil Spill Removal Organization(s) (OSROs); activate personnel and equipment maintained by the operator; act as liaison with the OSC; and obligate any funds required to carry out all required or directed oil response activities.

Response Activities: The containment and removal of oil from the water and shorelines, the temporary storage and disposal of recovered oil, or the taking of other actions as necessary to minimize or mitigate damage to the environment.

Response Area: The inland zone or coastal zone, as defined in the National Contingency Plan (40 CFR 300), in which the response activity is occurring.

Response Resources: The personnel, equipment, supplies, and other resources necessary to conduct response activities.

Response Zone: A geographic area either along a length of pipeline or including multiple pipelines, containing one or more adjacent line sections, for which the operator must plan for the deployment of, and provide, spill response capabilities. The size of the zone is determined by the operator after considering available capability, resources, and geographic characteristics.

Worst Case Discharge: The largest foreseeable discharge of oil, including a discharge from fire or explosion, in adverse weather conditions.

OPA 90 PLAN for PHILADELPHIA ENERGY SOLUTIONS COMPLEX
APPENDIX H: Drawing and Diagrams

Philadelphia Energy Solutions Refinery

Plant Layout drawings are included on the following pages which identify key buildings, tanks, structures, mooring locations, and processing units located within the PES refinery.

The tanks that store petroleum products and specific information regarding tank inventories are located in Section 6, pages 43-48. Dock and pipeline specifications, and vessel transfer information is provided in further detail in Appendix A.

South Yard Fire Protection Evacuation and Emergency Response and Resource Plans

North Yard Fire Protection Plans Evacuation and Emergency Response and Resource Plans

Girard Point Evacuation and Emergency Response and Resource

Refinery Process, Sanitary and Storm Sewer

Water Disposal Process, Storm and Sanitary Sewers

Schuylkill River Tank Farm Firewater Piping Systems

Schuylkill River Tank Farm Evacuation Routes

Transfer Lines Testing Locations

OPA 90 PLAN for PHILADELPHIA ENERGY SOLUTIONS COMPLEX
APPENDIX H: Drawing and Diagrams

PES Tank List

Girard Point / Point Breeze										Containment Type and Capacity of Registered and SPCC Tanks					Unit:	ALL
Item No.	Tank Number	State Reg No	Tank Status	Regulatory Status	Tank Cleaned	Tank Type	Diameter	Height	(b) (7)(F)	Primary Product	Unit	Tank Field Containment Type	(b) (7)(F)	Tank Field Containment (%)		
38	GP R 217	178A	IS	Active	N	IFR	95	30		Benzene	STF	Dike		174		
39	GP R 225	007A	IS	Active	N	Cone Roof	117	42		#8 Fuel Oil	STF	Dike		155		
40	GP R 227	009A	IS	Active	N	Cone Roof	120	40		Light Cycle Oil	STF	Dike		110		
41	GP R 228	(N/A)	IS	(N/A)	N	EFR	117	42		Storm Water	STF	Dike		134		
42	GP R 251	031A	IS	Active	N	IFR	120	40		Intreated Distillate	NTF	Dike		112		
43	GP R 269		IS	(N/A)	N	Horiz. Elev	4	6		LSD	Plant Protection	(None)		0		
44	GP R 272	034A	IS	Active	N	IFR	120	40		Recovered Oil	NTF	Dike		131		
45	GP R 273	035A	IS	Active	N	Cone Roof	120	40		Residual	NTF	Dike		144		
46	GP R 276	038A	IS	Active	N	IFR	120	40		Light Naphtha	NTF	Dike		111		
47	GP R 281	043A	IS	Active	N	Cone Roof	120	40		Heavy Gas Oil	NTF	Dike		226		
48	GP R 282	044A	IS	Active	N	Cone Roof	120	40		Heavy Gas Oil	NTF	Dike		226		
49	GP R 284	046A	IS	Active	N	Cone Roof	120	40		Heavy Gas Oil	NTF	Dike		233		
50	GP R 285	047A	IS	Active	N	IFR	120	40		Naphtha	NTF	Dike		110		
51	GP R 286	048A	IS	Active	Y	IFR	120	40		Naphtha	NTF	Dike		120		
52	GP R 292		IS	(N/A)	N	IFR	60	39		Sour Water w/Oil	NTF	Dike		137		
53	GP R 304	176A	IS	Active	N	Vert. Elev	7	9		Methanol	1332	Dike		156		
54	GP R 494	064A	IS	Active	N	Cone Roof	85	30		Decanted Oil	NTF	Dike		140		
55	GP U 676	130A	OOS	Active	N		0	0		#8 Fuel Oil	#3 BH/U			0		
56	GP U 767	135A	IS	Active	N	IFR	20	21		Recovered Oil	#2 SEP	Dike		122		
57	GP R 791	092A	IS	Active	N	IFR	25	24		Benzene	1700'S	Dike		180		
58	GP R 792	093A	IS	Active	N	Cone Roof	25	30		Cumene	1700'S	Dike		144		
59	GP R 793	094A	IS	Active	N	Cone Roof	25	30		Cumene	1700'S	Dike		144		
60	GP R 794	095A	IS	Active	N	IFR	25	24		Solvent	1700'S	Dike		180		
61	GP R 796	096A	IS	Active	N	Cone Roof	14	16		Glycol	1700'S	Dike		900		
62	GP R 798	098A	IS	Active	N	IFR	25	24		Benzene	1700'S	Dike		180		
63	GP R 799	099A	IS	Active	N	IFR	25	24		Benzene	1700'S	Dike		180		
64	GP U 894	129A	IS	Active	N	Open Top	12	10		Caustic, Fresh	433	(None)		0		

UPDATED: 12/31/12

Page 1 of 6

Paper copies are uncontrolled. This copy is valid at time of printing. The controlled version can be found on the company intranet
 Revision Date: 01/23/2008 Next Revision Date: 01/23/2013 Last printed 6/10/2013 12:38 PM

OPA 90 PLAN for PHILADELPHIA ENERGY SOLUTIONS COMPLEX
APPENDIX H: Drawing and Diagrams

Girard Point / Point Breeze										Containment Type and Capacity of Registered and SPCC Tanks				Unit:	ALL
Item No.	Tank Number	State Reg No	Tank Status	Regulatory Status	Tank Cleaned	Tank Type	Diameter	Height	(b) (7)(F)	Primary Product	Unit	Tank Field Containment Type	(b) (7)(F)	Tank Field Containment (%)	
													Cont. Type:	ALL	
65	GP C2 941	127A	IS	Active	N	Horiz. Elev	4	20		Corr Inhib (DC16A)	231	Dike		999	
66	GP R 973	193A	IS	Active	N	Cone Roof	19	25		Caustic, Fresh	1232	Dike		115	
67	GP U2 1007		IS	(N/A)	N	IFR	40	22		Recovered Oil	#5 SEP	Dike		130	
68	GP R 1039	148A	IS	Active	N	Cone Roof	25	36		ASO STG	137	Dike		110	
69	GP R 1047	163A	IS	Active	N	Open Top	30	30		Caustic, Fresh	433	(None)		0	
70	GP R 1051		IS	(N/A)	N	EFR	60	43		Potassium Fluoride Brine	433	Dike		104	
71	GP R 1086		IS	(N/A)	N	IFR	35	36		Caustic, Spent	WWTP	Dike		123	
72	GP R 1087		IS	(N/A)	N	IFR	35	36		Caustic, Spent	WWTP	Dike		123	
73	GP R 1088	089A	IS	Active	N	Dome Roof	15	20		Caustic, Fresh	WWTP	Dike		110	
74	GP R 1091	121A	IS	Active	N	Cone Roof	10	24		Four Depress (Infinium R500)	231	Dike		143	
75	GP R 1116	072A	IS	Active	N	EFR	60	48		Udex Feed	NTF	Dike		533	
76	GP R 1117	073A	OOS	Active	N	EFR	60	49		Udex Feed	NTF	Dike		533	
77	GP R 1203	156A	IS	Active	N	Cone Roof	10	8		Caustic, Fresh	1332	Area Drain to Waste		0	
78	GP R 1211	087A	IS	Active	N	Cone Roof	45	42		Cumene	STF	Dike		339	
79	GP R 1213	119A	IS	Active	N	Cone Roof	60	42		Cumene	STF	Dike		177	
80	GP R 1214	128A	IS	Active	N	IFR	60	60		Benzene	STF	Dike		130	
81	GP R 1215	170A	IS	Active	N	Cone Roof	90	40		Cumene	STF	Dike		110	
82	GP R 1216	171A	IS	Active	N	IFR	45	42		Cumene	STF	Dike		420	
83	GP R 1217	172A	IS	Active	N	IFR	45	42		Cumene	STF	Dike		420	
84	GP R 1218	158A	IS	Active	N	Cone Roof	60	41		Cumene	STF	Dike		177	
85	GP R 1219	159A	IS	Active	N	Cone Roof	90	40		Cumene	STF	Dike		110	
86	GP R 1220	160A	IS	Active	N	Cone Roof	45	49		Cumene	STF	Dike		320	
87	GP U 1221	198A	IS	Active	N	Horiz. Elev	6	12		Acid, Sulfuric, Fresh	#2 SEP	Dike		188	
88	PB 1224		IS		N	Cone Roof	8	16		Four Depress (Infinium R500)	859	Double Wall Tank		0	
89	GP R 2000	155A	IS	Active	N	Horiz. Elev	6	15		Caustic, Fresh	137	Dike		110	
90	GP R 2500	192A	IS	Active	N	Cone Roof	10	11		Corr Inhib (EC 1024C)	137	Dike		110	
92	GP R 3000		IS	(N/A)	N	Horiz. Elev	4	6		Lube Oil	137	Dike		110	

Paper copies are uncontrolled. This copy is valid at time of printing. The controlled version can be found on the company intranet

Revision Date: 01/23/2008

Next Revision Date: 01/23/2013

Last printed 5/9/2013 11:02 AM

PES OPA 90 PLAN

Page J - 3

OPA 90 PLAN for PHILADELPHIA ENERGY SOLUTIONS COMPLEX
APPENDIX H: Drawing and Diagrams

Girard Point / Point Breeze		Containment Type and Capacity of							(b) (7)(F)	and SPCC Tanks			Cont. Type: ALL	
Item No.	Tank Number	State Reg No	Tank Status	Regulatory Status	Tank Cleaned	Tank Type	Diameter	Height	(b) (7)(F)	Primary Product	Unit	Tank Field Containment Type	(b) (7)(F)	Tank Field Containment (%)
93	GP R 3001		IS	(N/A)	N	Horiz. Elev	4	6		Lube Oil	1232	Dike		110
94	GP R 3002		IS	(N/A)	N	Horiz. Elev	5	6		Lube Oil	1232	Dike		110
95	GP R 3003	184A	IS	Active	N	Dome Roof	12	10		Caustic	1232	Dike		128
96	GP R 3004		IS	(N/A)	N	Horiz. Elev	5	6		Lube Oil	1332	Dike		110
97	GP R 3005		IS	(N/A)	N	Horiz. Elev	4	6		Lube Oil	231	Dike		110
98	GP R 3101A	191A	IS	Active	N	Flat Roof	8	15		Sodium Hypochlorite	1232	Dike		131
99	GP 19T 8000	197A	IS	Active	N	Horiz. Elev	4	6		Recovered Oil	NTF	Dike		110
100	GP 19T 8004	196A	IS	Active	N	Horiz. Elev	4	6		Recovered Oil	NTF	Dike		110
101	PB 9V 2	138A	IS	Active	N	Vert. Elev	10	22		Caustic	859	Area Drain to Waste		0
102	PB 11V 11	184A	IS	Active	N	Horiz. Elev	6	32		Four Depress (Infinium R500)	885	Dike		113
103	PB 14V 11	211A	IS	Active	N	Horiz. Elev	8	8		Amine	210	Dike		112
104	PB 12V 12	210A	IS	Active	N	Vert. Elev	5	10		Lube Oil	886	Dike		112
105	PB 9V 14	140A	IS	Active	N	Horiz. Elev	5	18		Methanol	859	Area Drain to Waste		0
106	PB 1V 20	168A	IS	Active	N	Vert. Elev	6	9		Lube Oil	859	Area Drain to Waste		0
107	PB 2V 20	166A	IS	Active	N	Vert. Elev	6	9		Lube Oil	880	Area Drain to Waste		0
108	PB 26	001A	IS	Active	N	IFR	90	51		Ethanol	1 FM	Dike		117
109	PB 27	002A	IS	Active	N	EFR	110	48		Gasoline Components	1 FM	Dike		113
110	PB 28	003A	IS	Active	N	EFR	110	49		Light Cat	1 FM	Dike		110
111	PB 29	004A	IS	Active	N	EFR	102	49		Heavy Reformate	1 FM	Dike		136
112	PB 33	007A	IS	Active	N	EFR	102	49		Gasoline	1 FM	Dike		136
113	PB 34	008A	IS	Active	N	EFR	110	47		Gasoline	1 FM	Dike		170
114	PB 35	000A	IS	Active	N	EFR	110	48		Gasoline	1 FM	Dike		178
115	PB 37	011A	IS	Active	N	IFR	110	48		Gasoline Components	1 FM	Dike		135
116	PB 38	012A	IS	Active	N	EFR	110	48		Gasoline	1 FM	Dike		135
117	PB 39	013A	IS	Active	N	EFR	110	48		Gasoline	1 FM	Dike		135
118	PB 40	014A	IS	Active	N	EFR	140	48		Gasoline	1 FM	Dike		110
119	PB 42	015A	IS	Active	N	Cone Roof	100	48		LSD	1 FM	Dike		137

Paper copies are uncontrolled. This copy is valid at time of printing. The controlled version can be found on the company intranet
Revision Date: 01/23/2008 Next Revision Date: 01/23/2013 Last printed 5/9/2013 11:02 AM

OPA 90 PLAN for PHILADELPHIA ENERGY SOLUTIONS COMPLEX
APPENDIX H: Drawing and Diagrams

Girard Point / Point Breeze

Containment Type and Capacity of Registered and SPCC Tanks

Cont. Type: ALL

Item No.	Tank Number	State Reg No	Tank Status	Regulatory Status	Tank Cleaned	Tank Type	Diameter	Height	(b) (7)(F)	Primary Product	Unit	Tank Field Containment Type	(b) (7)(F)	Tank Field Containment (%)
120	PB 43	016A	IS	Active	N	Cone Roof	120	40		Jet	1 FM	Dike		114
121	PB V 49		IS	(N/A)	N	Vert. Elev	3	6		Lube Oil	864	Area Drain to Waste		0
122	PB V 50		OOS	(N/A)	N	Vert. Elev	4	5		Lube Oil	864	Area Drain to Waste		0
123	PB 78	189A	IS	Active	N	Vert. Elev	10	20		Corr Inhib (DCI6A)	1 FM	Dike		130
124	PB 83	020A	IS	Active	N	Cone Roof	100	58		Jet	1 FM	Dike		117
125	PB 84	021A	IS	Active	N	Cone Roof	100	58		Jet	1 FM	Dike		117
126	PB 85	022A	IS	Active	N	Cone Roof	80	48		LSD	1 FM	Dike		256
127	PB 8Z 102	212A	IS	Active	N	Horiz. Elev	5	18		Corrosion Inhibitor	868	Area Drain to Waste		0
128	PB WC 106		OOS	(N/A)	N	Vert. Elev	4	5		Lube Oil	BIO	(None)		0
129	PB WC 107		OOS	(N/A)	N	Vert. Elev	4	5		Lube Oil	BIO	(None)		0
130	PB 117		IS	(N/A)	N	EFR	60	48		Recovered Oil	BIO	Dike		110
131	PB 1V 120	155A	IS	Active	N	Cone Roof	12	15		Amine	862	Area Drain to Waste		0
132	PB 121	025A	IS	Active	N	IFR	102	48		Udex Feed	2 FM	Dike		299
133	PB 16V 122	209A	IS	Active	N	Cone Roof	6	9		Lube Oil	869	Double Wall Tank		178
134	PB 126	027A	IS	Active	N	EFR	70	49		Heavy Naphtha	2 FM	Dike		158
135	PB 128	028A	IS	Active	N	EFR	140	56		Heavy Naphtha	1 FM	Dike		112
136	PB 129	029A	IS	Active	N	EFR	140	55		Reformate	1 FM	Dike		110
137	PB 16V 136	143A	IS	Active	N	Cone Roof	20	18		Acid, Sulfuric, Fresh	869	Dike		139
138	PB 16V 137	144A	IS	Active	N	Cone Roof	20	18		Acid, Sulfuric, Spent	869	Dike		139
139	PB 144	185A	IS	Active	N	Cone Roof	70	48		Main Frac Bottoms	2 FM	Dike		154
140	PB 145	186A	IS	Active	N	Cone Roof	70	48		Main Frac Bottoms	2 FM	Dike		154
141	PB 1V 150		IS	(N/A)	N	Vert. Elev	4	5		Lube Oil	862	Dike		110
142	PB 151	037A	IS	Active	N	EFR	120	48		Heavy Gas Oil	2 FM	Dike		112
143	PB 1V 151		OOS	(N/A)	N	Vert. Elev	4	5		Lube Oil	862	Area Drain to Waste		0
144	PB 152	038A	IS	Active	N	Cone Roof	120	48		Resid Vacuum Bottoms	2 FM	Dike		122
145	PB 1V 152		IS	(N/A)	N	Vert. Elev	4	5		Lube Oil	862	Area Drain to Waste		0
146	PB 172	041A	IS	Active	N	IFR	120	48		Cat Gasoline	2 FM	Dike		112

OPA 90 PLAN for PHILADELPHIA ENERGY SOLUTIONS COMPLEX
APPENDIX H: Drawing and Diagrams

Girard Point / Point Breeze									Containment Type and Capacity of			and SPCC Tanks			Cont. Type: ALL
Item No.	Tank Number	State Reg No	Tank Status	Regulatory Status	Tank Cleaned	Tank Type	Diameter	Height	(b) (7)(F)	(b) (7)(F)	(b) (7)(F)	(b) (7)(F)	Tank Field Containment (%)		
147	PB 178	045A	IS	Active	N	EFR	150	48					124		
148	PB 179	046A	IS	Active	N	EFR	128	48					178		
149	PB 191	050A	IS	Active	N	EFR	52	41					118		
150	PB 204	052A	IS	Active	N	IFR	40	36					665		
151	PB 8T 204	146A	IS	Active	N	Cone Roof	6	8					0		
152	PB 8T 205		IS	(N/A)	N	Cone Roof	4	8					0		
153	PB 19T 221		IS	(N/A)	N	Horiz. Elev	4	7					144		
154	PB 19T 222		IS	(N/A)	N	Horiz. Elev	4	7					144		
155	PB 19T 223		IS	(N/A)	N	Horiz. Elev	4	11					192		
156	PB 19T 224		IS	(N/A)	N	Horiz. Elev	4	11					270		
157	PB 253	056A	IS	Active	N	Cone Roof	100	48					263		
158	PB 14V 403	139A	IS	Active	N	Horiz. Elev	4	8					117		
159	PB 666	087A	IS	Active	N	Cone Roof	100	48					128		
160	PB 668	089A	IS	Active	N	Cone Roof	40	48					790		
161	PB 672	093A	IS	Active	N	Cone Roof	100	48					188		
162	PB 821	095A	IS	Active	N	IFR	144	48					162		
163	PB 822	096A	IS	Active	N	IFR	144	48					162		
164	PB 823	097A	IS	Active	N	Cone Roof	144	48					147		
165	PB 824	098A	IS	Active	N	Cone Roof	144	48					141		
166	PB 825	099A	IS	Active	N	Cone Roof	120	48					176		
167	PB 826	100A	IS	Active	N	EFR	160	57					130		
168	PB 835	105A	IS	Active	N	IFR	144	48					112		
169	PB 840	108A	IS	Active	N	EFR	140	50					153		
170	PB 841	109A	IS	Active	N	EFR	140	49					129		
171	PB 881	120A	IS	Active	N	EFR	160	56					144		
172	PB 882	121A	IS	Active	N	EFR	160	56					134		
173	PB 883	122A	IS	Active	N	EFR	160	57					134		

Paper copies are uncontrolled. This copy is valid at time of printing. The controlled version can be found on the company intranet

Revision Date: 01/23/2008

Next Revision Date: 01/23/2013

Last printed 5/9/2013 11:02 AM

PES OPA 90 PLAN

Page J - 6

OPA 90 PLAN for PHILADELPHIA ENERGY SOLUTIONS COMPLEX
APPENDIX H: Drawing and Diagrams

Girard Point / Point Breeze**Containment Type and Capacity of Registered and SPCC Tanks**

Cont. Type: ALL

Item No.	Tank Number	State Reg No	Tank Status	Regulatory Status	Tank Cleaned	Tank Type	Diameter	Height	(b) (7)(F)	Primary Product	Unit	Tank Field Containment Type	(b) (7)(F)	Tank Field Containment (%)
174	PB 884	123A	IS	Active	N	EFR	200	56		Crude	4 FM	Dike		277
175	PB 885	124A	IS	Active	N	EFR	200	56		Crude	4 FM	Dike		270
176	PB 886	125A	IS	Active	N	EFR	200	56		Crude	4 FM	Dike		275
177	PB 8T 1004	207A	IS	Active	N	Horiz, Elev	5	6		Methanol	888	Dike		110
178	PB 18T 1010	196A	IS	Active	N	Horiz, Elev	4	6		Recovered Oil	4 FM	Dike		110
179	PB 18T 1012	205A	IS	Active	N	Horiz, Elev	5	14		Recovered Oil	4 FM	Dike		425
180	PB 3128	192A	IS	Active	N	Horiz, Elev	8	12		Light Naphtha	210	Dike		110
181	PB 14T 4000	199A	IS	Active	N	Horiz, Elev	4	6		Recovered Oil	210	Dike		110
182	PB 14T 4001	200A	IS	Active	N	Horiz, Elev	4	6		Recovered Oil	210	Dike		110
183	PB 14T 4002	201A	IS	Active	N	Horiz, Elev	4	6		Recovered Oil	210	Dike		110
184	PB 14T 4003	202A	IS	Active	N	Horiz, Elev	4	6		Recovered Oil	210	Dike		110
185	PB 19T 6003	204A	IS	Active	N	Horiz, Elev	4	6		Recovered Oil	3 FM	Dike		110

The following are abbreviations that are used in the list above:

EFR – external floating roof (open top, floating roof tank)
 IFR – internal floating roof (covered floating roof tank)
 CIP – "Closed in Place"

CR – Cone Roof
 VER – Vertical Elevated Roof
 DEM - Demolished

Maps and figures have been redacted in accordance with the FOIA Exemption 7(F).

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX I: 49 CFR 192 & 195 - Worst Case Pipeline Discharge**

Purpose/Scope of Plan

The purpose of this Response Plan (Plan) is to provide guidelines to respond to an emergency that originates from a pipeline system owned and operated by the PES refinery. This plan covers all active line segments in liquid service (regulated under 49 CFR 195), except those in highly volatile liquid (HVL) service. This plan does not cover line segments in gas service (regulated under 49 CFR 192) since these pipelines do not transport "oil".

Plan Contents

This Plan contains information designed to improve the responder's ability to select appropriate resources, response methods, and to manage an effective response team. This Plan is designed to satisfy the requirements of the Oil Pollution Act of 1990 (OPA 90), and has been prepared in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) and all applicable Area Contingency Plans (ACP). Specifically, this Plan is intended to satisfy the requirements of:

- U.S. Environmental Protection Agency's Facility Response Plan (FRP) 40 CFR Part 112.20-21, Appendix F, Federal Register Vol. 59, No. 126, July 1, 1994
- U.S. Coast Guard Response Plans for Oil Facilities, 33CFR154, Federal Register Vol. 61, No. 41, February 29, 1996
- U.S. Department of Transportation Title 49 Part 194 - Response Plans for Onshore Oil Pipelines (49 CFR 194)
- U.S. Department of Transportation Title 49 Part 195 - Transportation of Natural and Other Gas by Pipeline (49 CFR 192)
- U.S. Department of Transportation Title 49 Part 195 - Transportation of Hazardous Liquids by Pipeline (49 CFR 195)
- U.S. Environmental Protection Agency's requirements for an Oil Spill Prevention Control and Countermeasure Plan (40 CFR Part 112.7)

The following ACPs were reviewed prior to updating and revising this plan:

EPA Region II ACP
EPA Region III ACP
Sector Delaware Bay ACP

This Plan also contains detailed information on equipment, manpower, and resources available in the region, and oil spill response considerations, which will provide support to response and planning efforts.

Owner/Operator Information

Name and Address of Owner / Operator & Associated Facilities

**Philadelphia Energy Solutions LLC
1735 Market Street
Philadelphia, PA. 19103**

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX I: 49 CFR 192 & 195 - Worst Case Pipeline Discharge**

General Description of Philadelphia Energy Solutions LLC – PES operates a refinery in Philadelphia, Pa. Detailed information about the facilities is contained in Appendix A and Appendix I.

Operator's Certification and Statement of Significant and Substantial Harm:

In accordance with 49 CFR 194.103, PES considers all active line segments in liquid service (regulated under 49 CFR 195), except those in highly volatile liquid (HVL) service, in the designated response zones which are associated with the PES facility, to have the potential to cause substantial and significant harm to the environment in the event of a discharge of oil into or on the navigable waters of adjoining shores.

The bases for the Operator's determination of significant and substantial harm are as follows:

- At least one pipeline in each zone is greater than 6 5/8 inches in outside nominal diameter
- At least one pipeline in each response zone is located within a 5 mile radius of potentially affected public drinking water intakes and could reasonably be expected to reach public drinking water intakes
- At least one pipeline in each response zone is located within a 1 mile radius of potentially affected environmentally sensitive areas, and could reasonably be expected to reach these areas.
- At least one pipeline in each zone is in close proximity to navigable waterways.

PES hereby certifies it has obtained through contract or other approved means, the necessary private personnel, equipment and resources to respond, to the maximum extent practicable, a worst case discharge or a substantial threat of such a discharge.

The information contained in this Plan is intended to be used as a guideline for the spill responder. Actual circumstances will vary and will dictate the procedures to be followed, some of which may not be included in this manual.

FACILITY RESPONSE PERSONNEL - Qualified Individuals

The Qualified Individuals (QI's) list for all refineries can be located in Section ERAP Page 4 and 5, Section 3.3 3 and 4, and Section C pages 1-6.

Worst Case Discharge (194.105)

Worst case discharge volumes are calculated per 49 CFR 194.105, as follows:

Volume_{Worst Case Discharge} (Bbls) = Flow rate X (max release-shutdown-isolation time) / 60 + Possible drain volume

where...

Possible drain volume = L x π x d² x 7.48 / (4 x 144 x 42) Bbls

**OPA 90 PLAN for the Philadelphia Energy Solutions Complex
APPENDIX I: 49 CFR 192 & 195 - Worst Case Pipeline Discharge**

Active DOT-regulated pipelines associated with the PES facility and their discharge volumes are as follows:

DOT Pipe ID#	Description	Product	Size, diameter, (in)	Maximum Drain Length, (ft)	Flow rate, Bbls/hr	Effective release, S/D & Response time, (hrs)
11178	5N IRPL-PH	Gasoline Components	8"	7,498'	1300	0.8
11117 / 11181	N-8 / FM-1 System	#6 Fuel Oil / VGO / MFB / Lt Cycle Oil	12" / 16"	5,727'	3000	3.4
11110	S-2	Spare	12"	739	0	0
11111	S-5	Spare	8"	739	0	0
11126	#7 Line	#6 Fuel Oil	14"	739'	5000	2.3
11127	#8 Line	#6 Fuel Oil	14"	739'	5000	2.3
11128	#6 FO Production	#6 Fuel Oil	14"	739'	2500	2.3
11129	ULSD #2	ULSD #2	12"	739'	2500	2.3
11130	#2 FO Transfer	#2 Fuel Oil	12"	739'	2800	2.3
11131	North Gasoline	Gasoline	12"	739'	5000	2.3
11132	South Gasoline	Gasoline	12"	739'	5000	2.3
11134	#2FO Dock Line	#2 Fuel Oil	12"	739'	5000	2.3
11135	Heavy Cat	Heavy Cat Gasoline	12"	739'	1100	2.3
11136	Light Cat	Light Cat Gasoline	12"	739'	1000	2.3
11138	Alky Production	Alkylate	12"	739'	750	2.3
11141	Gasoline Components	Gasoline Components	12"	739'	3500	2.3
11142	Mix Production	Raffinate Mix	12"	739'	700	2.3
11143	Heavy Plat	Heavy Platformate	12"	739'	500	2.3

(b) (7)(F)

(b) (7)(F)

