U.S. Department
of Transportation
**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

August 12, 2025

Benjamin A.F. Nussdorf
General Counsel/Vice President, Regulatory & Industry Affairs
National Propane Gas Association
1140 Connecticut Avenue, NW
Suite 1075
Washington, DC 20036

Reference No. 24-0112

Dear Mr. Nussdorf:

This letter is in response to your November 18, 2024 email requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to emergency discharge control equipment for liquefied compressed gas in cargo tank motor vehicles (CTMVs). Regarding metered service, it is your understanding that the phrase "shut off all motive and auxiliary power equipment" located in § 173.315(n)(3) of the HMR refers only to shutting down the equipment used for product transfer to prevent uncontrolled or accidental discharge of hazardous material and the vehicle engine. Specifically, you ask whether this language in § 173.315(n)(3) is meant to only shut off product transfer equipment and the vehicle's engine but not to shut off all electrical power on the vehicle.

Your understanding is correct. As provided by § 173.315(n)(3), the phrase "all motive and auxiliary power equipment" refers only to the vehicle's engine and the equipment that is directly responsible for operating the vehicles product transfer system—not all electrical power to the vehicle. The intent of the regulation is to close the internal self-closing stop valve and shut off all motive and auxiliary power equipment upon activation to prevent uncontrolled or accidental discharge of hazardous materials and eliminate potential sources of ignition.

I hope this information is helpful. Please contact us if we can be of further assistance.

Sincerely,

Dirk DerKinderen
Chief, Standards Development Branch
Standards and Rulemaking Division

Horne

24-0112

From: Patrick, Eamonn (PHMSA)
To: Dodd, Alice (PHMSA)
Cc: Andrews, Steven (PHMSA); Wolcott, Alexander (PHMSA)
Subject: FW: NPGA Request: Letter of Interpretation for Remote Power Shut Off Regulations
Date: Monday, November 18, 2024 1:02:42 PM
Attachments: image001.png
PHMSA-RSPA-1997-2133-0122_content.pdf
PHMSA-RSPA-1997-2133-0215_attachment_1 RSPA Guidance.pdf
PHMSA-RSPA-2133-168 - Remtron.pdf
RSPA Attachment A.pdf
RSPA Attachment B.pdf
RSPA Attachment C.pdf
NPGA Request for Letter of Interpretation - Remote Power Shut Off.pdf

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Good afternoon Alice,

Please check this in as a LOI. The request is the attachment titled "NPGA Request for Letter of Interpretation – Remote Power Shut Off." The other attachments are reference materials to provide context and information for the request. The person assigned can reach out to Steven and/or me for further background on this issue.

Thanks!

-Eamonn

From: Benjamin Nussdorf <bnussdorf@npga.org>
Sent: Monday, November 18, 2024 12:57 PM
To: Patrick, Eamonn (PHMSA) <eamonn.patrick@dot.gov>; Andrews, Steven (PHMSA) <steven.andrews@dot.gov>; Wolcott, Alexander (PHMSA) <alexander.wolcott@dot.gov>
Subject: NPGA Request: Letter of Interpretation for Remote Power Shut Off Regulations

Dear Mr. Patrick, Mr. Andrews, and Mr. Wolcott:

Thank you for your engagement with NPGA and its members regarding the Remote Power Shut Off Regulations. Attached, please find our request for a letter of interpretation and supporting materials. Thank you for your consideration and review.

Sincerely,

Benjamin Nussdorf

Benjamin A.F. Nussdorf
General Counsel/Vice President, Regulatory & Industry Affairs

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November 18, 2024

Eamonn Patrick
Steven Andrews
Alexander Walcott
Pipeline and Hazardous Materials Safety Administration (PHMSA)
United States Department of Transportation
1200 New Jersey Ave. SE
Washington, DC 20590

Re: Remote Power Shut Off Discussions

Dear Mr. Patrick, Mr. Walcott, and Mr. Andrews:

The National Propane Gas Association (NPGA) respectfully submits this request in response to our meetings of July 29th and September 30th, 2024. In those meetings, which included NPGA, PHMSA, the Federal Motor Carrier Safety Administration (FMCSA), the State of North Carolina, BASE Engineering, and Mississippi Tank, PHMSA requested information on the preamble of the prior rulemaking, analysis from BASE Engineering on system operations, and information from Mississippi Tank on the prior negotiated rulemaking. The aim of this request is to provide justification for a letter of interpretation (LOI) from the Research and Special Programs Administration (RSPA) which will clarify and refine the understanding of the remote shut off regulations in HMR-225 and what they intend to encompass.

NPGA is the national trade association of the propane industry with a membership of about 2,300 companies, and 36 state and regional associations that represent members in all 50 states. Membership in NPGA includes retail marketers of propane gas who deliver the fuel to the end user, propane producers, transporters and wholesalers, and manufacturers and distributors of equipment, containers, and appliances. Propane gas fuels millions of installations nationwide for home and commercial heating and cooking, in agriculture, industrial processing, and as a clean air alternative engine fuel for both over-the-road vehicles and industrial lift trucks. Roughly 75% of NPGA's members have fewer than 100 employees, and are considered small businesses.

Preamble:

NPGA staff has evaluated the documents relevant to the remote shut off section of the Hazardous Materials Regulations (HMR) and offers the following for your consideration. Principally, the regulatory evaluation established that use of a radio frequency transmitter communication with receiver equipment on board the vehicle capable of closing the stop valve met the requirements of "immediately activate the internal self-closing stop valve to shut down all motive and auxiliary power equipment," in order to prevent unauthorized or uncontrolled release (See RSPA Attachment A at Page 12). PHMSA noted in the Federal Register that the elimination of unauthorized or uncontrolled discharge by actuating the remote means of automatic closure of the internal self-closing stop valve, rather than the deenergizing entire vehicle, was the primary objective.[1]

NPGA has been consistent in prior rulemakings to cover this problem. Included in its engagement are initial comments on the HMR (See RSPA Attachment B). NPGA, and the propane industry as a whole, have never advocated or supported the contention that the entire vehicle lose power because, as noted on the July 29th call, such an action would represent an unacceptable safety risk to the operator and the public.

[1] *See* e.g. PHMSA-RSPA-97-2133-0122 at 8-10, 13, noting the intent to disengage power to the discharge system.

Further, PHMSA's own regulatory actions in this field have focused on the need to stop the flow of product remotely in the sake of safety, rather than the shutdown of the entire vehicle. (See RSPA Attachment C, at Page 9-10). In that document, PHMSA stresses the focus is the ability of the operator to engage or disengage the motor vehicle PTO or other mechanical, electrical, or hydraulic means used to energize the pump and other components of a cargo tank motor vehicle's discharge system. PHMSA did not stress the need to shut down all power to the vehicle. In all situations and in all potential explanations, RSPA rules with respect to remote shut down have focused on shutting down the components and the power to the discharge system, rather than the vehicle itself.

In PHMSA's documents in this docket, RSPA 97-2133 (HM-225), PHMSA noted the need to "ensure an acceptable level of safety for delivery of liquefied compressed gases."[2] These regulations evidence PHMSA's intent to regulate emergency discharge controls,[3] rather than regulate all power to the vehicle. PHMSA's questions and documents on this issue focus principally on discharge, rather than eliminating all power to the vehicle.[4] PHMSA notes elsewhere that the rules have been essentially unchanged since 1941, focusing on controls for excess flow valves and internal self-closing stop valves; while regulations in the 1990s provided for secondary remote controls and for fusible links, allowing the internal valves to close automatically in the case of a cargo tank being involved in a fire.[5][6] Without question, PHMSA has intended to have the remote shut off portion of the HMR apply to valve and discharge equipment since their inception, rather than apply to the entire vehicle.

Auxiliary Power Equipment:

The intent of the regulation is clear through examination of the HMR as a whole. "A cargo tank motor vehicle must have an off-truck remote means to close the internal self-closing stop valve and shut off all motive and auxiliary power equipment upon activation by a qualified person…"[7] The aim of this regulation is to stop the flow of product in an emergency situation, not to shut down all electric power to the vehicle, which would result in an unacceptable and unprecedented safety concern to the driver and to public safety. Other parts of the same regulation specifically focus on the need to stop the flow of product in an emergency situation.[8] While the operative portion of the regulation is not precisely worded, taken as a whole, the remote shut off portion of the HMR's goal is to stop the flow of product by means of a remote shut down to the product's valves and mechanical power to the pump.

Further, while not defined in the hazardous materials section, an "auxiliary power unit" is defined elsewhere in the regulations. It is possible that the omission of defining auxiliary power equipment in this section is simply an oversight, but the regulations taken as a whole do provide a definition of auxiliary power unit.[9] NPGA requests that PHMSA clearly state in LOI that these available definitions of auxiliary power unit apply to the remote power shut off regulations, and that auxiliary power unit and auxiliary power equipment have the same definition in the HMR.

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[2] 62 Fed. Reg. 44059 (Aug. 18, 1997).
[3] *Id*.
[4] *Id*. at 44060.
[5] 62 Fed. Reg. 44038 (Aug. 18, 1997).
[6] *See also* PHMSA-RSPA-97-2133-168 at 2-4, 6, 13, noting REMTRON's presentation identifying the immediate closure of an emergency shut down device by way of closing the internal valve and stopping the discharge process through disengagement of the pump inclusive of engine shut down.
[7] 49 CFR 173.315(n)(1).
[8] 49 CFR 173.315(n)(2).
[9] 49 CFR 535.4; 40 CFR 1037.801. NPGA notes that the definition here applies to an auxiliary power unit, rather than auxiliary power equipment, though the two terms are distinct without a difference in practice and as applied in 40 CFR 1037.801.

Safety:

A supplemental justification for a LOI to clarify that this rule only applies to auxiliary power equipment is to ensure safety. PHMSA generally, and the HMR regulations specifically, are designed to ensure the highest level of safety. Should PHMSA or state enforcement authorities interpret this rule to apply to all power on a vehicle, a number of safety considerations will arise. In dark or low-light situations, all power could be shut off to a hazardous materials delivery vehicle, which presents an elevated safety concern when seeing and avoiding the vehicle on the side of a road may prove challenging. Shutting off all power presents a potential issue for the Occupational Safety and Health Administration, as it would increase the safety risk to the driver. Shutting off all power presents a potential issue for the National Transportation Safety Board, as it would increase the potential for vehicle collisions and incidents when all lights are shut off. Shutting off all power presents a potential issue for the Federal Motor Carrier Safety Administration (FMCSA), as it would not provide an equivalent level of safety to FMCSA's own regulations. Finally, if all power is shut down to the vehicle, it would detrimentally impact the functionality of the off-truck remote as well. Generally speaking, providing the rule with the broad interpretation taken by a lone inspector in North Carolina would result in serious safety concerns for the workers, the public, and for a variety of government agencies.

Further, during a delivery, bobtails are oftentimes parked on roadways, or in areas with varying degrees of traffic. As the truck is delivering, safety beacons are often deployed to warn others of the operation, protecting the parked truck and its operator. In winter months, during inclement weather (blowing snow or rain), or after dark, these flashers are often a key piece of safety equipment. By cutting power to these lights, the operator may be subject to potential tripping hazards, as well as low visibility in uneven, or slippery ground conditions. Cutting all power on the truck removes this protection, and creates an unacceptable level of risk to the operator's and the public's safety.

History:

An important consideration for the LOI is that for twenty-five years, PHMSA and state enforcement authorities have interpreted this rule to only apply to power equipment, rather than all vehicle power, without discussion or debate. While a single inspector's mistaken interpretation has encouraged this LOI, the overwhelming pattern and practice of the application of this rule is without equivocation or doubt.[10] PHMSA's intent is evident and clear through decades of focused enforcement of this rule, and clarifying the intent and applicable enforcement would prevent future confusion or misinterpretation.

For PHMSA to take the position that the "off truck remote means to close the internal valve and shut off all motive and auxiliary power equipment", as written in 49 CFR 173.315(n)(3) is inclusive of electrical energy that has no bearing on the operation or function of the transfer system, would be a significant departure from RSPA records and the way the regulations have been interpreted for the last 25 years. This new interpretation would require compliance with the Administrative Procedures Act (APA) because this change does not rise to the level of an emergency nature and would be required to publish a notice of proposed rulemaking pursuant to the APA.

Conclusion

NPGA and its members respectfully request PHMSA to issue a letter of interpretation stating that PHMSA's use of the terms "all motive and auxiliary power equipment" refers only to the equipment that is directly responsible for operating the vehicles transfer system, as required to actuate or open the vehicles internal

[10] *See also* PHMSA-RSPA-97-2133-215 at 1-2, noting how an internal valve shut down process would provide compliance with the regulations.

self-closing stop valve or operate the vehicles pump or product transfer equipment, and not all electrical power to the vehicle. Further, NPGA and its members respectfully request that PHMSA state that the intent of the regulation is to prevent uncontrolled or accidental discharge of hazardous materials. Thank you for your consideration of these comments. Please contact NPGA if you have any questions or concerns.

Respectfully Submitted,

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QA 29360

Billing Code 4910-60-P

DEPARTMENT OF TRANSPORTATION

RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION

49 CFR Part 171

RSPA-97-2133-222

[Docket No. RSPA-97-2133 (HM-225)]

RIN 2137-AC97

Hazardous Materials: Cargo Tank Motor Vehicles in Liquefied Compressed Gas Service; Response to Petitions for Reconsideration; Editorial Revisions; and Rules Clarification

AGENCY: Research and Special Programs Administration (RSPA), DOT.

ACTION: Final rule; response to petitions for reconsideration; editorial revisions; and rules clarification.

SUMMARY: On August 18, 1997, RSPA published a final rule adopting certain safety standards applicable to cargo tank motor vehicles in liquefied compressed gas service. In response to petitions for reconsideration filed by Farmland Industries, Inc. (Farmland), The Fertilizer Institute (TFI), and AmeriGas Propane, L.P. (AmeriGas), RSPA is revising a requirement concerning the daily pressure testing of transfer hoses on these cargo tank motor vehicles, and the agency is revising § 171.5(a) for consistency with § 178.337-11(a)(1)(i) by removing a hose rupture (i.e., incomplete separation) as a condition that causes the internal self-closing stop valve to function. This action grants certain petitions for reconsideration of the final rule pertaining to effective and practical standards to assure the integrity of transfer hoses used in unloading operations. Also, in this final rule, RSPA is granting the request by Farmland and TFI to extend the expiration date of the final rule for four months, to July 1, 1999. RSPA is denying the request by AmeriGas for an immediate stay of the provisions of § 171.5(a)(1)(iii) and the AmeriGas request for reconsideration of: (1) the provision in § 171.5(c)

28pgs.

setting forth an expiration date for the final rule; and (2) RSPA's interpretation of the attendance requirements in § 177.834(i) that a qualified person must always maintain an unobstructed view of the cargo tank. Additionally, this action makes editorial revisions and clarifies certain provisions adopted in the final rule.

DATES: This final rule is effective [Insert Date of publication in the Federal Register].

FOR FURTHER INFORMATION CONTACT: Ronald Kirkpatrick, Office of Hazardous Materials Technology, RSPA, Department of Transportation, 400 Seventh Street, S.W., Washington, DC 20590-0001, telephone (202) 366-4545, or Nancy Machado, Office of the Chief Counsel, RSPA, Department of Transportation, 400 Seventh Street, S.W., Washington, DC 20590-0001, telephone (202) 366-4400.

SUPPLEMENTARY INFORMATION:

I. Background

On August 18, 1997, RSPA published a final rule under Docket No. RSPA-97-2133 (HM-225) [62 FR 44038]. The final rule revised and extended requirements published in an interim final rule (IFR) on February 19, 1997, concerning the operation of cargo tank motor vehicles (CTMVs) in certain liquefied compressed gas service. The final rule requires a specific marking on affected CTMVs and requires motor carriers to comply with additional operational controls intended to compensate for the failure of passive emergency discharge control systems to function as required by the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180). The operational controls specified in the final rule provide an alternative to compliance with § 178.337-11(a)(1)(i) and are intended to ensure an acceptable level of safety while the industry and government continue to work to develop an emergency discharge control system that effectively stops the discharge of hazardous

materials from a cargo tank if any attached hose or piping is separated.

Petitions for reconsideration of the August 18, 1997 final rule were filed by The National Propane Gas Association (NPGA), Farmland Industries, Inc. (Farmland), The Fertilizer Institute (TFI) and jointly by Ferrellgas, L.P., Suburban Propane, L.P., AmeriGas Propane, L.P. (AmeriGas), Agway Petroleum Corporation, Cornerstone Propane Partners, L.P., and National Propane, L.P. On September 26, 1997, Ferrellgas, L.P., Suburban Propane, L.P., Agway Petroleum Corporation, Cornerstone Propane Partners, L.P., and National Propane, L.P. withdrew their names from the jointly-filed petition for reconsideration. Petitioner AmeriGas, however, continues to seek relief through the September 17, 1997 petition for reconsideration. On October 2, 1997, NPGA withdrew its petition for reconsideration. On November 5, 1997, National Private Truck Council (NPTC) filed a petition for reconsideration. Although the petition was filed by NPTC after the close of the petition period, and RSPA has not accepted the petition, all NPTC's issues have been considered since NPTC raised issues identical to those raised by other petitioners.

Petitioners Farmland and TFI seek reconsideration of two provisions of the August 18, 1997 final rule. Specifically, they request reconsideration of the requirement in § 171.5(a)(1)(i) that a transfer hose be subjected to full transfer pressure before commencing the first transfer each day. They also ask RSPA to reconsider the expiration date of the August 18, 1997 final rule; they request a four-month extension of the expiration date to July 1, 1999.

AmeriGas seeks: (1) reconsideration and an immediate stay of the requirement in §171.5(a)(1)(iii) that the qualified person unloading a CTMV promptly activate the internal self-closing stop valve and promptly shut down all motive and auxiliary power in the event of an unintentional release of lading to the environment during transfer; (2) immediate withdrawal of

RSPA's interpretation of its long-standing attendance requirements in § 177.834(i) pending further rulemaking after notice and comment; (3) withdrawal of the expiration date in § 171.5(c); (4) deletion of the word "rupture" as it appears in § 171.5(a); and (5) withdrawal of the requirement in § 171.5(a)(1)(i) that the transfer hose be subjected to full transfer pressure before commencing the first transfer each day.

II. Petitions Granted.

A. Daily pressure testing of transfer hoses. In § 171.5(a)(1)(i), RSPA required that a transfer hose be subject to full transfer pressure before the first unloading of product each day. This provision applied to all CTMVs operating under the terms of the temporary regulation specified in § 171.5.

Petitioners assert that, because most large CTMVs ("transports," typically used for bulk plant deliveries) do not have a separate back-to-tank product bypass line, energizing the pump when the receiving tank's liquid shutoff valve is closed may damage the pump vanes, result in failure of the shaft seals and other components, and place high torsional loads on the power take-off (PTO) drive shaft.

In addition, petitioners state that no additional safety measures are needed for small CTMVs ("bobtails," typically used for local deliveries) because they are generally equipped with a separate back-to-tank product bypass valve. Petitioners state that, in the process of preparing lines for product transfer from a small CTMV, the full length of transfer hose is charged to pump discharge pressure, thereby providing an opportunity to prove the integrity of the transfer system prior to each delivery.

Recognizing the merit of the petitioners' comments regarding the transfer hose pressure

standard adopted in the final rule, RSPA published an advisory guidance that communicated the agency's agreement with the petitioners' claim that some cargo tank pumping systems are not capable of safely pumping against a closed product valve without being damaged (62 FR 49171; September 19, 1997). Therefore, § 171.5(a)(1)(i) is revised to allow an operator to determine the leakproofness of a discharge system (including hose) by requiring that the pressure in the discharge system reach at least equilibrium with the pressure inside the cargo tank prior to transfer. After the operator verifies leakproofness of the discharge system, delivery may commence.

RSPA is also amending § 171.5(a)(1)(i) by removing the wording "and equipment" from the third sentence to clarify that only the piping, hose and hose fittings must be tested daily. There is no requirement to test the entire cargo tank on a daily basis.

B. Hose separation versus hose rupture. Petitioner AmeriGas notes RSPA's use of the word "rupture[d]" in § 171.5(a) with respect to comparable requirements in § 178.337-11(a)(1)(i) concerning operation of the internal self-closing stop valve. The petitioner states that the word "rupture[d]" is more commonly used to denote a "leak or partial failure" rather than an actual separation, thus creating an undesirable potential for confusion. Therefore, AmeriGas requests that the word "rupture[d]" be stricken from the regulatory language.

RSPA agrees that the word "ruptured" could be construed as adding new meaning to requirements pertaining to the emergency operation of the internal self-closing stop valve that was not intended in the development of the final rule. Therefore, § 171.5(a) is amended by removing the wording "ruptured or " to make this provision consistent with requirements in § 178.337-11(a)(1)(i).

(C). March 1, 1999 expiration date of the temporary final rule. Petitioners TFI and Farmland request that RSPA reconsider the March 1, 1999 expiration date of § 171.5. The petitioners request

a four-month extension of the alternative requirements in § 171.5 -- until July 1, 1999 -- to avoid expiration of the requirements at the beginning of the fertilizer industry's peak delivery season.

RSPA is granting a request by TFI and Farmland to extend the expiration date until July 1, 1999. This decision is based on RSPA's understanding that industry will continue to make good faith efforts in developing an emergency discharge control system that offers an equal or higher level of safety as that in longstanding provisions in § 178.337-11(a)(1)(i).

III. Petitions Denied.

A. Prompt activation of the internal self-closing stop valve. In its petition, AmeriGas contends that it is impossible to achieve immediate full compliance with the requirement in § 171.5(a)(1)(iii) that a qualified person unloading a small CTMV promptly activate the internal self-closing stop valve and promptly shut down all motive and auxiliary power equipment if there is an unintentional release of lading to the environment during transfer. AmeriGas claims this rule constitutes a new operator attendance requirement that can only be satisfied by using remote-controlled equipment that is not currently in service on more than an experimental basis and that such equipment cannot be put into service in less than a matter of months.

In the February 1997 emergency interim final rule (IFR), RSPA first adopted additional requirements for the person who attends the unloading of a CTMV to be within arm's reach of a means for closure (emergency shut-down device) of the internal self-closing stop valve or other device that will immediately stop the discharge of product from the cargo tank [62 FR 7643, February 19, 1997]. Use of an "electro-mechanical" device as a means of closure was discussed in that rule. Based on comments to the IFR, RSPA revised § 171.5(a)(1)(iii)(C), in the August final rule, to set forth three ways to achieve prompt stoppage of lading discharge from the cargo tank by:

(1) complying with the requirements in § 178.337-11(a)(1)(i); (2) using a qualified person positioned within arm's reach of the mechanical means of closure of the internal self-closing stop valve throughout the unloading operation, except during the short period necessary to engage or disengage the motor vehicle PTO or other mechanical, electrical, or hydraulic means used to energize the pump and other components of a cargo tank's discharge system; or (3) using a remote-controlled system that is capable of stopping the transfer of lading by use of a transmitter carried by a qualified person unloading the cargo tank.

RSPA notes that the NPGA special task force, organized in part to develop plans to provide for continued safe operation of existing propane cargo tanks, concentrated much of its efforts on development of remote-controlled devices that may be activated by the person attending an unloading operation [comments of Mr. McHenry, NPGA, June 23, 1997 public meeting]. A representative of the NPGA special task force reported progress on the development of remote-controlled devices at a June 23, 1997 public meeting [comments of Mr. McHenry, NPGA]. Petitioner AmeriGas also provided a report on its progress in developing an effective, low-cost remote-controlled system using radio frequency technology [comments of Mr. McEnroe, AmeriGas, June 23, 1997 public meeting transcript, pages 5, 45, 56, and 57]. AmeriGas provided RSPA with an update on its progress in a November 13, 1997 meeting. The NPGA's July 24, 1997 petition for rulemaking (P-1346) calls for RSPA to adopt a new provision in § 178.337-11(a)(1)(iii) for a variety of systems that are capable of closing the internal liquid discharge valve by remote means.

The public record contains favorable accounts by several propane dealers who have installed remote-controlled systems on their fleets of CTMVs [comments of Mr. Schuler, REMTRON, June 23, 1997 public meeting transcript, pages 59 and 60; comments of Mr. Stillwaggon, H.R. Weaver

Co.; and comments of Mr. McEnroe, AmeriGas, September 30, 1997 public meeting transcript, pages 42 and 61, respectively].

Industry representatives have stated that they have had good results with using radio-frequency, remote-controlled systems [comments of Mr. McEnroe, AmeriGas, public meeting transcript, June 23, 1997, page 46; Dr. Coady, Hick's Gas, June 23, 1997 public meeting transcript, pages 92 and 102]. A representative of Hicks Gas, one of the larger independent marketers of propane, stated that his company has been developing and refining remote-control shutdown systems on some of its trucks for the past three years [comments of Dr. Coady, Hick's Gas, June 23, 1997 public meeting transcript, page 92].

During two public meetings (June 23, 1997 and September 30, 1997) industry representatives presented information on radio frequency, remote-controlled systems, some with basic features and others with more sophisticated applications, that can be used on most CTMVs. Additionally, they represented that the installation instructions for these systems are simple enough that a fleet mechanic who has a working knowledge of a vehicle's air and electrical systems generally has the experience and tools necessary to install and proof-test a system within a period of two or three hours.

The advantage of a remote-controlled device has been demonstrated during an incident involving a propane release on November 3, 1997 near Udina, Illinois. The driver, using a remote-controlled device, promptly activated closure of the internal self-closing stop valve without ignition of the propane.

RSPA does not agree that operators of CTMVs have no practical means of compliance. The public record contains information that some operators began installing remote-controlled systems

shortly after issuance of the February 19, 1997 interim final rule. In addition, the Federal Highway Administration's (FHWA) compliance policy emphasizes increased awareness about the rule and its safety benefits, as opposed to immediate enforcement. If a company shows good faith efforts to comply with the provisions of § 171.5, FHWA's policy is to not pursue civil penalty enforcement actions.

Therefore, based on the above information, this part of the AmeriGas petition for reconsideration of the final rule is denied.

RSPA believes there is a need to clarify that while the first sentence of § 171.5(a)(1)(iii)(C) allows use of a remote-controlled system to promptly activate the internal self-closing stop valve in the event of an unintentional discharge, the second sentence provides limited relief from the attendance requirements in § 177.834(i)(3). Specifically, § 177.834(i)(3) requires a qualified person who is attending the unloading of a cargo tank to be awake, have an unobstructed view of the cargo tank, and be within 25 feet of the cargo tank at all times during unloading. Therefore, the second sentence in § 171.5(a)(1)(iii)(C) is revised to clarify that where a remote-controlled system is used, the attendance requirements in § 177.834(i)(3) are satisfied when the qualified person attending is awake, is carrying a transmitter that can activate the closure of the internal self-closing stop valve, remains within the operating range of the transmitter, and maintains an unobstructed view of the cargo tank when the internal self-closing stop valve is open.

Also, § 171.5(a)(1)(iii)(B) is revised to clarify that a qualified person must be positioned within arm's reach of a mechanical means of closure for the internal self-closing stop valve only when this valve is open, except for the short duration necessary to engage or disengage the motor vehicle PTO or other mechanical, electrical or hydraulic means used to energize the pump and other

components of a cargo tank motor vehicle's discharge system. All of these functions occur at or immediately adjacent to the cargo tank in proximity to a means for closure of the internal self-closing stop valve.

B. RSPA has not developed a "new interpretation" of its long-standing attendance requirement in § 177.834(i). In its petition, AmeriGas states that, in the August 18, 1997 final rule, RSPA announced a new interpretation of the long-standing attendance requirements set forth at § 177.834(i). AmeriGas contends that this interpretation should be withdrawn because it: (1) is inconsistent with the regulatory language; (2) was announced without notice or opportunity to comment, in violation of the Administrative Procedure Act (APA) (see 5 U.S.C. 553); and (3) is inconsistent with normal industry practice that has been "accepted for decades without question."

AmeriGas's arguments are invalid because RSPA's position with regard to the meaning of § 177.834(i) is consistent with the regulatory history and plain language of that requirement. Furthermore, the public was given notice of the rulemaking that gave rise to the attendance requirements and an opportunity to comment. Indeed, comments to that rulemaking reflect that industry understood that restrictions on the person attending the unloading of hazardous materials from CTMVs were being proposed. Additional notice and an opportunity to comment are, therefore, not required under the APA. Finally, there is no validity to the assertion that, for decades, the Department has accepted widespread industry non-compliance with the attendance requirements. For these reasons, AmeriGas's petition for reconsideration of RSPA's position regarding the § 177.834(i) attendance requirements is denied.

1. RSPA's position is consistent with the regulatory history and plain language of the attendance requirements in § 177.834(i). AmeriGas argues in favor of an industry interpretation

that compliance with § 177.834(i) can be achieved by having a single operator remain in proximity to, and maintain an unobstructed view of, any part of the delivery hose.

The position that RSPA has taken with regard to the meaning of the attendance requirements in 49 CFR 177.834(i) is not only consistent with the plain language of the regulation but the regulatory history of the regulation as well. Section 177.834(i) states:

. . . .

(2) *Unloading*. A motor carrier who transports hazardous materials by a cargo tank must ensure that the cargo tank is attended by a qualified person at all times during unloading. . . .

(3) A person "attends" the loading or unloading of a cargo tank if, throughout the process, he is awake, has an unobstructed view of the cargo tank, and is within 7.62 meters (25 feet) of the cargo tank.

. . .

(5) A delivery hose, when attached to the cargo tank, is considered a part of the vehicle (Emphasis added.)

RSPA's position consistently has been that the plain language of § 177.834(i) requires an attendant to maintain an unobstructed view of the cargo tank and be within 25 feet of the cargo tank during the unloading process.[1] Contrary to AmeriGas's assertion, the term "cargo tank" means the cargo tank itself and does not mean the hose or CTMV. The language of § 177.834(i)(5) plainly states that the hose is part of the vehicle not the cargo tank.

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[1] RSPA's position is supported by National Fire Protection Association publication "Standard for the Storage and Handling of Liquefied Compressed Gases" (NFPA 58), reported as adopted by 49 of 50 states. Section 4-2.3.3 requires, during unloading into storage containers, that "the shutoff valves on both the truck and the container are readily accessible."

AmeriGas contends that there is support for industry's interpretation of the § 177.834(i)(3) requirements in the regulatory history of these requirements. Specifically, AmeriGas relies on language that appeared in a republication of 49 CFR Parts 71-90 by the Interstate Commerce Commission (ICC) on December 29, 1964 (29 FR 18652). (The ICC regulated hazardous materials transportation by highway and rail prior to 1967, the year the Department of Transportation (DOT) was established). The regulatory text AmeriGas relies on reads, "Under no circumstances shall a tank motor vehicle be left unattended during the loading or unloading process. For the purpose of this part, the delivery hose, when attached to the motor vehicle, shall be deemed a part thereof." (December 29, 1964; 29 FR 18801). RSPA believes this regulatory language makes it clear that a CTMV operator must attend the CTMV and any delivery hose attached to the motor vehicle during loading and unloading. The intent of this provision was to ensure that the operator took responsibility for the entire delivery system which, for purposes of Part 77, included not only the motor vehicle itself but also the delivery hose when attached to the motor vehicle. However, the 1964 language in § 77.834(i) was not specific as to what actions constituted "attendance."

Realizing that the word "attendance" was vague and that there was industry confusion regarding what was required under the attendance regulation, the Hazardous Materials Regulations Board (the Board), the predecessor to RSPA's Office of the Associate Administrator for Hazardous Materials Safety, initiated a rulemaking in Docket HM-110 to clarify the attendance requirement. Language in the notice of proposed rulemaking (NPRM) and the final rule in Docket HM-110 serves as the basis for RSPA's interpretation of the current attendance requirement. Specifically, in the preamble to the HM-110 NPRM, the Board stated:

The Board has found that several dangerous incidents have occurred during the

> loading or unloading of tank motor vehicles which could have been avoided, if there had been someone near the cargo tank to take corrective action or precautionary action. The Board feels that there may be some confusion as to the intent of the term "attendance" as it is used in § 177.834(i). (Emphasis added).

38 Fed. Reg. 22901, August 27, 1973.

Based on this concern, the Board proposed to revise the regulation to include a requirement that an operator remain within 25 feet of the cargo tank motor vehicle. The Board also proposed to delete the limiting language "for the purpose of this part" from the hose provision of the attendance requirements, thereby making the delivery hose part of the tank motor vehicle not only for loading and unloading purposes, but for other regulatory purposes as well (e.g., incident reporting). Specifically, the Board proposed to revise the attendance requirements in § 177.834(i) to state:

> (1) A tank motor vehicle is attended when the person in charge of the vehicle is awake and not in a sleeper berth, and is within 25 feet of the tank motor vehicle and has it within his unobstructed field of view. . . . (3) The delivery hose, when attached to the tank motor vehicle, is a part of the vehicle.

Id. at 22902.

In its January 11, 1973 comments to the Board's proposed revision to § 177.834(i), the National LP-Gas Association (NLPGA) (now NPGA) proposed to revise the language to reinsert the limiting language "for the purpose of this part" with regard to the hose provision of the attendance requirements. Specifically, the NLPGA proposed to revise § 177.834(i)(3) to read "For the purposes of this part the delivery hose, when attached to the tank motor vehicle, is a part of the vehicle." In explaining the proposed reinsertion of limiting words "for the purposes of this part," the NLPGA stated: "We have no objection to a requirement that the motor vehicle operator or motor vehicle attendant be expected to attend the unloading hose as well as the vehicle since in most cases he will provide the hose and will have connected it to the unloading equipment. We don't feel the delivery

hose should be considered as a part of the motor vehicle." (Emphasis added). Industry's comments on the HM-110 NPRM indicate that industry fully understood that the Board proposed to require an attendant to remain within 25 feet of the cargo tank motor vehicle and hose, and maintain an unobstructed view of the cargo tank motor vehicle and hose. It is apparent from the NLPGA's comments to the proposed changes to § 177.834(i) that it understood the Board's concerns and its intent.

In the HM-110 final rule, the language that currently appears at § 177.834(i)(3), other than the addition of metric conversion of 25 feet, was adopted by the Board. Section 177.834(i)(3) currently reads, "A person 'attends' the loading or unloading of a cargo tank if, throughout the process, he is awake, has an unobstructed view of the cargo tank, and is within 7.62 meters (25 feet) of the cargo tank." Section 177.834(i)(5) currently reads, "A delivery hose, when attached to the cargo tank, is considered a part of the vehicle." In the final rule, the Board adopted the language in § 177.834(i)(3) that refers to the "cargo tank" and not the "tank motor vehicle," as proposed in the NPRM. The language in § 177.834(i)(5), however, continues to refer to the hose as part of the vehicle. The final rule requires a qualified person attending the loading or unloading of a cargo tank to remain within 25 feet of the cargo tank, maintain an unobstructed view of the cargo tank, and to attend the hose to the same extent that the qualified person attends to the cargo tank motor vehicle under the HMR.

AmeriGas also cites Shell Oil Company's October 26, 1973 comments to the Board's proposed revision of the attendance requirements in Docket HM-110 as support for its interpretation of the attendance requirements and evidence that the agency was aware of the industry's interpretation of the attendance requirements. Specifically, AmeriGas points to Shell Oil's

comment that "Section 177.834(i)(1) requiring an attendant within 25 feet of the tank motor vehicle or its hose is over restrictive in cases where tight fill connections are used which are now in the majority." (Emphasis added.) AmeriGas places great weight on the fact that Shell used the word "or" rather than "and" to describe the proposed requirements. AmeriGas states that the word "or" put DOT on notice that the proposed language was being interpreted to allow an operator to comply with the attendance requirements by remaining within 25 feet of any part of the hose and maintaining an unobstructed view of any part of the hose.

AmeriGas, however, did not recognize or discuss the next sentence in Shell's comments which reads, "This restriction prohibits performance of other duties and would unnecessarily increase delivery costs." (Emphasis added). AmeriGas's interpretation of the attendance requirements would allow an operator to be within 25 feet of and have an unobstructed view of, any part of the CTMV including, any part of its hose. Under AmeriGas's interpretation, there is virtually no restriction on an operator's ability to perform other duties -- an operator can be virtually anywhere between the cargo tank motor vehicle and the receiving tank -- and a single operator can always satisfy the industry interpretation of the attendance requirements. The preceding regulatory history indicates that the Board intended to restrict the movement of the person unloading a cargo tank by requiring the operator to remain within 25 feet of the cargo tank and maintain an unobstructed view of the cargo tank, resulting in a limitation on the attendant's ability to perform other duties or activities. The type of precautionary action the Board contemplated when it initiated HM-110 cannot be taken if a cargo tank attendant is more than 25 feet away from the cargo tank, out of sight behind a building or other obstruction, or both. This sentence indicates that Shell understood that the Board was proposing new restrictions on unloading operations.

RSPA squarely rejected industry's interpretation of the attendance requirements during public meetings and workshops, in written correspondence[2], and in the preamble to the August 18, 1997 final rule.[3] Specifically, the preamble to the final rule states:

> RSPA rejects the industry's interpretation of the long-standing operator attendance rules in § 177.834(i)(3) that a single operator satisfies requirements for an unobstructed view of the cargo tank, and is within 25 feet of the cargo tank, merely by being in proximity to, and having an unobstructed view of, any part of the delivery hose, which may be 100 feet or more away from the cargo tank motor vehicle, during the unloading (transfer) operation. The rule clearly requires an operator be in a position from which the earliest signs of problems that may occur during the unloading operation are readily detectable, thereby permitting an operator to promptly take corrective measures, including moving the cargo tank, actuating the remote means of automatic closure of the internal self-closing stop valve, or other action, as appropriate. RSPA contends the rule requires that an operator always be within 25 feet of the cargo tank. Simply being within 25 feet of any one of the cargo tank motor vehicle's appurtenances or auxiliary equipment does not constitute compliance.

62 Fed. Reg. at 44044.

Because RSPA's position is consistent with the regulatory history and plain language of 49 CFR 177.834(i), petitioner's request that RSPA withdraw its interpretation is denied.

2. Additional notice and comment are not required under the APA. AmeriGas alleges that RSPA's "new interpretation" was announced without notice or opportunity to comment, in violation of the APA.

Section 553 of the APA requires that Federal agencies give the public an opportunity to

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[2] See October 3, 1997 letter to Barton Day, Esq., counsel for Ferrellgas, L.P., Suburban Propane, L.P., AmeriGas Propane L.P., Agway Petroleum Corporation, Cornerstone Propane Partners, L.P., and National Propane, L.P. (item no. 188 in RSPA docket 97-2133).

[3] Because of industry's concerns about the attendance requirements, RSPA indicated in a June 9, 1997 notice [62 FR 31363] that it would initiate a new rulemaking to review and possibly revise the attendance and other regulatory requirements (see Docket No. RSPA-97-2718).

participate in the rulemaking process by giving notice, in the Federal Register, of either the terms or substance of a proposed rule or a description of the subjects and issues involved, and an opportunity to submit written data, views, or arguments. As discussed above, the Board realized that the word "attendance" was vague, as used in the original ICC attendance regulations, and that there was industry confusion regarding what was required. Consequently the Board issued an NPRM, in docket HM-110, proposing to clarify the attendance requirements. In issuing the NPRM, the Board specifically noted that there had been several dangerous incidents during the loading or unloading of cargo tank motor vehicles that the Board felt could have been avoided had someone been near the cargo tank to take corrective or precautionary action.

The Board's clearly specified reasons for undertaking the HM-110 rulemaking, in conjunction with the proposed regulatory language, NLPGA's and Shell Oil's comments on that language, and the language of the final regulatory requirements all demonstrate that: (1) the public was given notice of the Board's intent to require an operator to be near the cargo tank during unloading, and an opportunity to comment; and (2) RSPA's position on the § 177.834(i) attendance requirement is long-standing and reflects industry understanding of the requirements at the time they were proposed and adopted. Therefore, RSPA's statements concerning the attendance requirements in § 177.834(i) do not in any way change the regulations or constitute rulemaking. Consequently, further notice and comment under the APA is not necessary.

3. DOT was not aware of widespread non-compliance. AmeriGas claims that in the decades before -- and 22 years since -- the attendance requirements in § 177.834(i) were adopted, small CTMVs typically carried delivery hoses of 100 feet or more in length and were attended during at least a substantial portion of the unloading process from the position of the customer tank.

AmeriGas states that these vehicles have operated openly and have been inspected by DOT officials on hundreds of occasions over the years without any suggestion that the routine operation of these vehicles under the industry's interpretation of § 177.834(i)(3) was improper. AmeriGas thus asserts that DOT has accepted for decades without question industry's long-standing practice of not remaining within 25 feet of the cargo tank and not maintaining an unobstructed view of it.

Although, FHWA inspectors occasionally inspect small CTMVs at roadside inspection facilities, they do not inspect the hose to determine its length as part of their routine inspection procedures. Neither the HMR nor the Federal Motor Carrier Safety Regulations, 49 U.S.C. Parts 350-399, restrict hose length. Additionally, neither FHWA nor RSPA inspectors routinely inspect small CTMV unloading operations. Thus, the Department was not aware that small CTMV deliveries of propane were being made in violation of the HMR. The fact that FHWA inspectors may have observed small CTMVs with hose lengths in excess of 100 feet does not support the argument that DOT knew that deliveries were being made in violation of the HMR.

The National Fire Protection Association (NFPA) publication "Standard for the Storage and Handling of Liquefied Compressed Gases" (NFPA 58) reported by NFPA as adopted by 49 of 50 states (with Texas preparing to adopt NFPA 58 next year), has unloading requirements that are consistent with and provide support to the HMR requirement that a qualified person maintain an unobstructed view of the cargo tank, and be in a position to promptly effect emergency procedures should there be a line separation or other problem requiring immediate attention. Specifically, at Section 4-2.1.1, NFPA 58 states:

> Transfer operations shall be conducted by qualified personnel meeting the provisions of Section 1-5. At least one qualified person shall remain in attendance at the transfer operation from the time connections are made until the transfer is completed,

shutoff valves are closed, and lines are disconnected. (Emphasis added).

In addition, Section 4-2.3.3 of NFPA-58 requires:

> Cargo vehicles (see Section 6-3) unloading into storage containers shall be at least 10 feet (3.0 m) from the container and so positioned that the shutoff valves on both the truck and the container are readily accessible. (Emphasis added).

The fourth edition of the LP Gases Handbook, published by the NFPA interprets Section 4-2.3.3 as follows: ". . . The unloading cargo vehicle should be a distance from the container receiving the product so that if something happens at either point, the other will not be involved to the extent that it would be if it were in close proximity. Also, it is important to have the cargo vehicle so located that it is easy to get to the valves on both the truck and the container so that they can quickly be shut off if there is an emergency need to do so. . . . "[4] NFPA recognizes the importance of attending both the receiving tank and the cargo tank. RSPA believes that both warrant attention during unloading and that it is important to position these tanks so that this safety objective is achievable.

The importance of having a qualified person in a position to promptly effect closure of the internal valve and to shut down all motive and auxiliary power has been re-affirmed by two recent unloading incidents that resulted in the death of one operator and injury to another.[5] These incidents

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[4]Theodore C. Lemoff, ed., LP-GASES Handbook, 4th ed. (Quincy: National Fire Protection Association, 1995), p. 307.

[5]Initial reports from the Fire Marshall of Burke County, North Carolina indicate that on September 23, 1997, in Morganton, North Carolina, a Piedmont Natural Gas operator was at the receiving tank (approximately 80 feet from the cargo tank motor vehicle) when the hose nozzle became clogged with a foreign object believed to be part of the meter, thus preventing the operator from closing the nozzle when the customer tank became full. Consequently, the receiving tank overfilled and propane continued to flow from the hose at full pressure when the operator disconnected the hose from the receiving tank. The operator began to approach the cargo tank motor vehicle in order to manually shut the internal self-closing stop valve, but there was an explosion and fire before he could take emergency action. The operator received second- and third-degree burns over most of his body and died shortly thereafter.

did not involve the separation of hose or piping, which emergency discharge control system requirements are meant to address, but were the result of equipment failures, which the attendance requirements in § 177.834(i) are meant to address. The CTMV was the suspected source of ignition in both of these incidents. Based on initial reports, had a qualified person been in attendance within 25 feet of the CTMV, he would have had a better chance of closing the internal self-closing stop valve prior to ignition.

Therefore, based on the above information, RSPA denies that part of AmeriGas's petition for reconsideration concerning the attendance requirements. The attendance requirement is intended to address a number of potentially serious threats to safety that may arise during the course of unloading, including failure of a parking brake to prevent movement of a motor vehicle; equipment failures (e.g., pump leaks and leaks at a hose reel); and entry into the vicinity of the motor vehicle by persons who are carrying smoking materials. In all such instances, the qualified person attending the unloading operation must be aware of potential and actual threats to safety and be prepared to implement emergency procedures intended to minimize or eliminate those threats.

C. Need for additional operational controls. AmeriGas states that RSPA's central basis for the interim requirements imposed under the August rule is that there is a need to address safety concerns that exist due to the inability of the emergency discharge control system currently in service on "bobtail vehicles" in compressed gas service to function in accordance with the HMR as specified

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On June 6, 1997, in Fayetteville, North Carolina, an AmeriGas operator stopped product transfer and was in the process of disconnecting the transfer hose from the receiving tank when he observed white fog escaping from under the truck. He immediately dropped the transfer hose and ran toward the truck (approximately 60 feet) to activate the engine kill switch and the emergency internal self-closing stop valve. When he was within 10 to 12 feet of the truck, the escaped gas vapors ignited, causing second degree burns to the operator's face and right thigh.

under § 178.337-11(a)(1)(i). The petitioner then states that the record does not demonstrate the need for new requirements because the record does not include even a single documented incident involving the failure of the emergency discharge control system on a bobtail vehicle. Further, the petitioner states that the risk of such an event is extraordinarily remote and that there is no safety threat sufficient to warrant the imposition of burdensome interim operator attendance requirements for bobtails. Finally, the petitioner claims that RSPA's decision to impose burdensome interim operator attendance requirements for small CTMVs reflects a disregard of the evidence before it and arbitrarily fails to consider less burdensome regulatory alternatives.

In response, RSPA's underlying purpose of alternative operational controls adopted in the current requirements is to assure that persons who are dependent upon propane, anhydrous ammonia, and other liquefied compressed gases continue to receive those essential materials in a manner that does not impose unacceptable threats to public health and safety. The challenge was to develop rules for approximately 25,000 pump-equipped cargo tank motor vehicles (estimated to comprise the universe of specification MC-330, MC-331, and related non-specification cargo tanks) that industry determined may not conform to the long-standing requirements in § 178.337-11(a)(1)(i) for an emergency discharge control system (see emergency exemption applications filed by Mississippi Tank, National Tank Truck Carriers, NPGA and TFI; December 1996).

In developing the temporary alternative requirements, RSPA first determined there must be an effective means of providing for prompt closure of the internal self-closing stop valve under emergency conditions until industry could develop a system that provides a level of safety equal to that provided by § 178.337-11. The risks posed by an uncontrolled release of propane from a cargo tank motor vehicle are so great that, while RSPA sought to minimize the cost of compliance with

the alternative requirements, safety was RSPA's primary concern. Additional training and hose testing requirements adopted in § 171.5 may reduce the risks of a release, but such measures do not provide a means of stopping the flow of propane once a release occurs.

The petitioner relies on a small number of incidents cited in the public docket to support its contention that the safety concern with regard to small CTMVs is minuscule. However, RSPA notes that: (1) industry is not required to report to DOT the occurrence of propane incidents or accidents that occur in intrastate commerce -- which encompasses the vast majority of small CTMV deliveries; and (2) the small number of incidents in the record are not representative of the entire universe of incidents of which RSPA is aware. Federal hazardous materials transportation law at 49 U.S.C. 5103 directs the Secretary of Transportation to prescribe regulations for the safe transportation of a hazardous material when the Secretary determines that transporting a material in commerce in a particular amount and form may pose an unreasonable risk to health and safety or property. In developing safety regulations, RSPA must consider potential hazards posed by a material and may not base its regulatory decisions solely on the number of reported incidents.

For the reasons discussed above, RSPA denies this element of the petitioner's request for reconsideration of the final rule.

D. March 1, 1999 expiration date of the temporary final rule. AmeriGas states that the legal effect of the expiration clause in the final rule is to require operators of small CTMVs to have in place passive emergency discharge control systems that will meet RSPA's requirements under § 178.337-11(a)(1)(i) by March 1, 1999. AmeriGas requests that the expiration date specified in § 171.5(c) be stricken pending completion of the rulemaking proceeding under Docket RSPA-97-2718 (HM-225A) that addresses long-term compliance issues.

On August 18, 1997, RSPA published an advance notice of proposed rulemaking (ANPRM) in Docket HM-225A (62 FR 44059) requesting comments regarding jurisdiction, emergency discharge controls, qualification and use of delivery hoses, and attendance requirements. The questions posed in the ANPRM are indicative of the range of options RSPA is considering, this includes various retrofit schedules for installation of new equipment. RSPA is mindful of industry's concerns and will take them into consideration in formulating a long-term compliance plan under HM-225A. Additionally, affected parties may choose to install systems that meet the current requirements in § 178.337-11(a)(1)(i). For these reasons, RSPA denies AmeriGas's request for reconsideration of that part of the final rule concerning the expiration date of § 171.5.

IV. Rulemaking Analyses and Notices

A. Executive Order 12866 and DOT Regulatory Policies and Procedures

This final rule is not considered a significant regulatory action under section 3(f) of Executive Order 12866 and was not reviewed by the Office of Management and Budget. This rule is not considered significant under the regulatory policies and procedures of the Department of Transportation (44 FR 11034; February 26, 1979). This rule revises a safety standard for verifying the integrity of transfer hoses on cargo tank motor vehicles in liquefied compressed gas service and makes other minor, non-substantive changes.

The final rule published on August 18, 1997, was a significant regulatory action under section 3(f) of Executive Order 12866 and was reviewed by the Office of Management and Budget. The rule also was considered significant under the Regulatory Policies and Procedures of the Department of Transportation (44 FR 11034).

RSPA did not prepare a regulatory evaluation for this final rule addressing the issue of

revising the transfer hose pressure requirement. However, a final regulatory evaluation was prepared in support of the final rule published on August 18, 1997. The final regulatory evaluation is available for review in the public docket.

B. Executive Order 12612

This final rule has been analyzed in accordance with the principles and criteria contained in Executive Order 12612 ("Federalism"). The Federal hazardous materials transportation law, 49 U.S.C. 5101-5127, contains an express preemption provision (49 U.S.C. 5125(b)) that preempts State, local, and Indian tribe requirements on certain covered subjects. Covered subjects are:

(1) The designation, description, and classification of hazardous materials;

(2) The packing, repacking, handling, labeling, marking, and placarding of hazardous materials;

(3) The preparation, execution, and use of shipping documents related to hazardous materials and requirements related to the number, contents, and placement of those documents;

(4) The written notification, recording, and reporting of the unintentional release in transportation of hazardous material; or

(5) The design, manufacture, fabrication, marking, maintenance, recondition, repair, or testing of a packaging or container represented, marked, certified, or sold as qualified for use in transporting hazardous material.

This rule addresses covered subject item (5) above and preempts State, local, and Indian tribe requirements not meeting the "substantively the same" standard. Federal hazardous materials transportation law provides at § 5125(b)(2) that, if DOT issues a regulation concerning any of the covered subjects, DOT must determine and publish in the Federal Register the effective date of

Federal preemption. The effective date may not be earlier than the 90th day following the date of issuance of the final rule and not later than two years after the date of issuance. RSPA has determined that the effective date of Federal preemption for these requirements will be (insert date 90 days from the date of publication in the Federal Register). Thus, RSPA lacks discretion in this area, and preparation of a federalism assessment is not warranted.

C. Regulatory Flexibility Act

The Regulatory Flexibility Act (Act), as amended, 5 U.S.C. 601-612, directs agencies to consider the potential impact of regulations on small business and other small entities. The Act, however, applies only to rules for which an agency is required to publish a notice of proposed rulemaking pursuant to § 553 of the Administrative Procedure Act (APA), 5 U.S.C. 553. See 5 U.S.C. 603(a) and 604(a). Because of the emergency nature of the final rule published on August 18, 1997, RSPA was authorized under sections 553(b)(B) and 553(d)(3) of the APA to forego notice and comment and to issue the final rule with an immediate effective date. Nevertheless, RSPA was concerned about the effect the final rule would have on small businesses and, in preparing preliminary and final regulatory evaluations under Executive Order 12866, analyzed the impact of the interim final rule and final rule on all affected parties, including small businesses. Consequently, RSPA is not required under the Act to do a regulatory flexibility analysis for this final rule.

D. Unfunded Mandates Reform Act

This rule does not impose unfunded mandates under the Unfunded Mandates Reform Act of 1995. It does not result in costs of $100 million or more to either State, local, or tribal governments, in the aggregate, or to the private sector, and is the least burdensome alternative that achieves the objective of the rule.

E. Paperwork Reduction Act

This rule does not impose any new information collection burdens. The information collection and recordkeeping requirements contained in the final rule were submitted for renewal to the Office of Management and Budget (OMB) under the provisions of the Paperwork Reduction Act of 1995. The requirement has been approved under OMB Control Number 2137-0595.

F. Regulation Identifier Number (RIN)

A regulation identifier number (RIN) is assigned to each regulatory action listed in the Unified Agenda of Federal Regulations. The Regulatory Information Service Center publishes the Unified Agenda in April and October of each year. The RIN number contained in the heading of this document can be used to cross-reference this action with the Unified Agenda.

List of Subjects in 49 CFR Part 171

Exports, Hazardous materials transportation, Hazardous waste, Imports, Reporting and recordkeeping requirements.

In consideration of the foregoing, 49 CFR part 171 is amended as follows:

PART 171--GENERAL INFORMATION, REGULATIONS, AND DEFINITIONS

1. The authority citation for Part 171 continues to read as follows:

Authority: 49 U.S.C. 5101-5127, 49 CFR 1.53

2. In § 171.5, paragraphs (a)(1)(i), (a)(1)(iii)(B)and (a)(1)(iii)(C)(3) are revised to read as follows:

§ 171.5 Temporary regulation; liquefied compressed gases in cargo tank motor vehicles.

(a) * * *

(1) * * *

(i) Before initiating each transfer from a cargo tank motor vehicle to a receiving system, the person performing the function shall determine that each component of the discharge system (including hose) is of sound quality and free of leaks and that connections are secure. This determination shall be made after the pressure in the discharge system has reached no less than equilibrium with the pressure in the cargo tank.

* * * * *

(iii) * * *

(B) A qualified person positioned within arm's reach of a mechanical means of closure of the internal self-closing stop valve at all times the internal self-closing stop valve is open; except, that person may be away from the mechanical means only for the short duration necessary to engage or disengage the motor vehicle power take-off or other mechanical, electrical, or hydraulic means used to energize the pump and other components of the cargo tank motor vehicle's discharge system; or

(C) * * *

(3) Is awake throughout the unloading process, and has an unobstructed view of the cargo tank at all times that the internal self-closing stop valve is open.

* * * * *

§ 171.5 [Amended]

2. In addition, in § 171.5 the following changes are made:

a. In paragraph (a), in the second sentence , "ruptured or" is removed.

b. In paragraph (a)(1)(ii), in the third sentence, "and equipment" is removed.

c. In paragraph (c), the date "March 1, 1999" is revised to read "July 1, 1999.

Issued in Washington, DC on December 5, 1997 , under authority delegated in 49 CFR part 1.

Kelley Coyner
Acting Administrator
Research and Special Programs Administration

National **PROPANE GAS** Association

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DST-97-2133-28

April 18, 1997

File: 285.07.27

Dockets Office
US Department of Transportation
Room PL-401
400 Seventh Street, SW
Washington, DC 20590-0001

Re: ***Hazardous Materials: Cargo Tank Motor Vehicles in Liquefied Compressed Gas Service; interim Final Rule***
HM-225

Dear Sir/Madam:

The National Propane Gas Association (NPGA) presents the enclosed responses to the various questions published for public review and comment in the preamble to the subject rulemaking published in the February *19, 1997 Federal Register.* These comments are a supplement to the written statement filed at the public meeting DOT held on this rulemaking on March 20, 1997.

NPGA is the national trade association of the LP-gas (principally propane) industry with a membership of about 3,500, including 37 affiliated state and regional associations representing members in all 50 states. Although the single largest group of NPGA members are retail marketers of propane gas, the membership includes propane producers, transporters and wholesalers, as well as manufacturers and distributors of associated equipment, containers and appliances. Propane gas is used in over 18 million installations nationwide for home and commercial heating and cooking, in agriculture, in industrial processing, and as a clean air alternative engine fuel for both over-the-road vehicles and industrial lift trucks.

NPGA shares with DOT a commitment to safety regarding the operation of MC-330 and MC-331 cargo tanks, as well as the non-specification cargo tank motor

vehicles operating under authorization provided in § 173.315(k). We do not agree with DOT, however, that emergency flow control requires a passive system that will shut down product flow from the cargo tank motor vehicle in the event of separation of the transfer hose or piping. The propane industry operating experience and safety record demonstrates that a 100% passive system may not be achievable and that the industry has compensated for this through redundant, manually actuated (automatic) procedures which have served the industry and the public well. Indeed, the record of the DOT Workshop on this rule held on April 16, 1997, clearly shows that this belief is held by many within the propane industry, within the ammonia industry, and even seems to be shared by some DOT staff and their outside contractors. As is more fully explained in our attached response to DOT's questions in this rulemaking, we believe that not only an equivalent level of safety but even a greater level of safety can be achieved through means other than a 100% passive system which DOT has thus far maintained is necessary.

Several approaches to remote control systems utilizing devices such as radio frequency transmissions similar to garage door openers are in the final stages of development. We believe these systems will improve significantly the level of control the vehicle operator has over the delivery to the consumer's tank, thus providing a greater level of safety. Not only do these systems provide greater control, but they also can be tested as frequently as a company, or its employees, desire. Furthermore, they provide an added benefit, and hence greater safety, in that they can be activated in response to the smallest leak and not just when there is a complete rupture of the system which even DOT admits is required for activation of a 100% passive system.

An additional safety feature of electronic systems is that, unlike currently available passive systems, they can be tested without releasing product. Passive systems, which cannot be tested without the release of product, pose an increased risk of injury or property damage. While we are awaiting further testing before endorsing any particular system or approach, we believe that they hold great promise as a solution which will meet industry and DOT safety imperatives, as well as providing a cost effective answer to the concerns precipitated by the Sanford, NC, incident.

During the April 16 Workshop, representatives from The Fertilizer Institute presented a statement which outlined their activities in response to this rulemaking. These activities include a Hose Management Program, an industry awareness and training program, an investigation into the installation of a brake interlock feature on existing and new cargo tanks, and a contract with Penn State University's Transportation Institute to evaluate the delivery system to determine whether modifications may provide an equivalent level of safety to a fully passive excess flow valve which operates over all possible temperature and pressure

ranges.

NPGA applauds TFI's efforts in all of these areas. While we cannot embrace all the aspects of their Hose Management Program without further study and discussion among our industry members, we see elements of it as positive steps in the right direction. The accident data which we have and which was reported to DOT during the April 16 Workshop by Mr. Mike Merrill of Suburban Propane Corp., Whippany, NJ, clearly shows that hose failures are the predominant cause of the incidents which have occurred. As regards the industry awareness/training program, NPGA has undertaken an aggressive awareness program since the report of the Sanford, N.C. incident. We also plan to discuss with TFI the scope of the Penn State study as we believe it may complement the work presently underway by members of the NPGA Special Presidential Task Force on Cargo Tanks.

Our tests and studies to date have led us to believe that an across-the-board solution to all problems may not be realistic. The circumstances under which bobtails and highway transports operate are totally different and may require different equipment or operational controls. Furthermore, there may be sufficient differences among products carried in specification tanks to warrant different approaches based on each product's unique characteristics. We encourage DOT to keep an open mind to these differences as we go forward and develop long term solutions.

In our response to Question 6 n Section VIII Rulemakina Analysis and Notices, we recommend completion of any necessary retrofit of existing propane cargo tank vehicles over a 5-year period, or 20 percent of a fleet's vehicles per year. During this period, virtually every propane cargo tank vehicle will automatically be in shop for either chassis change-over or the required quinquennial requalification for continued service. There have been at least two other instances we are aware of where compliance with a new requirement was accomplished under a 5-year schedule and one instance where compliance was achieved oper a period of approximately three and one half years:

1. **Requirement for testing and inspection of MC-330 and MC-331 cargo tanks.**
2. **Relief valve testing or replacement on MC-330 and MC-331 cargo tanks.**
3. **Manways on cargo tanks (approximately 3.5 years.)**

If DOT follows existing precedent and allows a 5-year retrofit cycle, it should also allow bobtails to operate under a reasonable regulatory framework on an interim basis until such time as the entire fleet is retrofitted over the five years.

In summary, NPGA has filed a Petition for Reconsideration of that portion of the Interim Final Rule known as the "attendance requirements" (49 CFR

§ 171.5(a)(1)(iii)) which impose an onerous, expensive and unnecessary burden on the propane industry that is unsupported by any documentation in the file. Our petition also included a Petition for Rulemaking to amend this portion of the Interim Final Rule should DOT deny our Petition for Reconsideration. With the exception of the attendance requirements, the propane gas industry can operate under the other parts of the Interim Final Rule on an provisional basis. Our comments and answers to the questions posed by DOT are intended to address the DOT's request for guidance on long-term solutions and on the costs and benefits of various alternatives.

We would be glad to discuss the enclosed responses to the respective question presented in the preamble to HM-225 further at your convenience. For ease of identification, the text of each question *is shown in italics,* while the NPGA response is shown in straight type.

Sincerely,

W. H. Butterbaugh, CAE
Director, Regulatory Affairs

cc: D. N. Myers
R. R. Roldan
Bruce Swiecicki

Docket No. RSPA-97-2133 (HM-225); RIN 2137-AC97

Hazardous Materials: Cargo Tank Motor Vehicles in Liquefied Compressed Gas Service; Interim Final Rule

A. Questions presented by DOT in: *Section VII. Request for Comments*

1. ***NPGA has suggested the development of a "deadman" or a remote valve actuation system, possibly using a lanyard. Automobiles are commonly equipped with remote transmitter devices that fit on key rings to unlock doors or open trunk lids from 50 feet away. If such a manually activated device were used to close internal self-closing stop valves, would it provide a level of safety equivalent to the requirement for a passive automatic shut-down system required by §178.337-11(a)(1)(i)?***

   NPGA: NPGA believes the development of a remote actuation system would create an increased level of safety, compared to passive systems.

   NPGA believes that "passive " and "automatic" are two different concepts. In our view, "passive" encompasses those devices that would operate entirely without any human action, whereas "automatic" would include systems which, when activated, always will operate as intended. An example of such an automatic system would be ones that presently comply with 9178.337-I 1 (a)(2)(i) or (a)(2)(ii).

   In the lo-year operating period 1986-l 995 (discussed in more detail elsewhere in this response), in almost 20 million highway transport transfers (loading and unloading) and in about 333 million bobtail transfers (loading and unloading), there has been perhaps one incident where the transfer hose separated from the vehicle piping. In all these transfers, there has only been a single incident in which a "passive" system, if operated as intended, would have prevented uncontrolled loss of propane. This level of safety and record of operating experience does not justify a totally passive flow control on the transfer hose and piping on a cargo tank motor vehicle in liquefied petroleum gas service.

   Over this lo-year period, there were 9 reported incidents with the bobtail tank trucks where there was a small failure of the hose, a "split" if you will, that resulted in a controllable release of product that, according to all reports, was controlled by the operator by actuating the automatic closure mechanism on the internal valve.

2. What types of devices can provide the passive automatic shut-down function required by §178.337-11 (a)(1)(l)?

NPGA: NPGA believes that "passive " and "automatic" are two different concepts. In our view, "passive" encompasses those devices that would operate entirely without any human action, whereas "automatic" would include systems which, when activated, always will operate as intended.

Paragraph 178.337-l 1 (a)(l)(l) states "Each internal self-closing stop valve and excess flow valve must automatically close if any of its attachments are sheared off or if any attached hoses or piping are separated." The Regulations do not require a "passive" automatic shut-down function. We believe that an electronic remote device meets the requirement of 9178.337-I l(a)(l)(l). Such remote control devices work on the same principle as a wireless garage door opener, except that upon activation by the driver/operator, the control device can initiate automatic closing of the internal stop valve and shut down the vehicle engine.

In NPGA's view, there is no need for a passive shutdown system based on the record of DOT incident reports over the cited 1 O-year period. There was only one known incident during this period where a passive system was needed; this period involved the handling of over 89 billion gallons of propane heating fuel in some 333,000,000 bobtail deliveries. The incidents that did occur were all controlled by the driver manually exercising the automatic closure of the internal stop flow valve. To our knowledge, only two incidents, including Sanford, have occurred in 10 million transport deliveries over an 11 -year period and those incidents were caused by an improper preparation of the transfer hose assembly and failure to detect a defective hose or hose assembly. There is no question that remote electronic activation of automatic closure of the internal valve in the cargo tank and shutdown of the engine will provide an increased level of safety and control over failures of the sort that have occurred in the IO-year history cited by DOT as the basis for the Interim Final Rule.

In the course of discussing if passive control systems were indeed justified, DOT has cited the possibility of the driver having a heart attack and being unable to activate a remote control system in the event of a separation of the transfer hose from the plant or vehicle piping. Yet, one of the purposes of the biennial physical required by the FHWA Motor Carrier Safety Regulations is to identify drivers whose medical condition might be such as to interfere with their ability to perform the necessary functions associated

with driving and operating a covered vehicle. Thus, the DOT assertion is mere speculation, disregards existing regulations designed to guard against any such eventuality, and is therefore unsupported by the facts.

The following systems are under development by the NPGA Special Presidential Task Force on Cargo Tanks that have very strong possibilities for compliance with the emergency flow protection performance requirement in the MC-331 specification. We also know that there are several other systems that have been or are being developed independent of the task force activity.

. Remotely operated radio frequency device

▸ Pressure differential regulator in-line systems

. Evaluation of RegO/Flomatic valve

▸ Cable system

. Acoustic emission system

▸ Differential pressure system

3. What tests are appropriate at the time of manufacture or assembly and at the time of requalification to ensure that the product discharge system will close as required by §178.337-11(a)(1)(l)?

NPGA: Included in NPGA's development of control systems that will provide the level of performance required by the provisions of §178.337-1 1 (a)(l)(l) is the development of test protocols for use in evaluating the respective systems under consideration. We believe we will be in a position to share recommended protocols following the next meeting of the task force on May 7-8, 1997 in Arlington, Texas. Since that meeting falls after the April 21 DOT deadline for submittal of written statements regarding the Interim Final Rule, NPGA will file a supplement to this statement after this Task Force meeting to provide the information requested in this question.

The NPGA task force has been directing its primary attention to development of emergency flow control systems that will achieve compliance with the present provisions of § 178.337-l 1 (a)(l)(l). Our studies are not far enough along to be able to reliably respond with system

cost information for the long-term provisions.

4. ***In view of the fact that specification MC-330 and MC-33 1 cargo tank motor vehicles are authorized for a broad range of hazardous materials, is it possible to design an emergency discharge control system that functions effectively with all liquefied compressed gases under all conditions normal to transportation? If not, should the manufacturer's certification required under §178.337-18 specify the materials and conditions that are acceptable for carriage in, or unloading of, the cargo tank?***

   NPGA: At this time, we are not certain whether an "across-the-board" emergency discharge control system can be developed for cargo tank motor vehicles that will function effectively with all ladings. NPGA is endeavoring to maintain close liaison with the associations representing other ladings so that they can make the necessary determinations when and where appropriate and develop other control systems as may be needed. With respect to the second question, we believe a lading certification would be entirely appropriate.

5. ***Do manufacturers and assemblers of cargo tank motor vehicles provide operational and maintenance instructions to operators on the use of the cargo tank motor vehicles they supply? If so, provide examples of such information to RSPA.***

   NPGA: We are not certain, but believe that some do.

6. ***Provide any information available on other interstate or intrastate incidents involving the failure of emergenc y control systems on cargo tanks authorized to transport liquefied compressed gases.***

   NPGA: NPGA has no mechanism for accurately tracking hazardous materials incidents; however, we do receive, from time to time, anecdotal information from our member companies. On this basis, we are aware of only one other incident involving the failure of emergency control systems on cargo tanks transporting liquefied petroleum gases.

   It should be noted that six of the seven incidents referenced in the Background segment in the Preamble to the Interim Rule are transportation incidents and did not occur during propane transfers involving the cargo tank motor vehicle. The seventh, incorrectly identified as a 1973 incident, involved the unloading of a derailed tank car and has no bearing on this

matter. Nine unnamed propane incidents are cited in the safety alert DOT published in the December *13, 1996, Federal Register* as involving propane transfers. However, there is no clear indication that any of these incidents involved separation of the hose from the transfer coupling; rather, the subject incidents contained very strong indications that although the respective incident involved a break in the hose, closure of the internal valve by the vehicle driver/operator controlled the incident.

7. Are hoses used to transfer product from large transport cargo tank motor vehicles permanently attached or carried on the vehicles or supplied by the customer at the point of delivery?

NPGA: On most highway transport cargo tank motor vehicles (typically 9,000-l 2,000 gallons water capacity), transfer hoses are carried on the vehicle in protective tubes, but they are not attached to the cargo tank during transit. Both the original loading point and the destination unloading point often have transfer hoses or other piping arrangements for lading transfer so that the transfer hose carried on board the transport is not used during <u>every</u> transfer. For the smaller chassis-mounted cargo tank motor vehicles, commonly called bobtails in the propane industry, (less than 3,500 gallons water capacity), the unloading hose is carried on the vehicle in a hose reel and is used for every delivery. These latter vehicles do not carry transfer hose for use in loading the vehicle -- such hose is always provided by the loading facility.

8. RSPA is concerned that this problem may highlight a deficienc y in the training programs for Design Certifying Engineers and those persons certifying cargo tanks as meeting the requirements of the HMR. In addition, carrier function-specific training programs also may not be providing sufficient training in the specification requirements for these cargo tanks. What training is provided to those individuals who are responsible for certifying, operating, testing and repairing these cargo tank motor vehicles?

NPGA: We understand that the respective member company training programs comply with the provisions of § 172.700, et. seq. for training, testing, and certification of hazmat employees according to their respective job responsibilities and functions.

B. Questions presented by DOT in: *<u>Section VIII. Rulemakina Analyses and Notices</u>. B. Regulatory Flexibility Act*

1. ***Are RSPA´s estimates as to number of businesses affected by this rule, and the percentage of these which are small businesses, consistent with industry estimates? Are other estimates available as to the numbers of businesses and small businesses in each sector of business addressed by this rule (i.e., gas distributor, cargo tank manufacturer, cargo tank assembler) and numbers of cargo tank motor vehicles? Are there other business sectors affected? Are some geographic areas affected more than others (please identify) ?***

NPGA: NPGA believes § 171.5 will have the greatest impact on the local bulk plant distributor segment of our industry and that RSPA's estimate of 6,800 affected businesses is substantially correct. We also concur with the estimate that 90% or more of affected companies are small businesses as defined by the Small Business Administration's size definitions.

Rural areas without alternative means of energy sources will be the most impacted by this rulemaking. Costs to the propane marketers will increase because of required retrofit of present cargo tank motor vehicles. The increased operating costs will affect costs paid by consumers. Many rural customers will experience financial difficulty if their energy prices increase.

NPGA estimates the potential increased cost to the residential consumer to be between $50 and $100 per year. This figure is conservatively based on a potential increase in fuel costs of 7 cents per gallon as projected by a regional survey of propane marketers (conducted soley for the purpose of determining the effects of this Rule.)

In addition, it is important to note that one of the major uses of propane is in agricultural applications. Applying the 7 cents per gallon figure to the total number of gallons used in 1994 in the agricultural sector, we can conclude that agri-businesses in the U.S. will suffer an impact of $98.3 million dollars per year as a result of the Interim Final Rule.

2. ***Are there alternatives to this rule which accomplish RSPA´s objectives, while imposing less of an impact on small businesses? What are those alternatives?***

NPGA: NPGA believes RSPA's objectives for the Interim Rule to be the maintenance of appropriate levels of safety during cargo tank truck unloading while industry develops new emergency flow control technology to comply with the intent of § 178.337-l 1 (a)(l)(i). We believe there are

procedural alternatives to § 171.5 which will accomplish RSPA's objectives.

NPGA believes that appropriate levels of safety can be maintained through increased training, industry awareness, hose testing, and safety inspections which are taking place at this moment. At the same time, NPGA is concerned that § 171.5 should not create additional potentially hazardous situations. Such a potential hazard is the provision for the operator to remain within arm's reach of the discharge system and have an unobstructed view (hereinafter referred to as the "attendance requirement") as stated in the Interim Final Rule. We do not believe RSPA fully considered the potential hazards to employee safety of the attendance requirement. We have petitioned for its deletion as an operational requirement, and renew that petition here.

The primary control for closure of the internal valve on a propane bobtail is usually located immediately adjacent to the hose reel; the emergency closure station is typically located at the left front corner of the cargo tank motor vehicle. In the event of hose rupture, the truck operator could be immediately exposed to released lading and/or whipping of the hose. The attendance requirement thus requires the operator to be in harm's way. Common practice in the industry is for the driver/operator to be at the consumer tank to prevent possible over-filling of the tank. Good safety practices also require the driver to be able to move freely between tank and truck to respond to unexpected situations as they occur.

It is important to recognize that the incident in Sanford, N.C. was caused by: (1) failure to properly prepare a transfer hose assembly; and, (2) the failure to recognize an improperly prepared transfer hose assembly. Increased awareness and training for those hazmat employees that prepare such hose assemblies and for those hazmat employees that connect the assemblies to effect a product transfer will significantly increase safety in LPG transfer operations.

3. ***In what manner could differing compliance or reporting requirements be implemented for small businesses to take into account the resources available to small businesses? In what manner could compliance or reporting requirements be clarified, consolidated or simplified for such small businesses?***

NPGA: NPGA suggests revision of the Interim Rule to delete the attendance requirement for marketers of all sizes. Our request is based on the fact that

the attendance requirement poses a significant safety hazard and does not materially increase the level of safety already established in other provisions of the Interim Final Rule. The pressure test required by the Interim Final Rule [ref: §171.5(a)(1)(ii)], in combination with the inspection of the hose when used as required by NFPA 58, provides an effective and responsive system for precluding the circumstances that caused the Sanford incident.

4. What are the direct and indirect costs of compliance with the rule calculated both as absolute costs and as a percentage of revenue of the regulated small business?

NPGA: Following the publication of the subject rule, the NPGA conducted an analysis of the economic impact of the two-man attendance provision. A geographically balanced sample of both multi-state marketers and smaller independent marketers was asked to estimate the costs associated with (1) employee recruitment, (2) function specific training, (3) salary, and (4) employee benefits.

The results of this survey place the total cost of compliance to the industry (using 1995 sales data) at approximately $660 million'. This figure represents a potential increased cost to the consumer of 7 cents per gallon with only a direct cost pass-through. A typical customer who uses 900 gallons of propane each year could expect to pay an additional $63 if this compliance tax were passed on to the consumer, or $504,000,000 to the 8 million residential customers of the industry.

This estimated impact of $660 million is based on two attendants and would double if DOT chose to literally enforce the rule as it is currently written. Approximately half of the piping on a bobtail delivery truck is underneath the cargo tank between the chassis and the frame rails. This portion of the piping would not be in view by someone positioned beside the vehicle as would be the case with the remainder of the piping system that is in the open on the rear or side deck of the vehicle. Thus, to comply literally with the provisions of the Rule, one attendant must be under the truck, a second attendant must be at the remote control on the internal valve to have all the discharge system in view during the transfer operation, while a third individual is serving the consumer tank.

From 1986-l 995, 307 million deliveries were made involving more than 89

'Estimate based on 1995 retail sales volume of 9,429,570,000 gallons multiplied by $.07 = $660,069,900.

billion gallons of propane. For this period, DOT has identified only 9 instances (excluding Sanford) where the performance of the excess flow valve contributed to the discharge of product. That is one instance for every 9 billion gallons of product transferred; and one instance for every 30 million deliveries. DOT further acknowledges that the release of product in each of these instances was far less than that which occurred at Sanford.

NPGA strongly objects to the imposition of a regulatory tax in excess of one half billion dollars given the safety record of the industry and the effectiveness of less costly alternatives. The Government's Preliminary Regulatory Evaluation for the Interim Final Rule filed in Docket No. HM-225 on March 19, 1997, placed the aggregate cost to the propane industry for a second operator to comply with the additional attendance requirement at $237,017,143 annually. Whether using NPGA's estimate of $660 million or DOT's estimate of almost $240 million, this compliance burden borders on absurd given the proven safety record of this industry.

Furthermore, the Government's own analysis of the aggregate total costs to society from releases of propane as a result of a decision not to implement any changes or new regulatory requirements is between $322,192 and $1,520,705 annually. Thus, according to DOT, complete Government inaction (e.g., no Interim Final Rule) on the issue of emergency discharge control systems on cargo tank motor vehicles would result in an annual total cost below $1.5 million. There is absolutely no justifiable basis for a rule which will cost industry between $240 million and $660 million compared to a cost to society from Government inaction of between $322,000 and $1.5 million.

Finally, because of the unsuitability of lanyards, NPGA disputes RSPA's cost estimate of $1,324 per operating unit. Using a lanyard to close a valve from a delivery truck has been determined impractical and will not perform as originally envisioned when the concept was postulated in the application for a DOT Exemption that NPGA filed on December 18, 1997 and which was later denied by DOT. Bobtail delivery trucks carry up to 150 feet of transfer hose, which is deployed at a variety of angles and is often pulled behind a house or other out-building, such that the driver/operator is momentarily out of sight of the truck. Given the length of hose pull, no lanyard arrangement will give the driver immediate tension to be able close the internal valve, merely by pulling the lanyard.

5. *What are the direct and indirect costs of completing paperwork or record keeping requirements, again both as absolute costs and as a percentage of*

revenue?

NPGA: Typically, small business owners do not have extra employees on staff to handle government paperwork and reporting tasks. At this time, we estimate the additional costs of record-keeping and administration to be approximately $2,000 per year for each cargo tank vehicle in service. These costs include additional record-keeping for training all current hazmat staff, labeling for vehicles and annotation of all current vehicle inspection records, as well as interviewing, hiring and filling out necessary employment information on all net new hires for each delivery unit.

6. ***What is the effect of this rule, if any, on the competitive position of small entities in relation to larger entities?***

NPGA: The Interim Rule will have serious and possibly overwhelming effects on gas distributors of all sizes. Small business distributors will be disproportionately affected for the following reasons:

a) **Rarely does a distributor, regardless of size, have extra personnel that could be easily assigned to accompany the driver on the daily delivery route. Typically, all employees of the distributor are fully utilized in the day-to-day operations. To comply with the Interim Rule at the very least will double operator costs for the distributor.**

b) **The small distributor generally must hire outside experts (approx. $500 per day, plus expenses and training materials) to provide training for his employees. By contrast, large distributors are often capable of providing in-house training. The use of outside trainers is considerably more costly than in-house (company) training.**

c) **Paperwork required for reporting and documentation will fall on the owner/operator of the small business, adding to his already heavy work load.**

d) **It is not yet known what impact the Interim Rule may have with regard to increased insurance costs, however, the small distributor pays proportionately higher insurance costs than the large distributor due to economies of scale.**

7. ***What is the effect of this rule on the small entity's cash flow and liquidity?***

NPGA: Cash flows for propane distributors will be severely impacted by

§ 171.5. The Interim Rule will reduce cash flow immediately due to increased labor costs that will not be self-supporting without a cost pass-through to consumers. Some distributors may be unable to continue to operate given the increased staffing needed for compliance. The propane industry is now exiting its peak winter delivery season with receivables at an all-time high. Forcing distributors to add new delivery staff during a time of reduced sales will result in increased operating cash shortfalls.

8. What is the effect of this rule on the ability of a small entity to remain in the market ?

NPGA: Smaller gas distributors generally have less access to lines of credit, loans, and other sources of capital to cover operating losses brought on by 9171.5.

9. What is the availability and cost to the small entity for professional assistance to meet regulatory requirements?

NPGA: Certified professional trainers and consultants are available to the industry at a cost of approximately $500 per day, plus expenses and training materials. A distributor must also absorb the loss of all revenue that would have been generated by an employee attending a training course. Hidden costs may also result from loss of business a distributor might sustain because of being short of manpower, or not being able to keep up with delivery schedules.

10. Are there any Federal rules that duplicate, overlap or conflict with this rule?

NPGA: NPGA knows of no specific Federal rules which directly duplicate or overlap with § 171.5. However, the Interim Rule may conflict with certain workplace safety requirements by mandating that delivery drivers remain in arm's reach of the internal valve shut-off control. Current truck design on most vehicles has the primary internal valve control lever located immediately adjacent to the delivery hose reel. In case of hose rupture or separation, the driver will immediately be subject to sudden release of hose contents and possible violent whipping of the hose. Requiring the driver to be at the valve control places him in harm's way, and therefore may violate OSHA standards for a safe workplace.

Further, the Interim Rule conflicts with § 177.834(i)(3) because that paragraph requires a driver to have an unobstructed few of the cargo tank and be within 7.2 meters (25 feet) of the cargo tank. Section 177.834(i)(5)

provides that when the transfer hose is connected to the cargo tank, it is considered to be part of the vehicle. Thus, when the driver is within 25 feet of any portion of the transfer hose and has an unobstructed view of that portion of the transfer hose, he is in compliance with these two paragraphs. The Interim Rule however, requires the driver to have an unobstructed view of the discharge system (entire), not just a portion of the system.

United States Senate

COMMITTEE ON APPROPRIATIONS
WASHINGTON, DC 20510–6025

April 9, 1997

The Honorable Rodney E. Slater
Secretary of Transportation
U.S. Department of Transportation
300 Seventh Street, S.W.
Washington, D.C. 20590

Dear Secretary Slater:

I am writing to bring to your attention my concerns about a portion of the Emergency Interim Final Rule on Cargo Tank Motor Vehicles in Liquefied Compressed Gas Service promulgated on February 17, 1997 by the Research and Special Programs Administration (RSPA), and to urge you to give immediate attention and consideration to the Petition For Reconsideration filed before RSPA by the National Propane Gas Association (NPGA) on March 21, 1997.

While I applaud RSPA for taking swift action to protect the general public from accidental releases of propane in light of the accident in Sanford, North Carolina in September 1996, I am deeply concerned that the Interim Final Rule places an overly burdensome and unwarranted requirement on the propane industry, Specifically, I am concerned about the new requirement that propane deliveries be attended by two or more attendants instead of one attendant.

The Interim Final Rule (62 FR 7638) requires that "[t]he person who attends the unloading of a cargo tank motor vehicle must have an unobstructed view of the discharge system and be within arm's reach of a means for closure (emergency shut-down device) of the internal self-closing stop valve or other device that will immediately stop the discharge of product from the cargo tank." Because one person cannot comply with this new requirement, the Interim Final Rule effectively mandates that two or more attendants travel to and be present during the unloading of propane gas from a cargo tank motor vehicle.

The additional attendant requirement in the Interim Final Rule will result in enormous costs to the propane gas industry, 90 percent of which are small businesses. RSPA estimates these costs at a minimum of $237 million, and the NPGA estimates the costs at $660 million. In Alabama, a state which is heavily dependent upon propane and where the vast majority of propane dealers are small businessmen, the impact will be devastating. Potentially, this interim rule could drive some propane dealers out of business and will place an onerous burden on others. In addition, the Interim Final Rule will dramatically increase the cost of propane to consumers.

I intend to submit a series of hearing questions to RSPA concerning the liquefied compressed gas service interim rule and excess flow valve failure. Ensuring that delivery tanks and trucks have reliable emergency shut-off equipment is an important component in the safe transport and delivery of propane gas. I understand that several promising technologies for improved excess flow valves and remote shut-off systems are currently being explored. However, any new safety equipment would need to be installed on the national fleet of delivery tanks and trucks over time, in an efficient and orderly way.

In the meantime, I support a proactive safety program featuring increased employee training, systems inspections, equipment testing, and driver vigilance. These "low-tech" measures will likely result in greater safety and consumer protection, and can be instituted immediately. I strongly urge you to reconsider the additional attendant requirement in the Interim Final Rule, as specifically described in the NPGA's Petition for Reconsideration.

Thank you for your immediate attention to this matter.

Sincerely,

Richard C. Shelby
Chairman, Subcommittee on
Transportation and Related Agencies

REGULATORY EVALUATION

DOCKET RSPA-97-2133 (HM-225) - 12 |

CARGO TANK MOTOR VEHICLES
IN
LIQUEFIED COMPRESSED GAS SERVICE

JULY 1997

STATEMENT OF THE PROBLEM

BACKGROUND

On September 8, 1996, almost 40,000 gallons of propane were released during a delivery at a bulk storage facility in Sanford, North Carolina. During the unloading of a specification MC 331 cargo tank motor vehicle into two 30,000-gallon storage tanks, the discharge hose from the cargo tank separated at its hose coupling at the storage tank inlet connection. Most of the cargo tank's 9,800 gallons and over 30,000 gallons from the storage tanks were released during this incident.

The driver became aware of the system failure when the hose began to violently oscillate while releasing liquid propane. He immediately shut down the engine, stopping the discharge pump, but he could not access the remote closure control to close the internal stop valve. The excess flow feature of the emergency discharge control system did not function, and propane continued to be released from the system. Additionally, the back flow check valve on the storage tank system did not function and propane was released from the storage tanks. In light of the large quantity of propane released, the incident could have resulted in a catastrophic loss of life and extensive property damage if the gas had reached an ignition source. Fortunately, there was no fire.

Although this particular incident involved a large bulk "transport" truck delivering to a distribution facility, over the past seven years nine similar instances of propane release have been reported that involved local deliveries by small cargo tank motor vehicles.[1] In each instance, the amount of propane released was much less than at Sanford. However, fires resulted in the majority of these incidents, and several persons were injured. From a review of the incident reports, it appears the excess flow feature of the emergency discharge control systems frequently failed to function when there was a hose rupture. In most cases, leakage was only stopped by use of the remote emergency shut-down operator to close the internal stop valve.

Based on the preliminary information from the Sanford incident and a review of the other incidents identified in Appendix A, RSPA published an advisory notice in the Federal Register on December 13, 1996 (61 FR 65480). This notice alerted persons involved in the design, manufacture, assembly, maintenance or transportation of hazardous materials in MC 330 and MC 331 cargo tank motor vehicles of this problem with the excess flow feature of the emergency discharge control systems and reminded them that these tanks and their components must conform to the Hazardous Materials Regulations (49 CFR Parts 171-180; HMR). Shortly thereafter, RSPA received applications for emergency exemptions from both the National Propane Gas Association (NPGA) and the Mississippi Tank Company that revealed the problem is more extensive than originally believed. Additionally, The Fertilizer Institute(TFI) and

[1] These small vehicles are known as "bobtails" and have a nominal capacity of less than 3,500 gallons, as contrasted with the typical 10,500 gallon nominal capacity of transports.

National Tank Truck Carriers, Inc.(NTTC) submitted applications to become party to the exemptions, if granted.

In attempting to determine why the excess flow feature of the emergency discharge control system failed, the Mississippi Tank Company, a manufacturer of specification MC 331 cargo tank motor vehicles, developed preliminary information that suggests there is reason to suspect the problem is common to nearly all cargo tank motor vehicles used in liquefied compressed gas service within the United States. This problem may exist also in nonspecification cargo tank motor vehicles authorized in § 173.315(k).

In its application for exemption, the National Propane Gas Association identifies the problem as follows:

> 49 CFR 178.337-11(a)(1)(i) requires each internal self-closing stop valve and excess flow valve to automatically close if any of its attachments are sheared off or if any attached hose or piping is separated. 49 CFR 178.337-11(a)(1)(v) expands on the requirements for properly sizing excess flow valves regarding branching or other restrictions and the addition of additional smaller capacity excess flow valves, where required.
>
> Mississippi Tank Company recently conducted tests in an effort to determine why the excess flow feature of the internal valve in the transport cargo tank outlet flange in the Sanford, North Carolina incident did not function as intended by the MC-331 specification requirements. The Mississippi Tank tests clearly show that the internal stop flow valves available for use with flange mounted pumps will **not** always close automatically under conditions simulating the situation where the hoses or piping might be sheared off or separated from the pump. Mississippi Tank has also determined that there are no such internal valves presently available that will provide the protection required by §§178.337-11(a)(1)(i) and (a)(1)(v).
>
> Principal among the conclusions reached from the Mississippi Tank tests is that the internal valve equipped with the 400 gpm spring (which operates the excess flow feature to provide automatic closure) would close dependably with tank pressures as low as 65 psig but that the excess flow feature would **not** operate at tank pressures lower than 65 psig.

After evaluating the situation and the NPGA and Mississippi Tank Company emergency exemption applications, RSPA found that the situation does constitute an emergency with broad applicability to many persons and far reaching safety and economic impacts. At the time it was considering whether to grant or deny the applications for emergency exemption, RSPA also was not aware of any readily available, off-the-shelf equipment that could provide a functioning excess flow feature on cargo tanks without removal of pumps and other restrictions.

The applicants proposed an outreach effort to inform tank users of the Sanford incident and the

safety issues related to product transfer operations, and a research and development program to design a system which will provide greater safety in product transfer operations. During evaluation of the Sanford incident, it became evident that the level of safety called for in the HMR is not being achieved by emergency discharge control equipment designed, tested, produced, and certified by and for manufacturers and assemblers of these cargo tank motor vehicles. Specifically, these tanks do not meet the requirement for automatic closure of internal self-closing stop valves and excess flow valves in the event of separation of hoses or piping. The requirements of § 178.337-11 are intended to ensure an essential level of safety in event of an emergency during unloading operations. However, the level of safety provided by the immediate steps proposed by NPGA was not equivalent to the level of safety provided by § 178.337-11(a)(1)(i). The NPGA, instead, proposed requirements regarding driver training, testing and inspection of equipment, and driver attendance during unloading operations (see paragraph 27 of the NPGA application). These proposed requirements are effectively the same as regulatory standards currently set forth in the HMR.

In the Mississippi Tank application, it was suggested that "a warning statement and/or special operating instructions" could be required, but no details were offered on how that would achieve a level of safety equivalent to that provided by the existing regulatory requirements in § 178.337-11(a)(1)(i). Thus, neither application proposed procedures that would compensate for the absence of excess flow features that function reliably and in a passive manner. Because the applications did not provide for an equivalent level of safety, as required by § 107.113(f)(2)(ii), of the HMR, they were denied by the Associate Administrator for Hazardous Materials Safety.

ASSESSMENT OF CERTAIN INCIDENT REPORTS

In considering the need for a regulatory approach that adequately addresses this problem, RSPA conducted a search of its Hazardous Materials Incident Reporting System (HMIS) database to identify other incidents of hose rupture or failure of the delivery system that occurred during the unloading of cargo tank motor vehicles. The search covered incidents occurring during the period January 1, 1990 through December 31, 1996 involving vehicles loaded with hazardous materials authorized by § 173.315 i.e., liquefied compressed gases (specifically, liquefied petroleum gases (including propane), anhydrous ammonia, and chlorine). RSPA's initial search of the HMIS database resulted in the identification of thirty-two (32) incident reports conforming to those criteria. Subsequently, RSPA determined that two of the incidents involving propane were incorrectly reported and they were removed from consideration in this regulatory evaluation. The following table summarizes the volumes of gas released, the numbers of personal injuries and of evacuations, plus the value of property (including cargo) damage, that was reported to the HMIS for these incidents.

Summary of HMIS Incidents
Certain Liquefied Compressed Gases Released During Unloading Operation
(1990-1996)

Material	No. Reports	Amount Released (Gallons)			Deaths	Injuries		Areas Evacuated	Total Damages
		Low	High	Avg		Major	Minor		
Liquefied Petroleum Gas (LPG)	14	5	40000[2]	3411[3]	0	2	2	6	$931,263
Anhydrous Ammonia	15	0.25	5000	869	0	3	35	6	$23,507
Chlorine	1	1	1	1	0	0	0	0	$20

It is important to note that during the period covered by RSPA's search of the HMIS database, motor carriers that operated only in intrastate transportation of propane and other liquefied petroleum gases were not subject to reporting requirements in §§ 171.15 and 171.16 concerning incidents involving an unintentional release of the material. Thus, our identification of incidents is not comprehensive, especially considering that a large segment of the total number of propane gas dealers comprises small businesses that serve customers in close proximity (perhaps a 50 mile radius) of their principal place of business.

In its assessment of these thirty (30) incidents, RSPA determined that upon rupture of a hose, or failure of another component of the delivery system:

1) In 53% of the events (16 of 30), either the excess flow valve functioned as intended, or the operator was near enough to the vehicle to immediately actuate the emergency shut-off mechanism of the internal stop valve.

   In 3 of these 16 events, the internal stop valve failed to seat properly after being closed, and an average of 553 gallons was released (525, 533 and 600 gallons).

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[2] This incident involved the simultaneous release of approximately 30,200 gallons from two storage tanks. The amount released from the cargo tank was 9,800 gallons.

[3] When the amount (30,200 gallons) released from the bulk storage tanks in the Sanford, NC incident is removed from consideration, the average release from cargo tank motor vehicles is 1,253 gallons.

In the 13 incidents where either the excess flow or internal stop valves functioned as intended, the average amount released was 10.2 gallons.

2) In 17% of the events (5 of 30), the excess flow valve did not function properly but the operator, or another person, was in the vicinity of the vehicle and shortly thereafter (but not immediately) was able to trigger the emergency shut-off mechanism, thereby stopping the release. On average, the amount released was 174 gallons.

3) In 30% of the events, (9 of 30), the excess flow valve did not function properly and the operator was unable, due to serious injury or otherwise, to trigger the emergency shut-off mechanism. On average, the amount released from cargo tanks was 3,103 gallons[4].

[4] Among these incidents is the one at Sanford, NC referred to in footnote #1 to the table, Summary of HMIS Incidents. With inclusion of the 30,200 gallons simultaneously released from storage tanks during this incident, the average release from all sources for the nine events would be 6,459 gallons.

DISCUSSION OF ALTERNATIVES

ALTERNATIVE 1. Do nothing.

RSPA believes that to take no action in the face of the demonstrated inadequacy of current excess flow valve installations on liquefied compressed gas cargo tank motor vehicles is not a viable alternative in that in the immediate future it would expose the public to unacceptable risks of injury and property damage during unloading of these vehicles. Since publication of the interim final rule, RSPA received indications from public meetings and other sources of contact with industry that passive emergency discharge control systems effectively meeting HMR requirements are being developed and are expected to be commercially available after approximately one year. However, the lack of such devices off-the-shelf at the present time precludes retrofitting as a means of protection from these potential hazards in the meantime.

Furthermore, if RSPA were to adopt a "do nothing" approach, it could be misinterpreted by some affected persons as the Federal government's implied consent to tank manufacturers, assemblers and motor carriers that they may continue their operations, even though they may be knowingly and willfully in violation of the HMR. If, on the other hand, any affected persons were to recognize the seriousness of the problem and voluntarily suspended their business operations while their equipment is modified to conform with current requirements, some households and businesses that rely on propane and other liquefied compressed gases could be exposed to unacceptable threats to their safety and economic well-being because of the non-availability of these essential materials.

While this approach by definition imposes no costs of compliance, it also by definition burdens the public with probable costs of injury and property damage, plus costs of evacuation measures taken to protect people from further injury, that might have been avoided by alternative government action. Such costs are estimated below in connection with evaluation of the economic benefits of the final rule (Alternative 3).

ALTERNATIVE 2. Temporarily withdraw requirement for passive emergency discharge control system until a technical solution to the problem is developed.

This alternative has the effect of declaring that because currently used product transfer systems do not perform as intended the requirement is antiquated and no person should be penalized for failure to comply. Because this alternative fails to include any requirement designed to prevent and contain the unintentional release of a hazardous material it effectively relies on the manufacturers, assemblers, and operators of these cargo tank motor vehicles to independently, or collectively, develop safety systems or controls they believe are adequate. Prior to publication by RSPA, on February 19, 1997, of the interim final rule, there was little indication that industry was modifying its equipment or implementing new procedures designed to minimize the potential threat that currently exists. Thus, RSPA was forced to conclude that the industry did not contemplate implementation, on its own initiative, of any additional measures that assure safety during the unloading operation.

Federal hazardous materials transportation law mandates that the Secretary of Transportation shall prescribe regulations for the safe transportation of hazardous materials. In light of its recent discovery of this flaw in the product retention system, RSPA must act to remedy this transportation safety problem as soon as possible. To withdraw the current requirement without providing an alternate means of assuring product containment would be irresponsible and contrary to the statutory mandate.

The lack of compliance costs, coupled with the effective burden on the public in terms of potentially avoidable costs stemming from unintentional releases may be considered to be the same as for Alternative 1.

ALTERNATIVE 3. Temporarily suspend requirement for passive emergency discharge control system until a technical solution to the problem is available; require compliance with rules for increased inspection and testing of delivery hoses; and require compliance with additional operational controls during transfer operations.

This alternative, which RSPA has adopted as the final rule, acknowledges the across-the-board problem that exists in emergency discharge control systems currently used on cargo tank motor vehicles intended to contain liquefied compressed gases. However, unlike Alternative 2, it applies additional requirements designed to compensate for the inoperability of the emergency discharge control system.

Of the three alternatives, only Alternative 3 permits RSPA to meet its statutory mandate to prescribe regulations for the safe transportation of hazardous materials in commerce.

Costs to Society Per Gallon of Propane Spilled

In its assessment of the fourteen (14) incidents involving liquefied petroleum gas/propane, RSPA determined that upon rupture of a hose, or failure of another component of the product delivery system,:

1) In 43% of the events (6 of 14), either the excess flow valve functioned as intended, or the operator was near enough to the emergency shut-off mechanism to immediately stop the release. On average, the amount released was 23 gallons[5].

2) In 21% of the events (3 of 14), the excess flow valve did not function properly but the operator, or another person, was in the vicinity of the vehicle and shortly thereafter (but not immediately) was able to trigger the emergency shut-off mechanism, thereby stopping the release. On average, the amount released was 143 gallons.

3) In 36% of the events, (5 of 14), the excess flow valve did not function properly and the operator was unable, due to serious injury or otherwise, to trigger the emergency shut-off mechanism. On average, the amount released was 3,281 gallons[6].

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[5] One incident involved a release of 600 gallons. The excessive quantity released is attributed to failure of the internal valve to seat properly. When this incident is considered, the average release is 119 gallons.

[6] One incident involved the simultaneous release of approximately 30,200 gallons from two storage tanks. The amount released from the cargo tank motor vehicle was 9,800 gallons. When the quantity released from the storage tank is considered also, the average release is 9,321 gallons.

In this evaluation, RSPA considered also the following data provided by the National Propane Gas Association and other sources, as noted:

1) On an annual basis, 18 billion gallons of propane are unloaded from cargo tank motor vehicles. Half of this volume is handled in large bulk transports (nominal capacity of 10,500 gallons) and unloaded at retail dealer facilities and other bulk plants. The other half of this volume is handled in smaller cargo tank motor vehicles (nominal capacity less than 3,500 gallons) called bobtails that deliver product at private residences and other locations.[7]

2) Approximately 25,000 cargo tank motor vehicles appear not to conform to current requirements for emergency flow control. This consists of 6,000 transports and 18,000 bobtails operated by propane wholesalers and retailers, plus another 1,000 transports operated by for-hire carriers.[8]

3) Within the NPGA membership, there are 3,200 small, independent businesses operating about 3,400 bulk plants (local retail facilities). Another 3,400 bulk plants are operated by 17 multi-state marketing companies that are members of the NPGA. NPGA estimates its members sell over 85% of the propane used as a residential heating fuel.[9]

4) For the purposes of analysis, the socio-economic value associated with a life is $2.7 million, the average major injury is $506,250, and the average minor injury is $5,400.[10]

5) The total reported losses are $931,263; an average of $66,519 per incident, or $133,038 per year.

6) An ordered evacuation resulting from a release of LPG is conservatively estimated, on average, to impose costs in the amount of $50,000. It is quite plausible to project evacuation-related costs that significantly exceed this figure. For example, should an incident occur in a light industrial area comprised of a number of small businesses that employ 200 persons, the cost in lost wages alone may easily exceed $20,000 in a eight-

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[7] NPGA application for emergency exemption dated December 18, 1996; p2-3,9.

[8] Telephone conversations between RSPA staff and Mr. W.H. Butterbaugh of the NPGA and Mr. Cliff Harvison of the National Tank Truck Carriers, Inc.

[9] NPGA application for emergency exemption dated December 18, 1996; p8.

[10] Treatment of Value of Life and Injuries in Preparing Economic Evaluations, U.S. DOT (OST-C and OST-P) memorandum dated January 8, 1993 and update memorandum dated March 15, 1994. In this analysis RSPA equates a minor injury to the Abbreviated Injury Scale (AIS) level 1 (minor) and uses the fraction 0.0020 of the current value of life. For a major injury, RSPA uses AIS level 4 (severe) and uses the fraction 0.1875 of the current value of life.

hour period. In addition, lost sales or the prohibited use of capital investments during that same period may be several times greater than the value of lost wages. In other plausible scenarios that include facilities like a hospital or school, the costs may easily increase by several orders of magnitude.

RSPA used the following expression to estimate the annual cost to society (in terms of injuries, property damage, and evacuations) per gallon of liquefied petroleum gas unintentionally released during unloading from cargo tank motor vehicles:

TC-LPG = Annual Cost to Society Per Gallon of LPG Released

TC-LPG = [a + (b * c) + (d * c * e) + (f * c * g) + (h * i)] / m
Where:

a = Average annual reported property losses; HMIS (1990-96)	$133,038
b = Average annual number of reported deaths; HMIS (1990-96)	0
c = Economic value of a life	$2,700,000
d = Average annual number of reported major injuries; HMIS (1990-96)	0.2857
e = Abbreviated injury scale (AIS) value of a major injury	0.1875
f = Average annual number of reported minor injuries; HMIS (1990-96)	0.2857
g = Abbreviated injury scale (AIS) value of a minor injury	0.0020
h = Average cost of an ordered evacuation	$50,000
i = Average annual number of ordered evacuations	0.8571
m = Average annual number of gallons released during unloading[11]	2,506

TL-LPG = [a + (b * c) + (d * c * e) + (f * c * g) + (h * i)] / m = $128.52

NOTE: This is RSPA's most conservative estimate. If adjusted for underreporting of the number of incidents (by a factor of 2), and underestimation of property damage (by a factor of 10), indicated by the Office of Technology Assessment report "Transportation of Hazardous Materials" July 1986, as being closer to the actual number of incidents and their associated damages, the cost per gallon released during unloading rises to $606.31.

From these calculations, RSPA determined the aggregate annualized costs to society associated with these releases of propane range from a low of $322,071 ($128.52 x 2506 gallons) to a high of $3,038,826 ($606.31 x 5012 gallons).

[11] This number was derived by calculating the total number of gallons of propane released between 1990-1996 in the 14 incidents considered in this evaluation, minus the 30,200 gallon release from the fixed storage tank in the Sanford, NC incident.

Compliance Costs of the Final Rule (Alternative 3)

New compliance requirements imposed under this alternative are:

Prior to each transfer, inspection of the discharge system (i.e., all hose and hose fittings and other equipment arranged in the configuration to be employed during transfer operations), to assure it is of sound quality, free of leaks, and that connections are secure.

Pressure testing of new or repaired hoses, or a modified hose assembly, prior to its first use.

In event of an unintentional release during transfer, the person attending the transfer being able to immediately activate the internal self-closing stop valve to shut down all motive and auxiliary power equipment, either by:

- the person's being positioned within arm's reach of the mechanical means of closure throughout the unloading operation, except for momentary periods necessary to operate the power take-off or other means of energizing the discharge system,

- the person's carrying a radio frequency transmitter communicating with receiver equipment on board the vehicle capable of closing the stop valve, or

- some other equally effective system.

Development by each motor carrier of a comprehensive emergency procedure, its maintenance on each motor vehicle, and the training of each vehicle operator in its provisions.

Marking of each cargo tank to indicate that it must be operated in accordance with these special provisions.

Annotation of the currently filed certificate of compliance for each cargo tank with a statement that its emergency excess flow control performance is not established.

Expected compliance costs of this alternative, and its benefits in terms of future costs of unintended discharge that may be expected to be avoided due to the choice of this alternative rather than alternatives 2 or 3, are estimated below.

RSPA believes that the principal compliance cost of the final rule will be generated by operators of small (bobtail) tank vehicles, which are mostly used for local retail propane delivery, installing

a radio frequency system as the most practical way of fulfilling the rule's requirement for immediate stop valve closure capability. It is expected that operators of the larger transport vehicles will be able to fulfill this requirement without added expense, since these vehicles normally deliver product over short distances into large receiving commercial or industrial receiving tanks and thus the driver can maintain proper surveillance of the transfer and still be in a position to reach, if necessary, one of the two manual shut-offs that are required on these size vehicles.

Approximately 25,000 cargo tank motor vehicles appear not to conform to current requirements for emergency flow control and thus affected by this rule. Among these, there are believed to be about 1000 transports operated by for-hire carriers and about 6000 transports plus 18,000 bobtails operated by propane wholesalers and retailers.[12] Propane-carrying transports are also used to deliver anhydrous ammonia to distributors during the high season for this primarily agricultural material, which is complementary to the season for use of propane for space heating.[13]

Almost all, about 95%, of bobtails are believed to be equipped with compressed-air systems to actuate brakes and other components of the motor vehicle. The present internal stop valves on some air-equipped bobtails are designed to open when the pump is started and close when it is shut off. On almost all others, this valve closes when the compressed air holding it open is bled off. In the former case, a radio frequency emergency system requires only a motor shut-off switch on the truck to be actuated by the transmitter; in the latter a solenoid installation would be necessary, also. RSPA believes that all parts necessary for either type of system are readily available from commercial sources and estimates that $250 to $500 per vehicle would cover the cost of any such installations on most bobtails.

At $250 to $500 each, the estimated immediate, one-time cost for radio frequency shut-off system installation on (to be conservative) all of the approximately 18,000 bobtails believed to be in use ranges from $4.5 million to $9.0 million.

RSPA considers that the requirements for pre-transfer inspection of the delivery system and for pressure testing any new or modified hoses used will not impose on delivery operations any significant additional labor or equipment costs since they do not require activities that go beyond current normal and prudent practice.

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[12] Telephone conversations between RSPA staff and Mr. W.H. Butterbaugh of the NPGA and Mr. Cliff Harvison of the National Tank Truck Carriers, Inc.

[13] While a very few bobtails are known to have been acquired principally for making industrial deliveries of anhydrous ammonia in certain restricted locations,, their number -- believed to be under fifty for the entire U.S. -- is not considered significant enough to justify altering the figure of approximately 18,000 bobtails that is used here for purposes of compliance cost estimation. (Per Mr. Carl Hendrix, National Fleet Manager, LaRoche Industries)

The requirements for marking (presumably using a pressure- sensitive vinyl material) on the cargo tank that it is being operated in accordance with special provision and annotating the inspection report with a statement that excess flow valve performance is not established, while obviously not current practice, are not considered to impose any significant measurable compliance cost.

The preparation of comprehensive emergency procedures is estimated to cost each firm operating cargo tanks subject to this rule $62, with no significant additional cost to place a copy on each cargo tank vehicle. The latest available Census of Retail Trade and Census of Wholesale Trade of the U.S. Bureau of the Census (1992) list 2,634 retailers, 409 "merchant wholesalers" and 15 "manufacturers' sales branches" categorized as liquefied petroleum gas dealers. The NPGA's application for emergency exemption dated December 18, 1996, noted over 3,200 propane dealers in their membership (mostly small independent businesses but including 17 multi-state marketing companies). While large propane marketers may operate 200 individual distribution facilities, as contrasted with the single location of many small dealers, it is considered reasonable to assume that an individual firm need prepare only one set of emergency procedures in order to cover however many locations from which it operates vehicles subject to this rule.

Applying this $62 figure to a conservatively high estimate of individual 3300 propane dealers operating the estimated 24,000 bobtails and transports (see above), plus another 300 motor carriers estimated to be operating the estimated 1000 transports in for-hire service, yields an estimated total one-time cost for emergency procedure preparation of $223,200.

The information-collection-related requirement is being separately reviewed in a request that RSPA submitted to the Office of Management and Budget for approval.

Significance of Final Rule Compliance Costs in Terms of Impact on Total Cost of Delivered Propane

Since the principal compliance costs of this rule are expected to be for the equipping with radio frequency shut-off devices of bobtails used for delivering propane, to a great extent to private residences where it is consumed as fuel, it seems appropriate to assess the relative importance of the costs thereby imposed on bobtail-delivered propane buyers in general and residential consumers in particular.

The NPGA has estimated that approximately 18 billion gallons of propane are unloaded annually from cargo tank motor vehicles, with about half this volume being unloaded from transports at retail dealer and other bulk facilities and the other half from bobtails at private residences and other locations that receive smaller quantities.[14] Even if the aggregate one-time expenditure of $4.5 million to $9.0 million estimated above for radio frequency system installation on bobtails is treated as if it had value for only one year into the future, it amounts to only .05 to .10 of one cent for each the estimated nine billion annual bobtail-delivered gallons. Likewise, the aggregate expenditure estimated above for emergency procedures documentation for propane dealers, $223,200, amounts to only another .002 of one cent per bobtail-delivered gallon even when compared in its entirety only to that gallonage that reaches its final buyer by bobtail. (This propane has typically been brought to a local distribution facility by a transport, but some highway deliveries of large quantities to industrial or commercial buyers are made directly by transports.)

This estimated total of $0.00052 to $0.00102 per gallon is obviously quite small in relation to the most recent (1995) national average delivered price per gallon of propane to residential consumers, $0.865 (excluding taxes). Latest available figures (1993) from the U.S. Energy Information Administration's publication Household Energy Consumption and Expenditures, which are based on household surveys, show an annual average of 513 gallons for liquefied petroleum gas-consuming households. The $0.00052 to $0.00102 cents per gallon would amount to a one-year burden of $0.27 to $0.52 on 513 gallons.

A third way of looking at the significance of compliance cost in terms of the consumption of the product involved would be to compare the $4.68 million to $9.18 million estimated aggregate cost to the latest available estimate, from this same Energy Information Administration source, of overall household spending on liquefied petroleum gas. For 1993 this was $3.89 billion.

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[14] NPGA application for emergency exemption dated December 18, 1996; p2-3,9. Note that the latest figures available from the American Petroleum Institute's publication Sales of Natural Gas Liquids and Liquefied Refinery Gases (1995) show 5.5 million gallons of liquefied petroleum gas purchased by residential and commercial customers, of which the U.S. Energy Information Administration estimates that residential alone accounts for approximately 85%, or 4.7 billion gallons.

Significance of Estimated Cost of Compliance with the Final Rule in Terms of Impact on Regulated Cargo Tank Operators

As noted above, most of the compliance cost burden of this rule is expected to fall on propane dealers, and RSPA expects these costs to be passed on to customers. A total one-time expenditure of $4.7 million to $9.2 million is estimated here as being required of these dealers (the entire $4.5 million to $9.0 million for radio frequency device installation on bobtails plus the $223,200 for documentation of emergency procedures estimated as applying to such dealers). This expenditure is very small in relation to the revenue from sales of liquefied petroleum gas by dealers to final users, without even counting those sales that may be made directly to industrial, agricultural or commercial customers by merchant wholesalers or gas producers. The latest available (1992) Census of Retail Trade showed sales of liquefied petroleum gas by retail dealers alone to amount to $4.87 billion.

Of course, a large part of the revenue of liquefied petroleum gas dealers goes to purchase the gas and any other material resold. However, the $4.7 million to $9.2 million estimated above still appears relatively small when compared only to the margin between operating expenses and revenues net of the cost of such purchases and appears to add relatively little to a year's worth of outlays made by these dealers for capital equipment.

The U.S. Bureau of the Census has provided RSPA with 1992 sample-survey based estimates of these quantities that are normally not published in such industry-specific detail since they have been subjected to only limited review. They were only available combined with those for fewer than 300 miscellaneous types of fuel dealers that could not be classified as "fuel oil" vendors, but this minor category accounted for only 1.3% of combined sales according to the 1992 Census of Retail Trade. 98.7% pro-rates of the estimated operating margin and of the estimated annual capital expenditure (other than for land) amounted to $499 million and $191 million, respectively, for retail liquefied petroleum gas dealers.

Another way of putting these estimated compliance costs in perspective is to express their major component, the equipping of bobtails with radio frequency devices, as an average expenditure per retail liquefied petroleum gas business location. Using the 5393 such locations in existence during an entire year that were shown in the 1992 Census of Retail Trade, this yields an average of under $800 per location.

Impact of this Rule on Small Businesses

The Regulatory Flexibility Act (5 USC 601-611) is concerned with identifying the economic impact of regulatory actions on small businesses and other small entities. It requires a final rule to be accompanied by a final regulatory flexibility analysis, consisting of a statement of the need for the rule, a summary of public comments received on regulatory flexibility issues and agency responses to them, a description of alternatives to the rule consistent with the regulatory statutes

but imposing less economic burden on small entities, and a statement of why such alternatives were not chosen.

Unless alternative definitions have been established by the agency in consultation with the Small Business Administration, the definition of "small business" has the same meaning as under the Small Business Act. Therefore, since no such special definition has been established, RSPA employs the thresholds published (in 13 CFR 121.201) of 100 employees for wholesale trade in general and $5,000,000 annual sales for retail trade in general. As noted above, liquefied petroleum gas dealers constitute the principal type of business on which significant compliance costs will be imposed by this rule, in particular for equipment on retail-type delivery vehicles. Using the Small Business Administration definitions and the latest (1992) available Census of Retail Trade, it appears that over 95% of retail liquefied petroleum gas dealers must be considered small businesses for purposes of the Regulatory Flexibility Act. They accounted in the 1992 Census for over 50% of business locations and almost 43% of annual sales. Unpublished 1992 Census of Wholesale Trade figures provided to RSPA by the U.S. Bureau of the Census indicate that over 95% of merchant wholesalers of liquefied petroleum gas also must be considered small businesses; they accounted for approximately 40% of business locations and over 50% of annual sales.

The Regulatory Flexibility Act suggests that it may be possible to establish exceptions and differing compliance standards for small business and still meet the objectives of the applicable regulatory statutes. However, given the importance of small business, as defined for purposes of the Regulatory Flexibility Act, in liquefied petroleum gas distribution and especially in its retail sector, where improved emergency shut-off equipment is necessary to assure adequate safety during delivery operations, RSPA believes that it would not be possible to establish such differing standards and still accomplish the objectives of Federal hazardous materials transportation law (49 U.S.C. 5101 *et seq.* RSPA further believes that the discussion in the preliminary regulatory evaluation and in the February 19, 1997 Federal Register publication of the interim final rule as to the need for regulatory action, issues raised by the public and the consideration of alternatives open to the government apply to small as well as large businesses in the affected industries.

While certain regulatory actions may affect the competitive situation of an industry by imposing relatively greater burdens on small-scale than on large-scale enterprises, RSPA does not believe that this will be the case with the rule. The principal types of compliance expenditure effectively required by the rule, radio frequency emergency shut-off system installation, is imposed on each vehicle, whether operated within a large or a small fleet. While there is undoubtedly some administrative efficiency advantage to a large firm in being able to make a single set of arrangements for such installations on a large number of vehicles at a time, the imposing of the requirement contemplates use of commercially-available equipment, without any need for the sort of extensive custom development work that only a large firm could afford. While the only other compliance expenditure that is believed to be significant in the aggregate, that for

documentation of emergency procedures, has been projected here on a per-firm rather than a per-vehicle or per-location basis, the average of $62 estimated for each such preparation does not appear high enough to significantly affect the economics of small-scale as contrasted with large-scale distribution of the affected commodities.

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APPENDIX

U.S. DEPARTMENT OF TRANSPORTATION
HAZARDOUS MATERIALS SAFETY
HAZARDOUS MATERIALS INFORMATION SYSTEM

SPECIFIED LIST OF LIQUEFIED COMPRESSED GAS BULK HIGHWAY INCIDENTS

Date: 03/15/90
Carrier: STAR GAS CORP
Incident Location: RINGTOWN, PA
Commodity Name: LIQUEFIED PETROLEUM GAS
Amount Released: 12 GAL
$ Damages: 356
Major Injuries: 1
Minor Injuries: 0
Narrative Description: IN THE PROCESS OF MAKING A PROPANE DELIVERY, THE DELIVERY HOSE RUPTURED CAUSING A RELEASE OF LIQUID PROPANE. THE PROPANE WAS TURNED OFF AT THE TRUCK, BUT BEFORE THE PROPANE THAT HAD BEEN RELEASED COULD DISSIPATE, IT IGNITED A ND STARTED A FIRE. (SOURCE OF IGNITION IS UNKNOWN). EMPLOYEE ATTEMPTED TO EXTINGUISH THE FIRE WITH THE FIRE EXTINGUISHER UNTIL IT WAS EXHAUSTED. UPON ARRIVAL OF THE FIRE COMPANY TO EXTINGUISH THE FIRE, THE EMPLOYEE WAS TAKEN TO THE LOCAL MEDICAL CENTER FOR TREATMENT AND THEN RELEASED.
Release Category: I

Date: 06/26/90
Carrier: KELLEY JACK B INC
Incident Location: WATERLOO, IA
Commodity Name: AMMONIA ANHYDROUS
Amount Released: 4375 GAL
$ Damages: 12500
Major Injuries: 1
Minor Injuries: 26
Narrative Description: CARRIER WAS UNLOADING PRODUCT INTO A RAIL CAR BEING USED AS TEMPORARY STORAGE. FILL LINE FROM CARGO TANK TO RAIL CAR RUPTURED. PRODUCT WAS VENTED TO ATMOSPHERE. AREA WAS EVACUATED AS NECESSARY.
Release Category: III

Date: 09/11/90
Carrier: LAROCHE INDUSTRIES INC
Incident Location: GAINESVILLE, GA
Commodity Name: AMMONIA ANHYDROUS
Amount Released: 2.5 GAL
$ Damages: 725
Major Injuries: 0
Minor Injuries: 0
Narrative Description: THE LAROCHE TRUCK WAS PUMPING OUT THE SYSTEM AT GRESS FOODS IN GAINESVILLE. GA. A NEW GOODALL HOSE THAT HAD BEEN INSTALLED APPROXIMATELY TWO MONTHS AGO, STARTED TO LEAK. THE DRIVER HAD EVERYONE IN THE AREA TO EVACUATE THE AREA UNTIL HE COULD CLOSE ALL VALVES AND DRAIN THIS HOSE. EIGHT PEOPLE HAD TO MOVE FOR ABOUT TWENTY MINUTES WITH NO INJURIES.
Release Category: I

Date: 10/02/90
Carrier: MATLACK INC
Incident Location: BRIGHTON, CO
Commodity Name: LIQUEFIED PETROLEUM GAS
Amount Released: 50 GAL
$ Damages: 100
Major Injuries: 0
Minor Injuries: 0
Narrative Description: DURING UNLOADING INTO STORAGE, THE FACILITY PRODUCT HOSE RUPTURED, RESULTING IN LOSS OF COMMODITY INTO ATMOSPHERE. HOSE REPLACED AND UNLOADING CONTINUED WITHOUT FURTHER INCIDENT.
Release Category: II

Date: 02/18/91
Carrier: ARROW TRANSPORTATION CO
Incident Location: TACOMA, WA
Commodity Name: AMMONIA ANHYDROUS
Amount Released: 2.5 GAL
$ Damages: 50
Major Injuries: 0
Minor Injuries: 1
Narrative Description: WHILE UNLOADING, LIQUID HOSE LINE RUPTURED. INTERNAL VALVES IMMEDIATELY SHUT. ONLY PRODUCT IN HOSE WAS RELEASED. DRIVER TREATED & RELEASED FOR INHALATION OF VAPOR.
Release Category: I

Date: 04/08/91
Carrier: GRAMMAR INDUSTRIES INC
Incident Location: BAKER, IL
Commodity Name: AMMONIA ANHYDROUS
Amount Released: 0.25 GAL
$ Damages: 0
Major Injuries: 1
Minor Injuries: 0
Narrative Description: TRANSFERRING A LOAD OF ANHYDROUS AMMONIA FROM A TANK TRAILER TO A STORAGE TANK, A HOSE BROKE AND WAS REPAIRED WITHOUT INCIDENT, BUT AFTER REPLACING HOSE THE DRIVER FORGOT TO CLOSE A BLEED OF VALVE WHEN TRANSFER WAS RESTARTED THE LINE BLEW SPLASHING LIQUID ONTO HIS NECK, SHOULDER AND HEAD. HE WAS WEARING PROPER SAFETY EQUIPMENT INCLUDING GLOVES AND GOGGLES AND WAS IMMEDIATELY PUT INTO A WATER TANK TO FLUSH THE SKIN AND EYES.
Release Category: I

Date: 03/04/91
Carrier: VIRGINIA PROPANE INC
Incident Location: FREDERICKSBURG, VA
Commodity Name: PROPANE
Amount Released: 30 GAL
$ Damages: 711016
Major Injuries: 0
Minor Injuries: 0
Narrative Description: THE ACCIDENT OCCURRED WHILE DRIVER WAS REFILLING A PROPANE FORKLIFT CYLINDER. THE ACME SECTION ON FILLER VALVE BROKE AND WEDGED IN THE FILLER VALVE ON HOSE THUS ALLOWING AN UNRESTRICTED FLOW OF GAS WHICH IMMEDIATELY ACTIVATED THE EXCESS INTERNAL FLOW VALVE ON TRUCK (SHUTTING DOWN). THE AMOUNT OF GAS ESCAPED WAS THE CONTENT OF THE HOSE AND PIPES TO INTERNAL VALVE. THE EXPLOSION AND FIRE OCCURRED WHEN GAS ENTERED THE BUILDING AND IGNITED BY SOME SOURCE. THE HOSE, METER AND VALVES WERE DESTROYED BY THE FIRE. TRUCK WAS MOVED EVACUATED AND TOWED TO OFFICE COMPOUND FOR SUBSEQUENT REPAIRS.
Release Category: I

Date: 11/26/91
Carrier: KENAN TRANSPORT CO INC
Incident Location: TITUSVILLE, FL
Commodity Name: PETROLEUM GASES LIQUEFIED
Amount Released: 180 GAL
$ Damages: 100
Major Injuries: 0
Minor Injuries: 0
Narrative Description: KENAN TRANSPORT COMPANY DRIVER WAS UNLOADING PRODUCT. PUMP FAILED RELEASING APPROXIMATELY 1 - 2% OF PRODUCT INTO THE ATMOSPHERE. NO FURTHER REMEDIAL ACTION WAS REQUIRED.
Release Category: II

Date: 04/14/92
Carrier: PROPANE TRANSPORT INC
Incident Location: SHELBY, OH
Commodity Name: AMMONIA ANHYDROUS
Amount Released: 533 GAL
$ Damages: 400
Major Injuries: 0
Minor Injuries: 0
Narrative Description: WHILE ATTEMPTING TO UNLOAD PRODUCT AT CUSTOMER LOCATION, THE FRONT PUMP SEAL FAILED, ALLOWING PRODUCT TO ESCAPE. DURING REPAIRS TO THE TRAILER IT WAS DISCOVERED THE INTERNAL VALVE WAS NOT CLOSING PROPERLY. THE SEALING FLANGE HAD RUSTED, HOLDING INTERNAL VALVE OPEN APPROXIMATELY 1/16 OF AN INCH. BOTH INTERNAL VALVE AND PUMP SEAL HAVE BEEN REPAIRED OHIO EPA REPORT NUMBER - 9204-70-1359 NATIONAL RESPONSE NUMBER - 114481
Release Category: I

Date: 06/24/92
Carrier: WAYNE TRANSPORTS INC
Incident Location: CAMBRIDGE, MN
Commodity Name: AMMONIA ANHYDROUS
Amount Released: 6 GAL
$ Damages: 0
Major Injuries: 0
Minor Injuries: 0
Narrative Description: WHILE DRIVER WAS UNLOADING, HOSE OPENED UP. HOSE HAD SLIGHT LEAK 4 INCHES FROM CONSIGNEE'S CONNECTION. WE HAVE SINCE PRESSURE TESTED ALL OF OUR HOSES.
Release Category: I

Date: 06/05/92
Carrier: GROENDYKE TRANSPORT INC
Incident Location: ADAMS, OK
Commodity Name: AMMONIA ANHYDROUS
Amount Released: 1800 GAL
$ Damages: 600
Major Injuries: 1
Minor Injuries: 2
Narrative Description: #1 HOOKED HOSE TO CUSTOMER'S TANK. OPENED VALVES. STATIONERY HOSE BURST. #1 CLOSED VALVES. #1 BREATHED IN VAPORS. WAS TAKEN TO HOSPITAL, TREATED AND RELEASED. VAPORS TRAVELED TO NEARBY TRAILER WHERE TWO TEENAGE GIRLS LIVED. THEY WENT TO THE DOCTOR, WERE TREATED AND RELEASED. FIRE DEPARTMENT WASHED DOWN.
Release Category: III

Date: 09/09/92
Carrier: PETROLANE GAS SERVICE INC
Incident Location: MILWAUKEE, WI
Commodity Name: PETROLEUM GASES LIQUEFIED
Amount Released: 1255 GAL
$ Damages: 424
Major Injuries: 0
Minor Injuries: 0
Narrative Description: DELIVERING TO A BULK CUSTOMER, SHUT OFF VALVE AS THE AMOUNT WAS DELIVERED. WHEN SHUT OFF, HOSE RUPTURED CAUSING A SPILLAGE OF APPROX 1255 GALLONS. WERE ABLE TO STOP LEAK BY USING EMERGENCY SHUT OFF AND HOSE SHUT OFF VALVE.
Release Category: III

Date: 09/17/92
Carrier: ARROW TRANSPORTATION CO
Incident Location: KEIZER, OR
Commodity Name: CHLORINE
Amount Released: 1 GAL
$ Damages: 20
Major Injuries: 0
Minor Injuries: 0
Narrative Description: DRIVER WAS UNLOADING AND SOME CHLORINE SLIPPED OUT FROM A VALVE.
Release Category: I

Date: 10/22/92
Carrier: LAROCHE INDUSTRIES INC
Incident Location: MOUNTAIN VIEW, CA
Commodity Name: AMMONIA ANHYDROUS
Amount Released: 87.5 GAL
$ Damages: 0
Major Injuries: 0
Minor Injuries: 0
Narrative Description: AT ABOUT 11:00 - OCTOBER 22,1992 A PUMP SHAFT ON AN ANHYDROUS AMMONIA DELIVERY TRUCK BROKE, DISCHARGING ANHYDROUS AMMONIA VAPOR TO THE ATMOSPHERE. THE INTERNAL VALVE, DESIGNATED TO ISOLATE THE PUMP FROM THE TANK CONTENTS FAILED TO CLOSE COMPLETELY ALLOWING THE TANK CONTENTS TO DISCHARGE. APPROXIMATELY 700 LBS OF ANHYDROUS AMMONIA WAS DISCHARGED OVER AN EIGHT HOUR PERIOD. THE UNINTENTIONAL DISCHARGE TOOK PLACE AT SPECTRA-PHYSICS IN MOUNTAIN VIEW, CA. THE OPERATOR HAD JUST FINISHED PUMPING OFF AMMONIA TO THE CUSTOMERS TANK WHEN THE PUMP FAILED.
Release Category: II

Date: 04/19/93
Carrier: PETROLANE Q F B PARTNERSHIP
Incident Location: DERRY, NH
Commodity Name: PETROLEUM GASES LIQUEFIED
Amount Released: 1850 GAL
$ Damages: 165060
Major Injuries: 0
Minor Injuries: 1
Narrative Description: FLEX HOSE FAILED AFTER A ROUTINE DELIVERY. ESCAPED VAPOR IGNITED SETTING VEHICLE, HOME AND SURROUNDING FIELDS ON FIRE. IGNITION SOURCE IS UNKNOWN.
Release Category: III

Date: 05/22/93
Carrier: AGLAND INC
Incident Location: GILCREST, CO
Commodity Name: AMMONIA ANHYDROUS
Amount Released: 351.25 GAL
$ Damages: 588
Major Injuries: 0
Minor Injuries: 3
Narrative Description: THE HOSE RUPTURED WHILE THE CARGO TANK WAS BEING UNLOADED. EMPLOYEES APPROACHED THE VALVE FROM UPWIND TO CLOSE THE VALVE. THE AMMONIA CLOUD DISPERSED IN THE AIR SO CLEANUP ACTIVITY WAS NOT NEEDED. FIRE DEPARTMENT WAS CONTACTED AND THREE PERSONS WERE SENT TO THE HOSPITAL FOR PRECAUTION AND WERE RELEASED 1 HOUR LATER. THE HOSE ON THE CARGO TANK HAS BEEN REPLACED. THE USE OF VEHICLE SAFETY CHECKLISTS IS BEING RE-EMPHASIZED.
Release Category: III

Date: 03/31/94
Carrier: LAROCHE INDUSTRIES INC
Incident Location: KANSAS CITY, KS
Commodity Name: AMMONIA ANHYDROUS
Amount Released: 3.75 GAL
$ Damages: 6
Major Injuries: 0
Minor Injuries: 0
Narrative Description: THE DRIVER AT THE LAROCHE CUSTOMER SERVICE CENTER IN KANSAS CITY, KS WAS CIRCULATING NH3 ON TRAILER S51. DURING THE PROCEDURE, THE DRIVER HEARD A HISSING SOUND AND INVESTIGATED IT. HE DISCOVERED 3 BULGES IN THE 2" UNLOADING HOSE. HE IMMEDIATELY SHUT DOWN THE PUMP AND ISOLATED THE HOSE. AFTER BLEEDING DOWN THE HOSE IT WAS REMOVED AND SENT TO GOODALL FOR INSPECTION. A NEW HOSE WAS INSTALLED. APPROXIMATELY 30 POUNDS OF NH3 WAS RELEASED.
Release Category: I

Date: 03/15/94
Carrier: LAROCHE INDUSTRIES INC
Incident Location: LOS ANGELES, CA
Commodity Name: AMMONIA ANHYDROUS
Amount Released: 0.03 GAL
$ Damages: 0
Major Injuries: 0
Minor Injuries: 0
Narrative Description: DRIVER WAS APPROXIMATELY 50% THROUGH THE ANHYDROUS AMMONIA UNLOADING PROCESS (50% EMPTY) WHEN THE PUMP SHAFT BROKE. THE PUMP BEGAN TO LEAK AT THE SHAFT SEAL ON THE SHAFT INLET SIDE OF THE PUMP. BREAK WAS INTERNAL TO THE PUMP. PUMP WAS LOCATED BENEATH THE CARGO TANK PUMP SHUT DOWN. NO EXPOSURE TO ANYONE.
Release Category: I

Date: 11/25/94
Carrier: FERRELL GAS INC
Incident Location: LOUISVILLE, KY
Commodity Name: PETROLEUM GASES LIQUEFIED
Amount Released: 50 GAL
$ Damages: 4477
Major Injuries: 0
Minor Injuries: 0
Narrative Description: WHILE UNLOADING PRODUCT-PUMP SEAL FAILED CAUSING APPROXIMATELY 50 GALLONS OF PROPANE TO BE RELEASED (EMERGENCY SHUT OFF SYSTEM WORKED AS DESIGNED) RESULTING IN FIRE.
Release Category: I

Date: 02/10/95
Carrier: SUBURBAN PROPANE GAS CORP
Incident Location: HONESDALE, PA
Commodity Name: PETROLEUM GASES LIQUEFIED
Amount Released: 5 GAL
$ Damages: 1328
Major Injuries: 0
Minor Injuries: 0
Narrative Description: OUR DRIVER WAS AT THE REAR OF HIS TRUCK PREPARING TO FILL A CUSTOMER TANK WHEN THE PUMP SEAL FAILED. HE IMMEDIATELY ACTIVATED THE EMERGENCY SHUT-OFF. HE THEN GRABBED THE ON-BOARD FIRE EXTINGUISHER IN AN ATTEMPT TO DISSIPATE THE RESULTING VAPOR CLOUD. THE DRIVER SUFFERED A MINOR FREEZE BURN TO HIS LEFT WRIST AND THE INHALATION OF THE DRY CHEMICAL FUMES FROM THE FIRE EXTINGUISHER. THERE WAS NO OTHER REPORTED INJURIES, APPROXIMATELY 25 HOMES AND 1 BUSINESS WERE EVACUATED FOR 5 HOURS. WE DEEMED THE SCENE SAFE WELL WITHIN 1 HOUR HOWEVER LOCAL OFFICIALS WHO WERE NOT FAMILIAR WITH PROPANE RESISTED OUR EFFORTS TO REMOVE OUR VEHICLE.
Release Category: I

Date: 02/16/95
Carrier: PETROLANE TRANSPORT
Incident Location: FISHERSVILLE, VA
Commodity Name: PETROLEUM GASES LIQUEFIED
Amount Released: 1.63 GAL
$ Damages: 102
Major Injuries: 0
Minor Injuries: 1
Narrative Description: DURING UNLOADING PROCEDURE, DELIVERY HOSE FAILURE, EXPELLING APPROXIMATELY 131 LBS. OF LIQUID PRODUCT. FLOW STOPPED BY DRIVER CLOSING SHUT-OFF VALVE IN PLUMBING PRIOR TO DELIVERY HOSE. DRIVER SUSTAINED MINOR FROST BURN TO LEFT SIDE OF UPPER BACK.
Release Category: I

Date: 02/07/95
Carrier: MARTIN GAS TRANSPORT INC
Incident Location: OCHLOCKNEE, GA
Commodity Name: AMMONIA ANHYDROUS
Amount Released: 525 GAL
$ Damages: 3332
Major Injuries: 0
Minor Injuries: 0
Narrative Description: TRANSPORT UNLOADING WHEN REAR SEAL ON TRANSPORT PUMP RUPTURED, CREATING A LEAK. INTERNAL EMERGENCY VALVE WOULD NOT SEAL COMPLETELY.
Release Category: I

Date: 04/28/95
Carrier: TANNER IND INC
Incident Location: VAN WERT, OH
Commodity Name: AMMONIA ANHYDROUS
Amount Released: 2.19 GAL
$ Damages: 6
Major Injuries: 0
Minor Injuries: 0
Narrative Description: OUR DRIVER WAS BEGINNING TO MAKE A DELIVERY TO AEROQUIP COR, IN VANWERT, OH ON 4/28/95. PRIOR TO MAKING THE DELIVERY A SEAL ON HIS HOSE REEL BLEW AND THE AMMONIA IN HIS 1" HOSE WAS RELEASED TO THE ATMOSPHERE. HE HAS ABOUT 75' OF 1" HOSE AND THIS WAS ESTIMATED TO BE 17.5 POUNDS OF AMMONIA. THERE WERE NO INJURIES OR EVACUATIONS. OUR DRIVER IMMEDIATELY HIT HIS REMOTE SHUT OFFS (WITHIN 2-3 SECONDS) AND THEN PUT ON HIS FULL FACE GAS MASK AND CLOSED THE LIQUID VALVE INSIDE HIS TRAILER'S CABINET. THIS LIQUID VALVE IS FROM
THE BOTTOM OF HIS PUMP TO HIS HOSE REEL.
Release Category: I

Date: 07/05/95

Carrier: AMERIGAS PROPANE
Incident Location: WOBURN, MA
Commodity Name: PETROLEUM GASES LIQUEFIED
Amount Released: 200 GAL
$ Damages: 90
Major Injuries: 0
Minor Injuries: 0
Narrative Description: DURING UNLOADING PROCEDURE AND AFTER UNLOADING 72 GALLONS INTO AN ASME ABOVEGROUND STATIONARY CONTAINER AT A CONSUMER SITE, REAR SEAL OF UNLOADING PUMP FAILED. DRIVER CLOSED EMERGENCY SWITCHES, EVACUATED AREA AND CONTACTED FIRE DEPT. WATER SPRAY USED TO ASSIST IN THE DISPERSEMENT OF LIQUID PRODUCT. VEHICLE TOWED TO STATE PATROL STORAGE LOT. INCIDENT SITE SECURED AT 1630 HOURS. TELEPHONIC REPORT ON 7-5-95 TO PETTY OFFICER MCLAUGHLIN. ASSIGNED REPORT NUMBER 298563.
Release Category: II

Date: 08/16/95
Carrier: AMERIGAS PROPANE
Incident Location: ASHTON, ID
Commodity Name: PETROLEUM GASES LIQUEFIED
Amount Released: 2000 GAL
$ Damages: 27000
Major Injuries: 1
Minor Injuries: 0
Narrative Description: DRIVER PREPARING TO UNLOAD. LEAK DEVELOPED IN PIPING SYSTEM. WHILE DRIVER ATTEMPTED TO SHUT-DOWN ENGINE, FLASH FIRE OCCURRED. DRIVER BURNED ON ARMS, FACE, CHEST, AND BACK (2ND DEGREE). AIR LIFTED TO BURN CENTER IN UTAH. RELEASED ON 8-20-95. PRODUCT IN CARGO TANK ALLOWED TO BURN-OFF. PRESENTLY BEING INVESTIGATED BY NATIONAL TRANSPORTED SAFETY BOARD.
Release Category: III

Date: 11/25/95
Carrier: NASH FUELS TRANSPORT INC
Incident Location: HIGGINSVILLE, MO
Commodity Name: AMMONIA ANHYDROUS
Amount Released: 350 GAL
$ Damages: 0
Major Injuries: 0
Minor Injuries: 1
Narrative Description: OUR VEHICLE WAS UNLOADING AT THE MFA PLANT IN HIGGINSVILLE MO. WHEN THE HOSE RUPTURED. OUR DRIVER DID ALL NECESSARY SAFETY MEASURES TO GET IT SHUT OFF AS SOON AS POSSIBLE. FIRE DEPARTMENT RESPONDED NO HOSPITALIZED INJURIES AND NO PROPERTY DAMAGE.
Release Category: II

Date: 05/29/96
Carrier: ELLIS WILBUR CO
Incident Location: WALLA WALLA, WA
Commodity Name: AMMONIA ANHYDROUS
Amount Released: 5000 GAL
$ Damages: 5300
Major Injuries: 0
Minor Injuries: 2
Narrative Description: DURING THE UNLOADING PROCESS, A METAL HOSE FITTING ON THE LOADING/UNLOADING PUMP BROKE FOR UNKNOWN REASONS. ABOUT 40,000 POUNDS OF ANHYDROUS AMMONIA WAS RELEASED. THE LOCAL FIRE, POLICE AND HAZARDOUS MATERIALS TEAM WERE NOTIFIED. THE LOCAL EMERGENCY PLANNING COMMISSION, WASHINGTON STATE DEPARTMENT OF ECOLOGY AND THE WASHINGTON STATE DEPARTMENT OF EMERGENCY PLANNING WERE ALSO ON SCENE TO MANAGE THE INCIDENT. A PORTABLE QUANTITY OF ANHYDROUS AMMONIA WAS RELEASED. THE NATIONAL EMERGENCY RESPONSE CENTER WAS NOTIFIED, RESPONSE NUMBER 344349. WE DO NOT KNOW THE CAUSE OF THE HOSE FITTING FAILURE AND HAVE NO RECOMMENDATIONS.
Release Category: III

Date: 03/14/96
Carrier: FERRELL GAS INC

Incident Location: SISTER BAY, WI
Commodity Name: PROPANE
Amount Released: 1500 GAL
$ Damages: 740
Major Injuries: 0
Minor Injuries: 0
Narrative Description: OUR LOCATION AT SISTER BAY HAD RECENTLY RECEIVED A CONTAMINATED LOAD OF PROPANE. WE HAD THE STORAGE TANK CLEANED AS A RESULT OF THE CONTAMINATION. APPARENTLY THE UNION ON THE IN LET PIPING FROM THE TRANSPORT RISER TO THE 30,000 GAL STORAGE TANK HAD NOT BEEN TIGHTENED BACK UP AFTER CLEANING. A TRANSPORT HAD BEGUN UNLOADING PRODUCT, WHEN DOING SO THE PIPE VIBRATES SOMEWHAT WITH THE PUMPING PROCESS. THE UNION CAME LOOSE AND A LIQUID PROPANE RELEASE OCCURRED. SISTER BAY FIRE DEPT RESPONDED. NO ACTION WAS NECESSARY. NO PROPERTY DAMAGE OR INJURY OCCURRED. THE PROPANE EVAPORATED INTO THE ATMOSPHERE.
Release Category: III

Date: 08/16/96
Carrier: AMERIGAS PROPANE
Incident Location: DANIELSVILLE, GA
Commodity Name: PETROLEUM GASES LIQUEFIED
Amount Released: 600 GAL
$ Damages: 270
Major Injuries: 0
Minor Injuries: 0
Narrative Description: THE CARGO TANK TRUCK DRIVER WAS MAKING A LOCAL DELIVERY OF PROPANE WHEN HE OBSERVED A WHITE FOG COMING OUT OF THE PUMP. HE IMMEDIATELY RAN TO THE TRUCK AND ACTIVATED THE EMERGENCY REMOTE. THE ISC VALVE WOULD NOT TOTALLY CLOSE INTERNALLY, AND ALLOWED CONTINUAL LEAKAGE THROUGH A MECHANICAL SEAL IN THE PUMP. THE LOCAL FIRE DEPARTMENT WAS NOTIFIED AND THEY DISPATCHED FOUR TRUCKS TO THE SCENE TO SAFETY DISPERSE THE LEAKING GAS TO THE ATMOSPHERE. AS AN ADDITIONAL PRECAUTIONARY MEASURE, APPROXIMATELY 50 PEOPLE WERE EVACUATED WITHIN ½ MILE RADIUS WHILE THE LEAKING PROPANE PRODUCT WAS BEING DISPERSED.
Release Category: I

Date: 09/08/96
Carrier: STERLING TRANSPORT
Incident Location: SANFORD, NC
Commodity Name: PETROLEUM GASES LIQUEFIED
Amount Released: 40000 GAL
$ Damages: 20200
Major Injuries: 0
Minor Injuries: 0
Narrative Description: DURING UNLOADING THE OFF-LOADING HOSE FROM THE TRANSPORT CAME LOOSE FROM THE COUPLING WHICH WAS ATTACHED TO THE PIPING AT THE BULKHEAD.
Release Category: III

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REMTRON®

RADIO REMOTE CONTROL AND TELEMETRY SYSTEMS

June 11, 1997 RSPA-97-2133-168

OFFICE OF CHIEF COUNSEL
DOT/RSPA
97 JUN 12 AM 9:45

Nancy E. Machado, RM: 8407
Office of the Chief Counsel, DCC-10
Research and Special Programs Administration
Department of Transportation
400 Seventh Street, S.W.
Washington, D.C. 20590-0001

Subject: Considerations for Using Radio Control for Safety Shut-Off

Ref: Petitions for Reconsideration of Interim Final Rule: Cargo Tank Motor Vehicles in Liquefied Compressed Gas Service

Dear Ms. Machado,

Per our conversation, attached are two sets of information on the Radio Control Safety Shut-Off system Remtron has proposed to the propane industry.

Please contact me at (800) 328-5570 if you require any additional information. I am looking forward to meeting you at the upcoming June 23rd meeting.

Sincerely,

John Schuler
Business Development Manager

js06117a.doc

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22pgs

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RADIO REMOTE CONTROL AND TELEMETRY SYSTEMS

May 5, 1997

Considerations for Using Radio Control for Safety Shut-Off

BACKGROUND

Accidents during the transfer of flammable materials, such as propane, is of increasing concern to organizations involved in safety. Current designs of mechanical excess flow valves have not been as reliable over varying conditions as is truly needed. Remote control transmitters are being considered as the activation medium for the safety systems. The Department of Transportation has recently issued DOT 49 CFR Part 171, "Hazardous Materials: Cargo Tank Motor Vehicles in Liquefied Compressed Gas Service; Interim Final Rule" requiring the operator transferring the product (propane) be within arm's reach of a means for closure (emergency shutdown device) of the internal self-closing stop valve or other device that will immediately stop the discharge of product from the cargo tank." This paper examines various types of radio control technologies and makes specific recommendations.

TYPES OF RADIO CONTROLS

A wide variety of radio controls are produced for today's commercial and industrial markets. They range in scope from toys that cost less than $50 to professional units costing over $15,000. There is obviously a great deal of difference in quality and capabilities among designs.

Modulation - Amplitude (AM) and Frequency (FM) are the most common types of modulation used for radio controls. AM is much less expensive to manufacture, however it is more susceptible to interference. AM is used mostly for toys and garage door openers. If designed properly, FM systems reject most interference which can prevent a signal from being reliably decoded. Some inexpensive systems do not have the necessary gain and filtering to take advantage of the FM characteristics and are little or no better than equivalent AM systems.

Frequency and Licensing - Radio controls are manufactured for licensed or unlicensed operation. Licensed operation is typically used for transmitters that must communicate over large distances. Unlicensed operation, in designated frequency bands, can be used if the system is designed and tested to meet the low power requirements of FCC part 15 regulations.

Noise and Interference - Radio noise and interference are generated fmm many sources including computers, motors, switches, solar flares and general background noise. These noises can interfere with the ability of a radio control system to receive a signal, thereby reducing the effective operating range. This noise is more predominant at lower frequencies (50 MHz) than higher frequencies (900 MHz).

Signaling Techniques - There are a great variety of signaling techniques used for radio controls, however almost all modem systems will use some sort of digital modulation. Most simple radio controls use a simple form of digital signaling with limited addresses and commands with no error checking.

Intermittent vs. Maintained Link Transmission - Most systems are intermittent, non fail-safe designs. That is, a signal is sent only when a button is pressed and there is no additional criteria to assure the signal was received. More sophisticated systems use a maintained *link transmission* technique, or in other words these systems maintain an Radio Frequency (RF) Link between the transmitter and receiver, to assure the radio control system is totally active during use. The absence or loss of the RF signal will prevent the system equipment from being used or will shut down the system safely in the event the transmitter becomes out of range of the receiver. Because of this feature, systems using a maintained *link transmission* are used as safety shutdowns because they assure the operator cannot be out of radio range when the equipment is in operation.

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HUMAN FACTORS

The practicality of a radio control system must consider the owners of the trucks and the operators attitudes. If a radio control is not necessary for the operation, the operators will find it a nuisance and leave it in the truck. The owners of an operation must be careful of their costs and will probably find any purely safety system another burden to their operation. It would be desirable to offer additional benefits along with a system that will enhance rather than detract from his operation. The cost of the radio remote control system can be further justified if used for additional functions through out daily deliveries with the bobtail. Examples include pump control, PTO, clutch, throttle control, hose reel control, and control of computer registers with preset gallon capacity.

RECOMMENDATIONS

A radio control system (RCS) for the emergency shut down of a internal valve and engine on a product transfer operation should have as a minimum the following characteristics.

a. The RCS shall use a maintained *link transmission* technique between the transmitter and receiver during the product transfer operation. In the event the *RF link* is broken either by an out of range condition or system failure, the RCS system shall fail safely and close the internal valve and shut-down the engine.

b. The RCS must be of fail-safe design such that product transfer cannot be accomplished without the safety system in operation.

c. The RCS transmitter shall have a clearly identified "Emergency Stop" button. Activating the ESTOP will immediately close the internal valve and shutdown the engine.

d. The RCS must be able to demonstrate reliable operation in a wide variety of electrical/electronic environments including proximity to airports, TV and Radio stations, Power stations and other areas that may be encountered during the delivery of fuels.

e. The RCS must be encoded such that no false commands will occur, either from another RCS system in the area or from within the system.

f. The operating range of the RCS should be matched to the type of use such that sufficient range is achieved under all expected operating conditions but that there is not a great excess of range.

g. The RCS shall include a device (belt clip, belt holster, shoulder strap, harness, etc.) to position the transmitter within arm's reach of the operator.

h. Other factors that should be considered should include

- Battery life and low battery warning.
- Safety Requirements of NFPA 58, *Standard for the* Storage *and Handling of Liquefied Petroleum* Gases, paragraph 3-7.2 Electrical Equipment.
- Electronic Dead-Man feature.
- Ease of carrying, operating and durability of the transmitter.
- Unlicensed or appropriate licensed radio frequency band.
- Additional features and controls to enhance system and improve productivity.

QUALIFICATION

John Schooley, President of Remtron, Inc., has over thirty years experience in radio control and communications systems. Applications include state of the art military systems, modem industrial controls and commercial systems. Remtron, Inc. designs and manufactures a several lines of radio control systems including:

- Fail safe systems for the Army robotics research
- Remote control and safety systems for Electric Utility trucks
- Radio Controls for commercial wheel chair lifts
- Radio Controls for Cranes and other industrial applications
- Specialized controls for entertainment (Disney, Universal Studios, etc.)

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RADIO REMOTE CONTROL AND TELEMETRY SYSTEMS

May 5, 1997

RADIO REMOTE CONTROL LPG ESTOP CONTROLLER

(preliminary information) --

Overview:

The Remtron radio remote control system provides two benefits to the user. In everyday operation, the radio remote control system will allow the operator to pump LPG propane in a safe, efficient manner. In the event of an emergency situation, the remote control system wilt also serve as an Emergency Shut-Down Device and close the internal valve (belly valve) and shut-off the vehicle's engine in compliance with DOT CFR Part 171.

Remote Control System Features:

- 902 to 928 MHz, license free operation with up to 300 foot range.
- 87 Frequencies plus over 65,000 address codes.
- In excess of 1 30 hours transmitter battery life from 2 AA alkaline batteries
- Microprocessor based and programmable.
- Rugged transmitter with internal antenna (see catalog 21 C02-1/97)
- The remote control system can also control the propane pump, PTO, clutch, throttle (fast idle), hose reel and work in conjunction with computer *registers* with preset gallon capacity.
- Receiver includes a terminal strip and remote antenna
- Includes a leather transmitter holster.

Remote Control Safety Features:

- Maintained *Link* Transmission - A radio/RF link is maintained during the product transfer operation.
- The system will shut down safely in the event the operator is outside of radio range, receives severe radio interference, the receiver or transmitter malfunctions or receiver of transmitter power is lost.
- Intrinsically safe 21 T10 based transmitter (UL 913 approval pending).
- The transmitter is attached to the operator's waist via a belt to assure the emergency shut-down device is within arms reach.
- The system will shut down safely in the event the operator pushes ESTOP button or turns off the transmitter power.

Installation

The proposed system must be installed by a competent deafer familiar with propane tank trucks and NFPA 58. In addition to the radio receiver and antenna, the installer must also install a transfer switch. The transfer switch, labeled "pump enabled" and "pump disable", should be located in an area accessible to the operator. The transfer switch disconnects the engine kill, throttle control, clutch and internal valve from the

REMTRON, INC, 1916 W. MISSION RD, ESCONDIDO, CA 92029-1114 • TEL (760) 737-7800 • FAX (760) 737-7810

remote control system during the times the pump is not in use (such as when the vehicle is being driven). When the transfer switch is in the "pump enabled" mode, Remtron recommends that a warning light also be activated or feature added to the truck to prevent it from being driven.

The Remtron's Radio Remote Control system is designed to be fail-safe. Once the "pump enabled" switch position is selected, the receiver must be powered for the pump to operate and the engine to continue running. Within the receiver, *current is removed from* the *receiver* relay *coils* to shut-down the engine and close the internal valve. If the internal valve shut-down is via a pneumatic cylinder, the system should be designed such that the *absence* of air *pressure* will close the internal valve. Remtron's Application Engineers are available to provide design assistance.

Normal Operation:
Once installed, the system with optional pump and fast idle control will work in the following manner.

1. The operator arrives at the customer's site, leaves the engine running and presses the transmitter 'power on" button.
2. The transfer switch is then moved to the 'pump enable" position.
3. The operator reels out the hose and makes the necessary connections to the tank. The transmitter "pump on" and 'pump off" buttons are used to control the pump and engine fast idle.
4. When pumping is complete, the operator reels in the hose and moves the transfer switch to the 'pump disable" position.
5. The operator turns off the transmitter with the 'radio off button and drives to the next site.

Budgetary Pricing:
The remote control system will consist of a 21T10 based transmitter with leather holster, **shoulder** strap, receiver with up to 8 Form-C relays, rubber duck antenna and a 9 foot remote antenna kit. The receiver will be configured to accept a 12 VDC, negative ground source. The prototype system will utiiize a standard non-intrinsically safe 21 Tl 0 transmitter.

Budgetary Production Pricing:	$1 ,000.00 to $1,250.00 per system (dealer)
Availability:	August 1997
Prototype System.	$1 ,000.00
Availability:	June 1997

For More **Information:**
The information in this document is preliminary and subject to change.

John Schuler, Business Development Manager
Remtron, Inc.
1916 West Mission Road
Escondido, CA 92029-l 114
Phone: (800) 328-5570
Fax (760) 737-7810
JGSchuler@aol.com

23C06

Considerations for Using Radio Control for Safety Shut-off

Presented to the NPGA
Presidential Task Force by
John Schuler
Remtron, Inc.

Interim Final Rule Requires...

- The qualified person...must be within arm's reach of a means of closure (emergency shut-down device) of the internal self-closing stop valve or other device that will immediately stop the discharge of product from the cargo tank,
- When there is an unintentional release of lad&& the internal self-closing stop valve must be activated and all motive and auxiliary power equipment must be shut down.

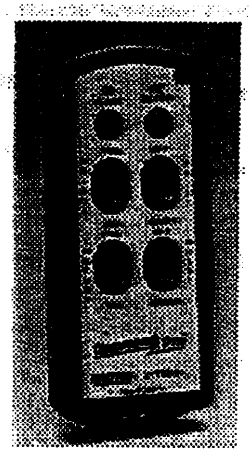
How Radio Remote Control Can Benefit the Propane Industry

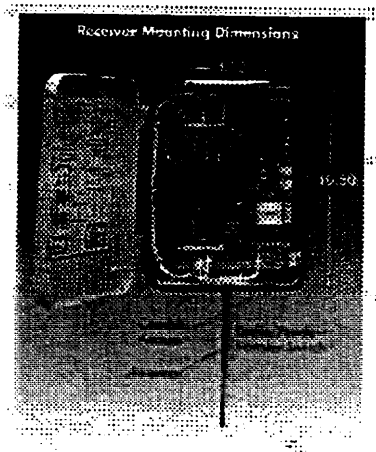
- Versatile and programmable - Can control electrical, mechanical, pneumatic and/or hydraulic devices.
- Function as an automatic emergency shut-down device.
- Allows an operator to shut-down a vehicle at a safe distance.
- Improve productivity .

Considerations

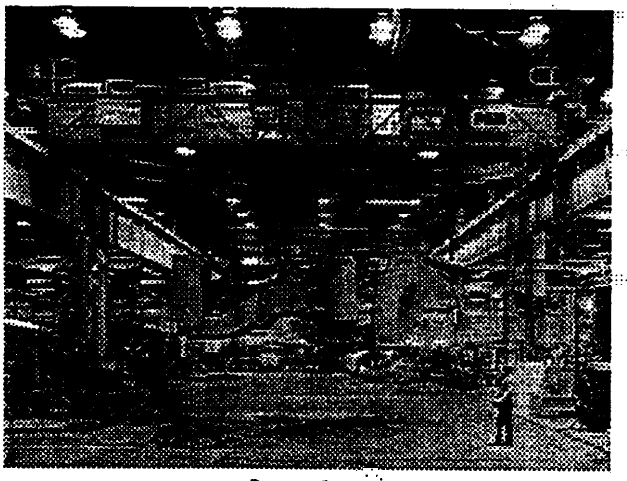
- Radio remote controls should be integrated into the design of the vehicle.
- Radio remote controls must be installed by qualified companies with an in depth knowledge of NFPA 58.
- Fail-safe: What happens if any system fails?
- What happens if the transmitter is outside of radio range or it's use is not required?

Typical Industrial Radio Remote Control System

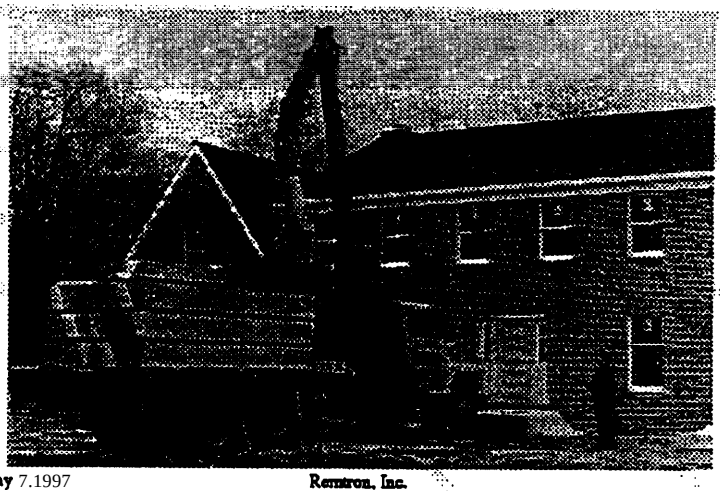




Overhead Bridge Cranes

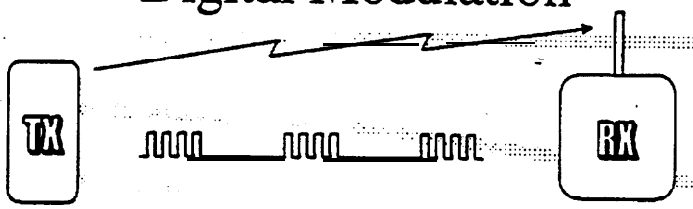


Mobile Cranes



Remote Operated Vehicles

Digital Modulation



- Digital packets of information&e sent from the transmitter to the receiver several times per second.
- Each packet contains synch, address code, command data, error checking and transmit& status information.

Fail-safe and ESTOP Command

- Fail-safe: To compensate automatically for failure. In the event any part of the system stops working, the entire system will be brought to a safe mode.
- Activating an ESTOP or "emergency stop" halts all operations immediately and shuts-down the system in a safe manner.

Intermittent Vs. Maintained Link Transmission

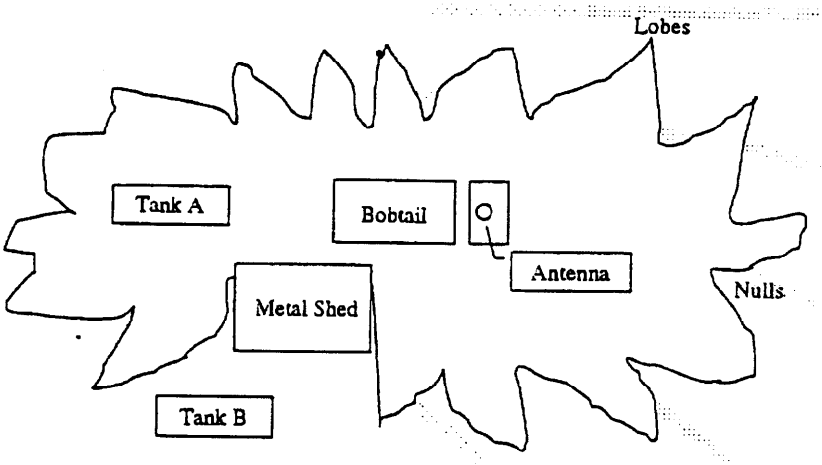
Intermittent

- Signal is sent only when a TX button is pushed.
- No criteria to assure the signal was received.
- Will not shut-down the system outside of radio range.

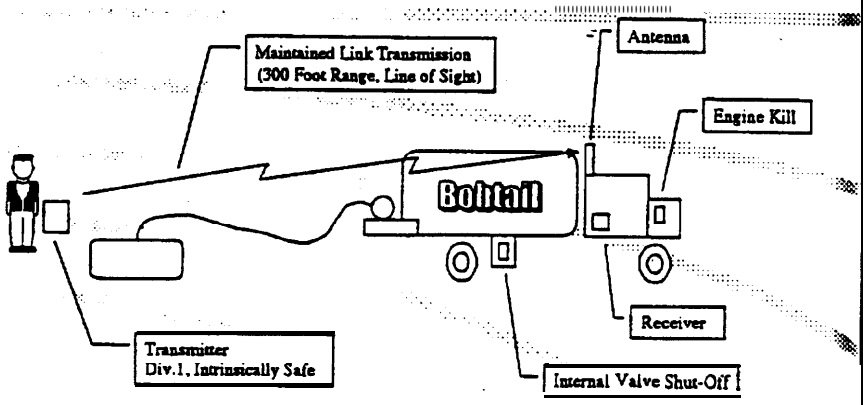
Maintained Link

- Maintains a link between the TX and RX during use.
- Absence of signal will prevent equipment from being used.
- Loss of signal (out of range) will safely shut-down system.

Radio Range Pattern



Radio Remote Control Shut-off



The Radio Control System can also control the Pump, PTO, Clutch, Idle Speed and Hose Reel.

Radio Control System (RCS) Recommendations

- RCS shall use a *maintained link transmission technique* between the *TX* and RX during the product transfer operation. In the event the RF link is broken either by an out of range condition or system failure, the RCS shall *fail safely* and close the internal valve and shut-down the engine.

Radio Control System (RCS) Recommendations

- The RCS must be of fail-safe design such that product transfer cannot be accomplished without the RCS in operation.
- The RCS transmitter shall have a clearly identified emergency stop button. Activating the ESTOP will immediately close the internal valve and shut-down the engine.

Radio Control System (RCS) Recommendations

- The RCS must be able to demonstrate reliable operation in a wide variety of electrical/electronic environments including proximity to airports, TV and radio stations, power stations, and other areas may be encountered during the delivery of product.

Radio Control System (RCS) Recommendations

- The RCS must be encoded such that no false commands will occur, either from another RCS system in the area or from within the system.
- The operating range of the RCS should be matched to the type of use such that sufficient range is achieved under all expected operating conditions but that there is not a great excess of range.

Radio. Control System (RCS) Recommendations

- The RCS shall include a device (belt clip, holster, shoulder strap, harness, etc.) to position the transmitter within arm's reach of the operator.

Other Factors to Consider

- Battery life and low battery warning.
- Safety requirements of NFPA 58.
- Ease of carrying and operating the TX.
- Unlicensed or appropriate licensed frequency band.
- Electronic dead-man feature
- Add'l features & controls to enhance system and improve productivity.

Remtron's Proposed System

- Intrinsically safe version of 21T10 transmitter.
- Receiver with up to 8 Form-C relays mounted in vehicle cab, 12 VDC power. Ability to interface with pneumatic solenoid valves.
- Cab roof mounted antennawith 9 foot coax cable.
- Installation by Bobtail truck dealers/manufacturers.
- 3 models ranging from $1000 to $1250 (dealer cost, plus installation).
- Prototypes available June 1997.
- Production units August 1997.

CORPORATE MISSION

Remtron, Inc. is a leading manufacturer of industrial radio remote controls for rugged equipment used in material handling and commercial industries.

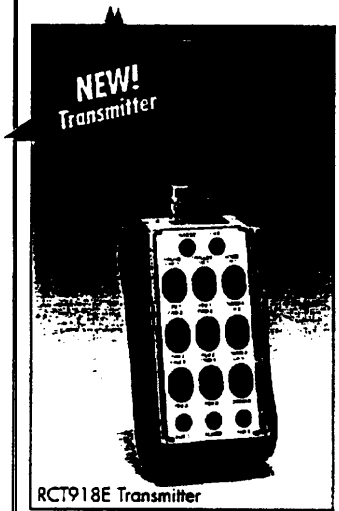
The company's mission is to **provide the highest quality remote controls** using **the latest technology to meet our customers' needs, and m provide the best support for their operations.**

These objectives ate accomplished by a team of dedicated employees and representatives. Remtron continuously invests in technology improvements and personnel to ensure that we maintain and nurture this position. We believe in conducting business with honesty and the highest ethical standards.

HISTORY

Starting in 1984 Remtron combined aerospace technology with commercial experience to develop advanced radio remote control systems for industrial applications. Five years later. **Remtron joined with** UC Controls to focus specifically on overhead **crane and locomotive applications, leveraging that company's** strong ties with Motorola, Inc. and experience with crane controls. Today, UC Controls is **wholly owned by Remtron and all products** are marketed under the Remtron name.

Growing at an average **rate of** more than 30 % per year. you can now find Remtron products in many diverse industrial and commercial applications. including hoists. monorails, pumps, conveyors. doors. valves, gates and lighting.



RCT918E Transmitter

MARKETS SERVED

Remtron designs and manufactures a full range of radio remote controls. The company serves a wide base of customers looking for ways to improve convenience and efficiency in their operations. Typical application solutions include control of overhead cranes. locomotives in yard switching **applications. and** simple on/off control of conveyors. pumps and gates.

PRODUCTS

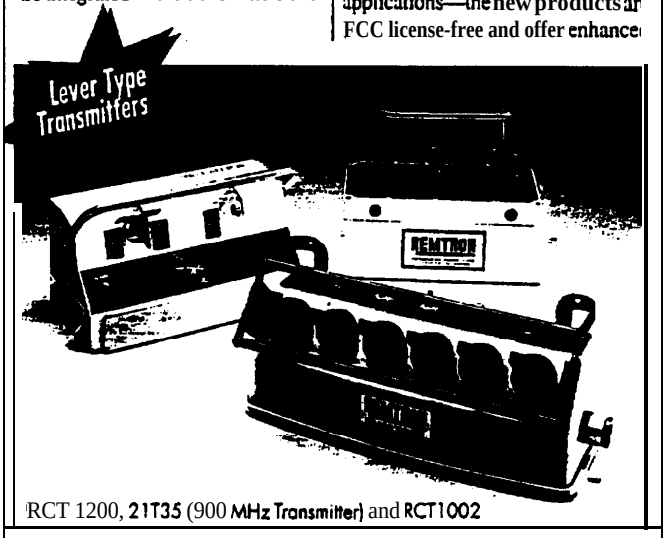
800 Series: Two to eight commands. **The 800 Series models offer a reliable and economical FM radio** emote control **system for hoists, gates and pumps, or** where **a remote switch** is desired.

Advanced Series: Microprocessors are integrated in the transmitters and receivers to provide a powerful. full-featured system capable of controlling overhead cranes and locomotives. These systems also use digital FM radio technology. Many sophisticated safety features are engineered into Advanced Series models. including safety interlocks and error checking. Push-to-operate (PTO) features are standard.

Telemetry Products: Standard and custom systems are available for remote control and measurement of analog and discrete signals. Systems are used in SCADA and process control applications.

new rugged packaging. Random packet transmission allows virtually an unlimited number of units in **common** area without interference.

Designed to deliver **a new level a convenience and** reliability for steel and paper mills. **warehouses.** mining, **transportation.** construction manufacturing, and other industrial **applications—the new products are FCC license-free and offer enhanced**



RCT 1200, 21T35 (900 MHz Transmitter) and RCT1002

TECHNOLOGY

In May of 1996. Remtron introduced the first of several 900 MHz control systems for industrial material handling applications. These products employ the latest 900 MHz frequency-agile technology. coupled with user benefits exceeding other remote controls available to the market.

- 85 Frequencies plus a 16-bit security code. ailfield programmable, provide unlimited use of systems **in a common** factory area and minimize spares requirements.
- Handheld transmitters feature patented. easy-to-use rubber rocker and push button switches which last more than 1.000.000 operations without failure and are field replaceable. Jam-proof tubber keypad is sealed against liquids and dirt, and resists oils and chemicals.
- Heavy duty cases with built-in antennas are designed to withstand the rigors of the toughest factory environment.
- Extended battery life plus the convience of common AA batteries lowers the cost and eases the maintenance of operating the systems. Battery life on most models exceeds 1 month, some as long as 1 year.
- Additional features include easy installation, maintenance designed for the factory electrician and a full two yem warranty.

CUSTOMER SUPPORT

Repeat **customers are the best** testimony to Remtron's dedication to **customer** support. Trained field technicians and in-house customer service **personnel are always available** to problem solve and quickly respond to customer questions.

FACILITIES

Engineering. production and sales are integrated under one roof at Remtron's 25,000 square ft. facility in **Escondido.** CA. The engineering staff is supported by state-of-the-art design and teat equipment. **Virtually all manufacturing is performed in-house, allowing** tight **controls on quality** and workmanship.

21T10 900 MHz Transmitter

REMTRON®

1916 W. Mission Rd.
Escondido, CA 92029
Tel (800) 3284570
Fax (619) 737-7810

Command Pro

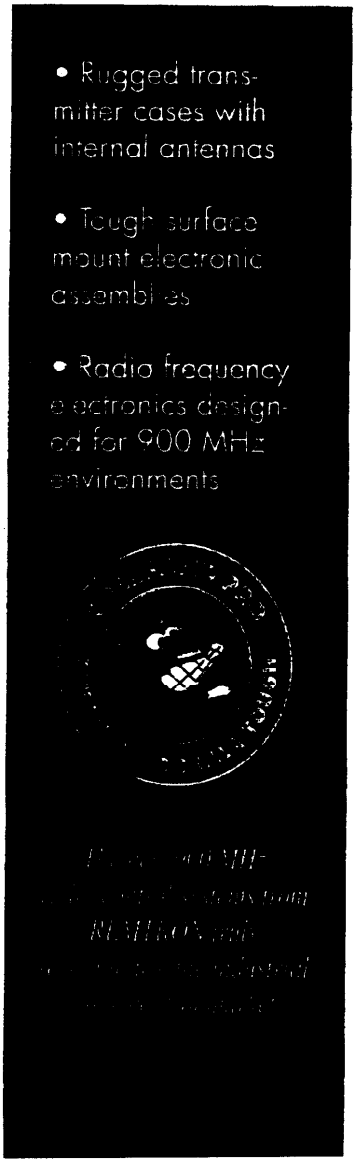
Small Crane Control Systems

New 900 MHz License-Free Operation

Small Crane Control Systems

Command Pro™

Built to perform and survive in the tough environments of steel and manufacturing plants, REMTRON's new Command Pro product line sets a new standard for ruggedness and reliability. Yet inside the Command Pro you'll find a sophisticated electronic system that provides a higher level of responsiveness, versatility and above all, SAFETY. This blend of state-of-the-art electronics technology and rugged packaging delivers an easy to install, low maintenance system that you can rely on, day in and day out.



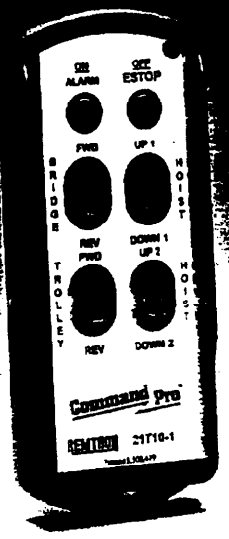
COMMAND PRO Advantages

- **902 - 928 MHz license-free operation** with 300 **ft.** range
- 85 frequencies plus 16 bit address for safety in large applications. Never **repeats** a **code**
- Microprocessor-based with 16 bit CRC to ensure **error-free operation**
- Redundant circuit interlocks and active ESTOP for **safe operation**
- **Full** two **year warranty**
- Efficient circuits and packet mode transmission for extra **long battery life**
- **Simple diagnostics, two piece terminal strips and field programable for easy maintenance**

Step up to **900** MHz FCC license-free operation

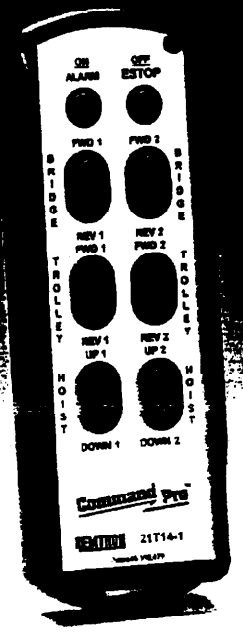
This special FCC band allows more power at higher data rates than other license-free bands. The high frequency makes your system virtually immune to factory electronic noise. Maximum filtering, wide band digital signailing and robust designs allow REMTRON's 900 **MHz** systems to work reliably near cellular telephones, cordless **telephones** and other high frequency communication devices.

21T Crane Control Transmitters



21T10
Control single speed cranes with one or two speed hoist.

Single or two speed monorails



21T14
Two speed cranes

Transmitter Features

- Internal antenna prevents breakage
- Switches rated at 1 million operations
- Leather holster for added protection
- Test LED provides transmitter and battery status
- Low power consumption for long battery life
  Typical one to two months on two AA batteries
- Rugged case made from advanced composites holds up to industrial demands
- Jam-proof, field-replaceable rubber membrane keypad is sealed against liquids and dirt

Transmitter Options

- First Come-First Serve (FCFS) & Pitch and Catch allows one receiver to be controlled by more than one transmitter
- Custom face plate label

ER SPECIFICATIO

Battery life *(typ.)*	*130* hours from *two* AA *alkaline batteries*
Antenna	*Internal circuit board*
Switches	Patented rubber rocker; 7 million cycle rated
Visual *Diagnostics*	*Self-test LED indicator*
Operating *Temperature*	*-20° to 160°F (-29° to 77 °C)*
FCC license Requirements	Meets FCC *Part 15* for license-free *operation*
Dimensions - 21*T10*	6.5" x 2.75" x 7.0"
Dimensions - 2 7 *T1* 4	8.0" x 2.75" x 7.0""
Weight *(with* holster) - 2 I *T1* 0	9 ounces
Weight *(with holster)* - 2 *1T14*	*11 ounces*

Command Pro Benefits

Increased Production
- Less downtime for repairs
- Operators have freedom of movement-rig/unrig and control loads from any position

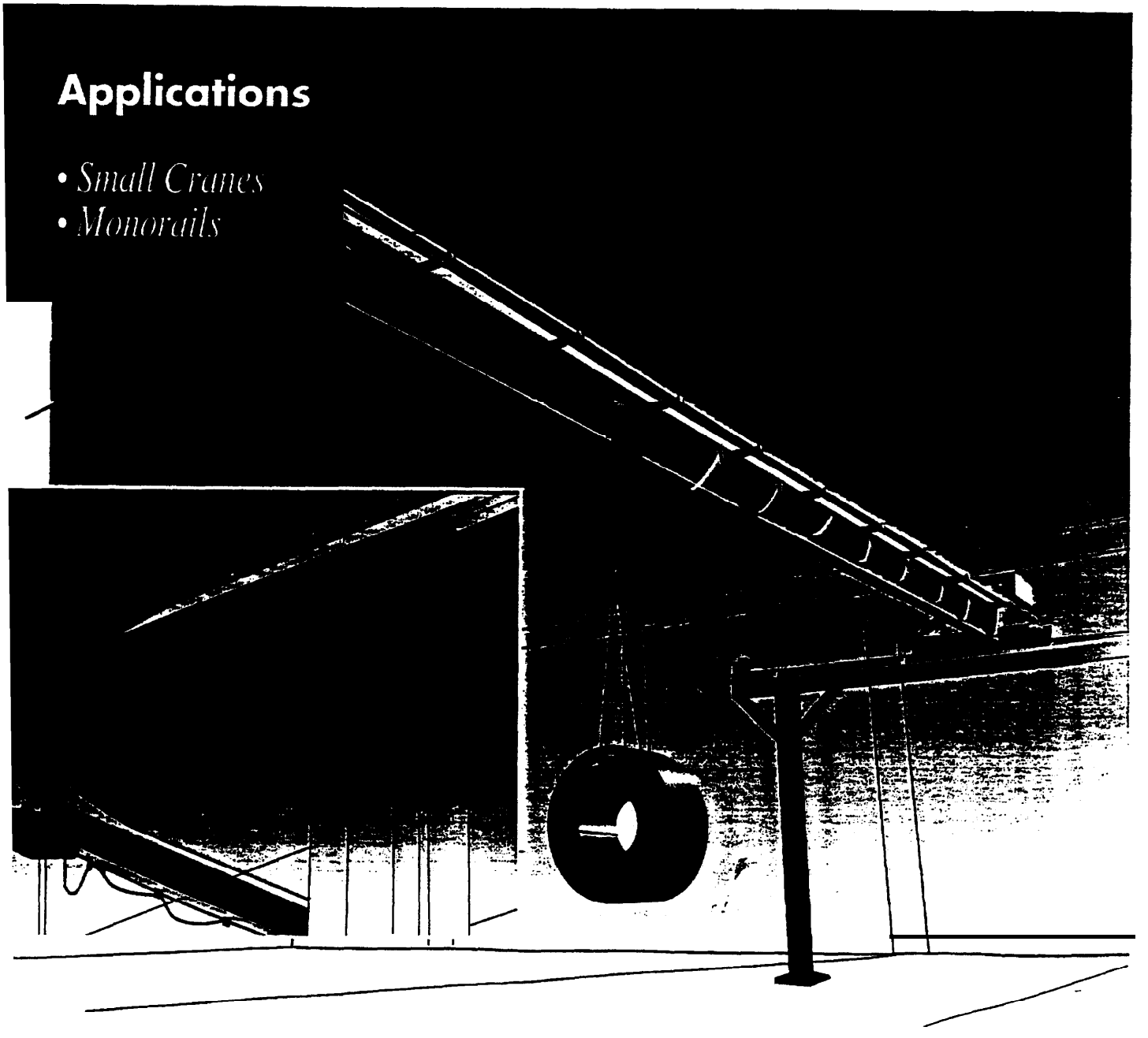
Improved Safety
- Operator is free to walk around obstacles
- Operator has improved visibility
- Operator cannot contact control voltages
- Receiver offers improved safety features over pendant systems

Lower Operating Cost
- Significantly lower maintenance cost than pendants and festoon cables
- Less downtime for repairs

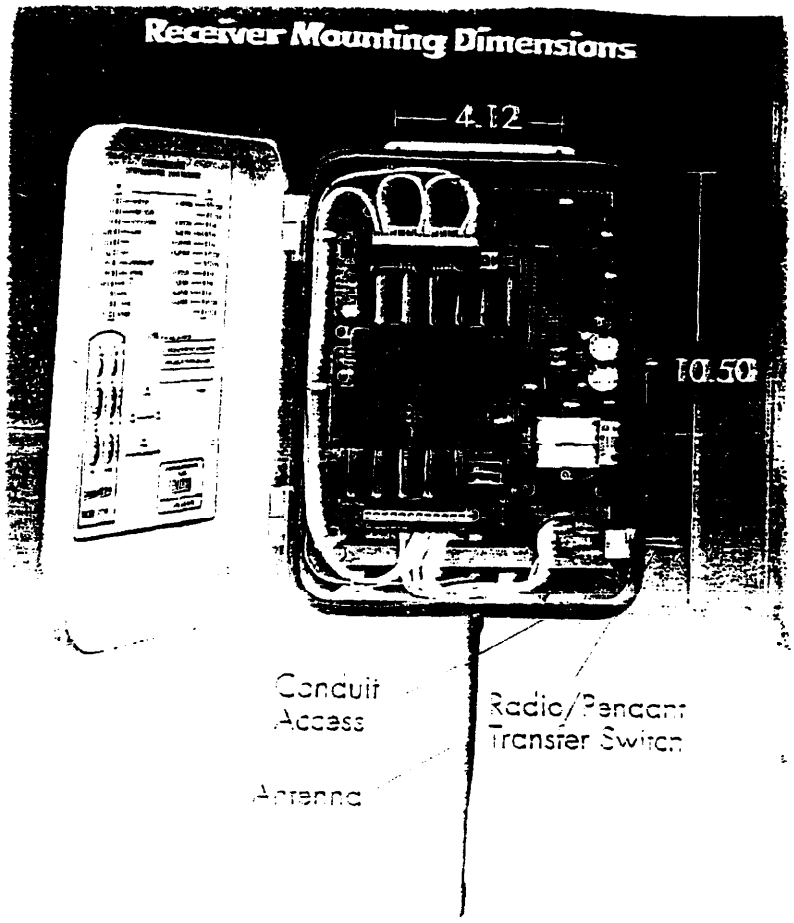
Programmable Setups
- 85 frequencies, over 65,000 addresses
- Setup information is stored with a simple field programming box or menu-driven PC program. No more dip switches to fuss with!

Applications

- *Small Cranes*
- *Monorails*



21R10 Crane Control Receiver



Receiver Features

- Small NEMA 12 package, easy to install
- Compatible with stepped or VFD systems
- Redundant safety circuits prevent false movements
- Easy "screwdriver" maintenance, no extra test equipment required
- On board suppressors isolate the receiver from electrical noises

Installation and Service

- Easy installation is assisted with intuitive terminal designations, straight forward instructions, pre-mounted conduit hole and built-in suppressors aid installation by an electrical contractor or your in-house electrician.
- Two piece separable terminal strips keep wiring intact during service. Status LED indicators provide easy in-field fault isolation to the module level without special equipment.

Factory Service and Support

Command Pro control systems are manufactured in the USA by REMTRON, Inc. Highly qualified service personnel and the fastest repair turnaround in the industry ensure that your system will keep running.

21R10 RECEIVER SPECIFICATIONS

Operating Frequency	902 - 928 MHz, 35 frequencies
Operating Range	Up to 300 ft.
Operating Temperature	-20° to 150°F (-29° to 71°C)
Response Time	50 milliseconds
Enclosure	NEMA 12, 12" x 10" x 4"
Interface Connector Terminals	2 piece separable, use with 12 to 24 AWG
Output Relays	10 plus 2 interlocks, 10 Amp @ 230 VAC
Source Input Voltage	115/230 VAC, 1 phase, 50/60 Hz

How To Order

Stock systems are available to meet most small crane and monorail requirements.

REMTRON offers a complete line of radio controls. For assistance call your local Remtron representative or the factory.

REMTRON

REMTRON, INC.
1916 W. Mission Road
Escondido, CA 92029-1774

Phone:
800 328-5570 or
760 737-7300

Fax:
760 737-7310

REMTRON:

In business since 1984, REMTRON has become a leading manufacturer of industrial radio controls used in the material handling and commercial industries. Unlike many suppliers in this business, REMTRON is a specialist in sophisticated RF technology. The company's early heritage of experience designing military application products, prior to focusing on commerical industrial applications, has resulted in the most advanced and reliable control systems available.

The company% goals are:

1. To provide the highest quality remote controls using the latest technology to meet customer's needs.
2. To provide the best customer support in the industry.

These objectives are accomplished by a team of dedicated employees and sales representatives. REMTRON continuously invests in technology improvements and personnel to accomplish our goals. We believe in conducting business honestly, with the highest ethical standards.

Markets Served:

REMTRON designs and manufactures a full range of radio controls for a wide base of industrial applications including: overhead cranes, conveyors, gates, doors, automatic guided vehicles (AGV's), pumps and more.

Customer **Support:**

Repeat customers are the best testimony to REMTRON's dedication to customer support. When needed, highly qualified factory service personnel provide expert repairs and fast turnaround.

Facilities:

Engineering, production, customer service and sales are integrated under one roof at our 25,000 square ft. facility in Escondido, CA. Our engineering staff is supported by state-of-the-art design and test equipment. Viiy all manufacturing is performed in-house, allowing tight controls on quality and workmanship.

MATERIAL HANDLING INDUSTRY OF AMERICA
MEMBER COMPANY

Made in U.S.A

REPRESENTED BY:

2886/ QA

HOW TO COMPLY WITH THE DEPARTMENT OF TRANSPORTATION'S CARGO TANK MOTOR VEHICLE (CTMV) UNLOADING REQUIREMENTS

BASIC REQUIREMENT: RSPA-97-2133-215

A CTMV that is used to transport LPG, propane, or other liquefied compressed gasses must have a working automatic excess flow control system. During unloading, the tank must be attended by a qualified person who has an unobstructed view of the tank and is within 25 feet of the tank.

ALTERNATIVE REQUIREMENTS:

If the CTMV does not have a working excess flow control system, **you must comply with one of the following alternatives, in addition to the attendance requirement:**

(1) You must have a qualified person positioned within arm's reach of a manual means of shutting down the flow from the tank. This person must be present during the entire unloading process, except for the time necessary to start or stop the delivery pump, or

(2) You must use a fully operational remote-controlled system capable of stopping the flow of product when a vehicle attendant activates the system using a transmitter.

ADDITIONAL REQUIREMENTS:

If you choose one of the alternative requirements, **you must also do each of the following:**

(1) Determine, at the beginning of each day, that each component of the discharge system is of sound quality and is free of leaks, and that all connections are secure,

(2) Pressure test each new or repaired transfer hose or modified hose assembly prior to unloading for the first time with that equipment,

(3) Provide a comprehensive written emergency operating procedure for all transfer operations and train all employees who perform unloading functions in those procedures,

(4) Appropriately mark the CTMV when it is operated under these provisions, and

(5) Provide function-specific training for employees regarding the alternative and additional requirements, and maintain records of this training.

FURTHER INFORMATION:

Basic requirements are found in 49 CFR 177.834 (attendance) and 178.337-11 (excess flow); alternative requirements are found in 49 CFR 171.5, as published in the Federal Register [62 FR 44037, August 18, 1997].

USDOT Contacts: Ron Kirkpatrick, Engineer (202) 366-4545, Nancy Machado, Attorney (202) 366-4400, or Jennifer Karim, Regulations Specialist (202) 366-8553

2 pgs

The following suppliers have represented to the Department that they have equipment available that will satisfy the requirements of 49 CFR 171.5 and/or 178.337-11.

Radio Control Systems

AmeriGas Propane, L.P. (system designer) c/o Denzel Hubbard, (404-763-8235)

Vandal Alert Vehicle Security Systems, Inc., 3545 Harbor Gateway S., Ste. 101, Costa Mesa, CA 92626 (714 549 2218) (component manufacturer)

McTier Supply Company, P.O. Box 761, Lake Forest, IL 60045 (800-323-3870) (system developer)

Rocket Supply Corporation, 202 N State Route 54, Roberts, IL 60962 (217-395-2281) (system developer)

REMTRON Inc., 1916 W. Mission Rd., Escondido, CA 92029-1114 (800-328-5570)

Passive Systems

A-B Products (system designer), 1012 Ridgeway Dr., Liberty, MO 64068 (816-942-0121)
Tri-State Tank, Inc. (tank assembler), 636 Adams, Kansas City, KS 66105 (913-342-7448)

Daniel Meyer, Thermogas Co., (715-879-5692) (system designer)

Apollo Industries, Inc., RR2 Box 278A, North End Drive, North Clarendon, VT 05759 (802-446-3466 ext 16) (System developer)

federal register

Monday
August 18, 1997

Part II

Department of Transportation

Research and Special Programs Administration

49 CFR Part 171, et al.

Hazardous Materials: Cargo Tank Motor Vehicles in Liquefied Compressed Gas Service; Revisions and Response to Petitions for Reconsideration; Final Rule

Hazardous Materials: Safety Standards for Unloading Cargo Tank Motor Vehicles in Liquefied Compressed Gas Service; Advance Notice of Proposed Rulemaking; Proposed Rule

DEPARTMENT OF TRANSPORTATION

Research and Special Programs Administration

49 CFR Part 171

[Docket No. RSPA-97-2133 (HM-225)]

RIN 2137-AC97

Hazardous Materials: Cargo Tank Motor Vehicles in Liquefied Compressed Gas Service; Revisions and Response to Petitions for Reconsideration

AGENCY: Research and Special Programs Administration (RSPA), DOT.

ACTION: Final rule; response to petitions for reconsideration.

SUMMARY: RSPA is revising and extending requirements issued in an interim final rule (IFR) on February 19, 1997. Revisions are being made to address commenters' concerns particularly in the area of operator attendance requirements and to improve safety. The rule adopts temporary requirements for cargo tank motor vehicles in certain liquefied compressed gas service. It requires a specific marking on affected cargo tank motor vehicles and requires motor carriers to comply with additional operational controls intended to compensate for the inability of passive emergency discharge control systems to function as required by the Hazardous Materials Regulations. The interim operational controls specified in this rule will improve safety while the industry and government continue to work to develop a system that effectively stops the discharge of hazardous materials from a cargo tank if there is a failure of a transfer hose or piping.

These operational controls are necessary because a substantial portion of the industry failed to comply with an important excess flow requirement, which has been in place since 1941, and has failed to comply with the IFR. Because of this widespread non-compliance, RSPA also published in today's **Federal Register** an advance notice of proposed rulemaking (ANPRM) soliciting data to serve as a basis for future rulemaking. This advance notice addresses a number of other issues, including the ability of industry to meet a possible 1-, 2- or 3-year retrofit schedule; standards for the qualification, testing and use of hoses used in unloading; safety procedures for persons performing unloading operations; and, whether the Federal government should continue to regulate in this area.

EFFECTIVE DATE: August 16, 1997.

FOR FURTHER INFORMATION CONTACT: Ronald Kirkpatrick, Office of Hazardous Materials Technology, RSPA, Department of Transportation, 400 Seventh Street, S.W., Washington, DC 20590-0001, telephone (202) 366-4545, or Nancy Machado, Office of the Chief Counsel, RSPA, Department of Transportation, 400 Seventh Street, S.W., Washington, DC 20590-0001, telephone (202) 366-4400.

SUPPLEMENTARY INFORMATION:

I. Background

A. Overview

Among the liquefied compressed gases most commonly transported throughout the nation in DOT specification cargo tank motor vehicles are petroleum gases, anhydrous ammonia and chlorine. The risk of personal injury due to accidental releases is high for each of these, and, in the case of propane, the additional threat of fire and explosion must be considered. When liquid propane is released into the atmosphere, it quickly vaporizes into the gaseous form which is its normal state at atmospheric pressure. This happens very rapidly, and in the process, the propane combines readily with air to form fuel-air mixtures which are ignitable over a range of 2.2 to 9.5 percent by volume. If an ignition source is present in the vicinity of a highly flammable mixture, the vapor cloud ignites and burns very rapidly (characterized by some experts as "explosively").

Since September 8, 1996, renewed attention was focused on the dangers of propane when more than 35,000 gallons were released during delivery to a bulk storage facility in Sanford, North Carolina. Fortunately, ignition did not occur. This incident led to the issuance of a safety advisory notice on December 13, 1996 (61 FR 65480), and an interim final rule (IFR) on February 19, 1997 (62 FR 7638). However, concerns over controlling the unintended release of hazardous materials have been expressed for decades.

B. Emergency Discharge Controls

Operations involving the transfer of liquid and gaseous hazardous materials to, from, or between bulk packagings, such as cargo tank motor vehicles, are recognized as posing a significant threat to life and property in transportation. For that reason, the Hazardous Materials Regulations (HMR; 49 CFR parts 171-180) place special emphasis on emergency discharge controls, including requirements for excess flow valves and internal self-closing stop valves that close automatically upon sensing a line separation. Additionally, the HMR require a mechanical and/or thermal means of activating the internal self-closing stop valve. The effectiveness of these properly installed and maintained safety appliances in safeguarding life and property at the critical moment of an unintentional release of extremely hazardous materials is well demonstrated and has historically been widely recognized by representatives of industry, emergency response organizations, and other affected parties.

In the case of specification MC 330 and MC 331 cargo tank motor vehicles authorized for the transportation of certain liquefied compressed gases, Federal requirements for emergency discharge controls first appeared as regulations issued by the Interstate Commerce Commission (ICC) on November 8, 1941, in Docket 3666, Requirements applicable to specification MC 320 cargo tank motor vehicles and ICC specification MC-7.6-S-1.2 have been modified slightly by RSPA over the years, but essential elements of the regulations pertaining to excess flow valves and internal self-closing stop valves are unchanged. This rule applies also to provisions for secondary remote controls and for fusible links, which cause the internal valve to close automatically in case a cargo tank is involved in a fire. Again, related requirements in the HMR today share the same essential elements as those originally ordered over fifty years ago.

Section 178.337-8(a) states "* * * each opening in a cargo tank intended for use in transporting compressed gas (except carbon dioxide, refrigerated liquid) must be—(i) closed with a plug, cap or bolted flange; (ii) protected with an excess flow valve on product discharge openings or protected with a check valve on product inlet openings; or (iii) fitted with an internal self-closing stop valve as specified in § 178.337-11(a)." Currently, most specification MC 330 and MC 331 cargo tank motor vehicles are fitted with an internal self-closing stop valve which incorporates an excess flow feature. However, the requirement in § 178.337-11(a)(1)(i), that "each self-closing stop valve and excess flow valve must automatically close if any of its attachments are sheared off or if any attached hoses or piping are separated," can be met by manufacturers and operators of specification MC 330 and MC 331 cargo tank motor vehicles using internal self-closing stop valves which have no excess flow feature. The key requirement is that the discharge valve must automatically close if any of its

attachments are sheared off or if any attached hoses or piping are separated. Any other equipment, such as a system which measures a differential in pressure, a pressure drop, or a hose or piping separation, which automatically closes the internal self-closing stop valve on the cargo tank and stops the discharge of product in the event of the separation or rupture of a hose or piping may be used to meet the emergency discharge control system performance requirement specified in § 178.337–11(a)(1)(i).

Unloading With a Liquid Pump System

While it seems that the HMR's longstanding requirements should be well understood and fully complied with by the affected industries, unfortunately that is not the case. Instead, efforts undertaken by the affected industries to achieve increased efficiency in the unloading of hazardous materials by the installation of pumps on specification MC 330 and MC 331 cargo tank motor vehicles prevent emergency discharge control systems from operating properly under all temperatures and pressures routinely encountered during normal conditions of transportation. The installation of pumps on specification MC 330 and MC 331 cargo tank motor vehicles has been accompanied by the industry's installation of internal self-closing stop valves with an emergency feature designed to function at a flow rating well above the discharge capacity of the pump. This assures transfer of product without interruption by inadvertent functioning of the emergency discharge control system. As presently found in most product discharge system configurations, a pump functions as a regulator in the product discharge line so as to eliminate any possibility that the emergency discharge control system will function in event of a line separation. Also, it has been pointed out by Mississippi Tank Company that even on cargo tank discharge systems not fitted with pumps, the emergency discharge control system on most LPG vehicles would fail to properly operate under all temperatures and pressures routinely encountered during normal conditions of transportation. The National Propane Gas Association (NPGA) in 1978 and 1990, issued bulletins NPGA #113–78 and NPGA #113–90, which state:

> Excess flow check valves have been of help in limiting gas loss in *many incidents* involving breakage of hoses and transfer piping. Thus, *they do provide a useful safety function in LP-gas systems.* However, *there have also been transfer system accidents* where excess flow valves have been ineffective in controlling gas loss due to a variety of conditions and to the inherent limitations of these valves * * * *An excess flow valve is not designed to close and thus may not provide protection, if any of the following conditions are present: (1) The piping system restrictions (due to pipe length, branches, reduction in pipe size, or number of other valves) decrease the flow rate to less than the valve's closing flow* * * * (Emphasis added).

This information demonstrates that the industry has been aware, since at least 1978, that excess flow valves are not designed to function where piping system restrictions (e.g., pumps) decrease the flow rate to less than the excess flow valve's closing flow. Also, the industry has information regarding "many" incidents involving hose and transfer separation and other transfer system accidents, but this information has not been shared with RSPA despite numerous requests.

Pressure Unloading

Unloading systems that employ pressure rather than a pump to unload, such as a gas compressor mounted on specification MC 330 and MC 331 cargo tank motor vehicles should not be affected by the problem identified with unloading of liquefied compressed gases by use of pumps, provided the operating pressure of the compressor, the flow rate of product through valves, piping and hose, and the setting of the emergency feature conform to requirements in § 178.337–11(a)(1)(v). Vehicles unloaded by pressure and conforming to the requirements of § 178.337–11(a)(1) are not subject to the temporary regulations specified in § 171.5.

C. History of Major Incidents

The hazards associated with the transportation of liquefied petroleum gas have been demonstrated repeatedly on U.S. highways. Based on information contained in the Hazardous Materials Information System, propane releases are a leading cause of death in hazardous material transportation. A summary of major incidents over the years is presented below. Most of these incidents were the result of collisions rather than due to unintended release of lading during transfer operations. However, each incident demonstrates the potential for grave consequences which result when liquefied petroleum gases are spilled and ignition occurs.

- On July 25, 1962, in Berlin, New York, an MC 330 bulk transport ruptured releasing about 6900 gallons of liquid propane. Ignition occurred. Ten persons were killed and 17 others were injured. Property damage included total destruction of 18 buildings and 11 vehicles.
- On February 9, 1972, in Tewksbury, Massachusetts, while an MC 330 bulk transport was unloading 8500 gallons of propane into two 60,000 gallon storage tanks at a Lowell Gas terminal, a second bulk transport backed into piping at the bulkhead of the unloading terminal causing a propane leak. Ignition occurred. In the ensuing fire, one of the transports exploded. Two persons were killed and 21 others were injured. Property damage included both transports, a large portion of the operating facility and surrounding woodland.
- On March 9, 1972, near Lynchburg, Virginia, an MC 331 bulk transport overturned and slid into a rock embankment. The impact ruptured the tank's shell, releasing about 4000 gallons of liquid propane. Ignition occurred. Two persons were killed and five others were injured. There was property damage to a farmhouse, outbuildings and about 12 acres of woodland.
- On April 29, 1975, near Eagle Pass, Texas, an MC 330 bulk transport struck a concrete headwall and ruptured releasing more than 8000 gallons of liquefied petroleum gas. The ensuing fire and explosion killed 16 persons, injured 51 others and destroyed 51 vehicles.
- On December 23, 1988, in Memphis, Tennessee, an MC 330 bulk transport struck a bridge abutment and ruptured releasing 9388 gallons of liquefied propane gas. The ensuing fire and explosion killed eight persons and injured eight others.
- On November 29, 1989, in Neptune Beach, Florida, while propane was being delivered to storage tanks at the Neptune Beach Elementary School, an unintentional release of propane ignited. In the resulting explosion and fire, the driver was badly burned and subsequently died.
- On July 27, 1994, in White Plains, New York, an MC 331 bulk transport struck a column of an overpass and ruptured, releasing 9200 gallons of propane. Ignition occurred. The driver was killed, 23 persons were injured and an area within a radius of 400 feet was engulfed in fire.
- On September 8, 1996, in Sanford, North Carolina, during delivery of propane to a bulk storage facility by an MC 331 bulk transport, more than 35,000 gallons of propane were released. The discharge hose separated from its hose coupling at the delivery end of the hose. Most of the transport's 9800 gallons of propane and more than 30,000 gallons from the storage tanks were released. If this quantity of released propane ignited, local

authorities estimated that about 125 emergency response personnel could have been injured or killed.

• On June 3, 1997, in Caro, Michigan, while unloading propane into a storage tank at an industrial facility, the delivery hose of an MC 331 transport ruptured. The ensuing fire and a series of explosions seriously burned the driver, destroyed four vehicles and extensively damaged the facility. Initial estimates of property damage are at least $2.0 million.

Two additional examples of serious accidents involving shipments of liquid petroleum gas are noteworthy. In what many consider the world's most serious incident involving a motor vehicle transporting liquid petroleum gas, on July 11, 1978, an overfilled cargo tank passing near a campground in Spain exploded and burned. About 200 persons were killed and 120 were badly burned. And, although no motor vehicles were involved, another major accident occurred on February 22, 1973, in Waverly, Tennessee, when a 30,000 gallon railroad tank car exploded and burned. Sixteen persons were killed, 43 others were injured and $1.8 million of property damage resulted.

The history of major accidents in the transportation of anhydrous ammonia is similar to that involving the transportation of liquefied petroleum gases. Pulmonary injuries are more significant with ammonia while fire damage is more significant with liquefied petroleum gases. An example of a major accident involving the release of ammonia is an incident that occurred May 11, 1976, in Houston, Texas. The driver of an MC 331 transport lost control while negotiating an interstate exit ramp. The cargo tank motor vehicle overturned and fell from the overpass onto a major artery some 15 feet below. The cargo tank ruptured, releasing its entire cargo of 7500 gallons of anhydrous ammonia. The driver was killed in the crash. An additional five persons were killed and 78 others were hospitalized, all due to inhalation of ammonia. Another 100 persons were treated for less severe injuries. Favorable wind conditions prevented the vapor cloud from reaching a nearby elementary school.

D. RSPA Safety Advisory Notice and Federal Highway Administration (FHWA) Safety Alert Bulletin

Based on preliminary information from the Sanford incident, RSPA published an advisory notice in the **Federal Register** on December 13, 1996 (61 FR 65480). That notice alerted persons involved in the design, manufacture, assembly, maintenance or transportation of hazardous materials in MC 330 and MC 331 cargo tank motor vehicles of the problem with emergency discharge control systems and reminded them that these tanks and their components must conform to the HMR. At the same time, FHWA issued and distributed 16,000 copies of a Safety Alert Bulletin on this issue.

E. Emergency Exemption Applications

On December 2, 1996, and December 18, 1996, RSPA received applications for emergency exemptions from the Mississippi Tank Company and the NPGA, respectively, indicating the problem with cargo tank motor vehicle emergency discharge systems was more extensive than originally believed. Additionally, The Fertilizer Institute (TFI) and National Tank Truck Carriers, Inc. (NTTC) submitted applications to become party to these exemptions. In support of its exemption application, the Mississippi Tank Company, a manufacturer of specification MC 331 cargo tank motor vehicles, provided preliminary information that there is reason to suspect the problem is common to nearly all cargo tank motor vehicles used in liquefied compressed gas service within the U.S. This problem is also thought to exist in the non-specification cargo tanks authorized in § 173.315(k).

In their requests for emergency exemption, the applicants asked the agency to issue an exemption to allow the continued use of existing cargo tank motor vehicles and the conditional operation of newly constructed cargo tank motor vehicles while a long-term solution to the problem is developed. NPGA suggested that long-term solutions might include pneumatic or mechanical "deadman" devices, possibly combined with a lanyard for remote activation, or the use of a differential pressure valve.

NPGA proposed that the emergency exemption require: (1) Compliance with applicable provisions of the HMR other than §§ 173.315(n), 178.337-11(a)(1)(i) and 178.337-11(a)(1)(v); (2) an outreach effort by NPGA to notify members of the Sanford, North Carolina incident and related, identified concerns; (3) transfer hose inspection before continued use and new hose inspection as required under the HMR; (4) compliance with applicable provisions of the National Fire Protection Association (NFPA) pamphlet NFPA 58, Storage and Handling of Liquefied Petroleum Gases, 1995 edition; (5) continual driver attendance and control of the loading/unloading operations; and (6) driver training. Mississippi Tank Company proposed that the emergency exemption require a warning statement and/or special operating instructions.

Both applicants stressed the urgent need for an expedited response from RSPA. Mississippi Tank indicated that an emergency exemption was needed "to allow the continued use of existing equipment and to allow badly needed new equipment to continue to be made available to the industry." In the section of its application entitled "Treatment as an Emergency Exemption," NPGA indicated that the propane industry was in the midst of the winter heating season, that over 80 percent of the 7–9 billion gallons of propane delivered annually was to be used as a residential heating fuel, and that all of the existing cargo tanks were needed to deliver the heating fuel for residential and agricultural purposes. In further support of its argument that an emergency existed, NPGA also stated that "the ability to be able to operate propane bobtails and highway transports has so many impacts and is so pervasive as to be almost incalculable from an economic impact viewpoint." NPGA concluded its application by stating that "a true emergency exists for handling this Exemption request in an expedited manner * * *"

After evaluating the facts before it, and the NPGA's and Mississippi Tank Company's emergency exemption applications, RSPA agreed that an emergency existed. However, the agency denied the applications for emergency exemption on January 13, 1997, because they failed to provide for an equivalent level of safety as required by § 5117 of the Federal hazardous materials transportation law, 49 U.S.C. § 5117, and 49 CFR 107.113(f)(2). Also, RSPA found that the issues addressed in the applications have serious safety and economic implications for a broad range of persons, including a significant number of regulated entities facing a possible interruption in transportation services because of widespread non-conformance with the HMR's requirement for a passive emergency discharge control system. Consequently, RSPA believed that the issues raised by the applicants were better addressed through the rulemaking process. See 49 CFR 107.113(i). Thus, RSPA published the IFR because of the emergency situation described by NPGA and Mississippi Tank Company in their applications for emergency exemption, and the applicants' requests for expedited relief.

F. The Interim Final Rule

The IFR was issued to enhance safety of product transfer operations while allowing for the continued

transportation of liquefied compressed gases (principally propane, other liquefied petroleum gases and anhydrous ammonia). The IFR was made effective for a six-month period, until August 15, 1997, to allow industry time to develop at least an interim solution to the problem with emergency discharge control systems. RSPA and the FHWA believed that, without the authorization for continued operation provided by the IFR, persons who depend on propane and other liquefied compressed gases for residential, industrial, and agricultural purposes, as well as cargo tank motor vehicle operators and manufacturers, would be severely impacted by service interruptions in these industries. Because there are no acceptable alternatives for distributing these materials to most residences and facilities served by cargo tank motor vehicles, RSPA and FHWA believed the IFR was necessary to avoid other potentially serious safety and economic consequences that might have resulted from an inability to secure these essential materials.

In order to enhance the level of safety during transfer operations using current equipment, the IFR specified special conditions for continued operations in new § 171.5. These conditions offered an alternate means of compliance with existing emergency discharge controls required by § 178.337–11. Those conditions included:

Paragraph (a)(1). Use provisions under which MC 330, MC 331, and non-specification cargo tank motor vehicles authorized under § 173.315(k) may be operated and unloaded.

Paragraph (a)(1)(i). A requirement to verify the integrity of components making up the cargo tank motor vehicle's discharge system before initiating any transfer.

Paragraph (a)(1)(ii). A requirement that prior to using a new or repaired transfer hose or a modified hose assembly, the hose must be pressure tested at no less than 80 percent of the design pressure or maximum allowable working pressure (MAWP) marked on the cargo tank.

Paragraph (a)(1)(iii). A requirement that a qualified person in attendance of the cargo tank motor vehicle during the unloading operation must have the capability to manually activate the emergency discharge control system to stop the release of the hazardous material from the cargo tank.

Paragraph (a)(1)(iv). A requirement that in event of an unintentional release of lading, the internal self-closing stop valve be activated and all motive and auxiliary power equipment be shut down.

Paragraph (a)(1)(v). A requirement for the development, and maintenance on the cargo tank motor vehicle, of comprehensive emergency operating procedures for all transfer operations.

Paragraph (a)(1)(vi). A requirement that each manufacturer, assembler, retester, motor carrier and other hazmat employer provide training to its hazmat employees so that they may properly perform the new function-specific requirements in § 171.5.

Paragraph (a)(2). Conditions for continued qualification of existing in-service cargo tank motor vehicles.

Paragraph (a)(3). Requirements for new vehicles, including a special entry on the Certificate of Compliance required by § 178.337–18.

Paragraph (b). A requirement for a specific marking to be displayed on each cargo tank motor vehicle operating under § 171.5.

Paragraph (c). An August 15, 1997 expiration date for this temporary regulation.

The IFR, and a subsequent notice in the **Federal Register**, advised of two public meetings and two public workshops scheduled to gather information and allow comment on the IFR requirements. In the IFR, RSPA also solicited comments and data on the costs and effectiveness of alternate means of achieving a level of safety for the long-term comparable to that provided by current requirements. Finally, RSPA solicited comments on the costs and benefits of the interim measures adopted under the IFR.

As the investigation of the Sanford incident proceeded, it became apparent that certain assumptions made both by RSPA and FHWA and by parts of the industry were invalid regarding the emergency discharge control systems. These systems were previously thought to conform to requirements of § 178.337–11(a)(1)(i) established under Docket HM–183 [54 FR 24982; June 12, 1989]. Both the NPGA and TFI quickly set up special task forces to deal with the shortcomings of existing product delivery systems.

Since mid-December 1996, and while maintaining close liaison with RSPA and FHWA, much has been accomplished by industry. For example, off-the-shelf radio remote control and telemetry equipment has been identified which, with relatively simple modifications, may be used to stop the delivery of product from a distance while meeting requirements for "unobstructed view" in § 177.834(i)(3) of the HMR. This equipment has been in use for many years in various industrial applications. Similarly, several manufacturers have developed other promising radio remote control systems aimed at this problem; some of these have been demonstrated and are currently being marketed by equipment suppliers serving the propane industry.

Additionally, some manufacturers have demonstrated systems capable of automatically closing discharge valves in the event of separation of hoses or piping. The range of conditions under which these systems can be counted on to offer reliable operation for liquefied compressed gases has not been determined as yet, and additional field testing is called for, but the accomplishments to date are encouraging.

During the two public meetings and two public workshops, RSPA and industry explored possible long- and short-term solutions to enhance the safety of product transfer operations. RSPA also worked with the Volpe National Transportation Systems Center to identify off-the-shelf technology that might offer possible solutions, and TFI engaged the Pennsylvania Transportation Institute to conduct related research. Also, RSPA and FHWA staff participated in several industry-sponsored meetings and witnessed the demonstration of new technologies being developed to enhance safety during the unloading of hazardous materials from MC 330 and MC 331 cargo tank motor vehicles. As a result of these joint efforts, industry developed and tested at least two passive systems and several remote control systems using radio signals, all of which show great promise. Several operators have installed these devices on a limited number of cargo tank motor vehicles in order to test them in actual operation.

G. Petitions for Reconsideration

On March 21, 1997, RSPA received a petition for reconsideration of the IFR from the NPGA, on behalf of its members, and a petition for reconsideration jointly filed by Ferrellgas, L.P., Suburban Propane, L.P., AmeriGas Propane, L.P., Agway Petroleum Corporation and Cornerstone Propane Partners, L.P. (Those petitions are attached, in their entirety, as Appendices A and B, respectively.) Petitioners specifically requested that RSPA reconsider the additional attendance requirement in § 171.5(a)(1)(iii), which they contend effectively mandates that two or more attendants travel to and be present during the unloading of propane gas from a cargo tank motor vehicle. They assert that the high cost of compliance with the additional requirement is not

supported by the safety record for propane gas delivery, and they provided some cost and safety data to support their views.

A significant number of commenters to the IFR raised issues regarding cost and safety identical to those raised by petitioners. Numerous commenters cited compliance cost estimates that they considered excessive, based on their assertion that they have long operated cargo tank motor vehicles without experiencing problems with the currently installed emergency discharge control systems. These same issues were among the topics raised by participants in the two public meetings and the two public workshops conducted by RSPA.

In its petition, NPGA also asked for an immediate stay of the additional attendance requirement pending a decision on its petition. Ignoring statements made in its emergency exemption application, NPGA's request for a stay was based on its assertion that an emergency did not exist and, therefore, that RSPA was not justified in foregoing notice and comment before immediately imposing new requirements. NPGA further argued that because RSPA should have issued a notice of proposed rulemaking (NPRM) prior to imposing new requirements, the agency should have done a full economic analysis of the effect of the new requirements on small businesses, as required under the Regulatory Flexibility Act, 5 U.S.C. 601–612.

In order not to prejudge the additional attendance requirement issue before all interested parties had an opportunity to comment on the IFR requirements, RSPA did not respond to the petitions for reconsideration prior to the close of the IFR comment period. Also, because of the fast-approaching expiration date of the IFR, the need to take further regulatory action to ensure an acceptable level of safety during the transportation, including unloading, of liquefied compressed gases, and the identical nature of the issues raised by petitioners and commenters alike, RSPA found that it was impractical to make a decision on the petitions for reconsideration prior to issuance of this final rule. On June 9, 1997, RSPA published a notice in the **Federal Register** (62 FR 31363) announcing its intent to defer a decision on the petitions for reconsideration of the IFR and to hold a second public meeting at industry's request. RSPA indicated that it would address the issues raised by petitioners and commenters regarding the IFR requirements in a final rule that it intended to issue prior to the expiration date of the IFR. RSPA also indicated in that notice that after publication of the final rule, it intended to issue an NPRM to address broader issues raised during the course of this rulemaking, including the "unobstructed view" requirement in § 177.834(i) and the need for hose management program requirements.

A significant basis for RSPA's finding that an emergency exists is NPGA's and Mississippi Tank Company's assertions of the urgent need for propane as a fuel for heating homes and agricultural facilities, as well as the potentially serious adverse financial impacts on propane marketers, propane producers, common carriers, vehicle assemblers and equipment manufacturers. As RSPA noted in the IFR, "After evaluating the situation and the NPGA and Mississippi Tank Company emergency exemption applications, RSPA finds that this situation constitutes an emergency with broad applicability to many persons and far reaching safety and economic impacts." (62 FR at 7644). Indeed, NPGA stated that the operation of the affected cargo tank motor vehicles has impacts "almost incalculable from an economic standpoint," and that an interruption of service by the industry would pose safety risks to the large number of people in rural areas who depend on propane as fuel for heating and cooking. The finding by RSPA that an economic and safety emergency exists led the agency to issue the IFR in order to provide industry with an immediate means of compliance with the HMR, thereby avoiding an interruption of service and the resulting economic and safety impacts described by the petitioners.

Because RSPA did not issue an NPRM in this rulemaking, it was not required under the Regulatory Flexibility Act, 5 U.S.C. 601–612, to do a full regulatory flexibility analysis regarding the impact of the IFR on small entities.

As RSPA stated in the IFR:

> The Regulatory Flexibility Act (Act), as amended, 5 U.S.C. 601–612, directs agencies to consider the potential impact of regulations on small business and other small entities. The Act, however, applies only to rules for which an agency is required to publish a notice of proposed rulemaking pursuant to § 553 of the Administrative Procedure Act (APA), 5 U.S.C. 553. *See* 5 U.S.C. 603(a) and 604(a). Because of the emergency nature of this rule, RSPA is authorized under § 553(b)(B) and § 553 (d)(3) of the APA to forego notice and comment and to issue this rule as an interim final rule with an immediate effective date. Consequently, RSPA is not required under the Act to do a regulatory flexibility analysis in this rulemaking.
>
> Specifically, § 553(b)(B) and § 553(d)(3) of the APA authorize agencies to dispense with certain procedures for rules, including notice and comment, when they find "good cause" to do so. "Good cause" includes a finding that following notice-and-comment procedures would be "impracticable, unnecessary, or contrary to the public interest." Section 553(d)(3) allows an agency, upon a finding of good cause, to make a rule effective immediately. "Good cause" has been held to include situations where immediate action is necessary to reduce or avoid health hazards or other imminent harm to persons or property, or where inaction would lead to serious dislocation in government programs or the marketplace.
>
> Nevertheless, RSPA is concerned with the effect this rule may have on small business. Consequently, in preparing a preliminary regulatory evaluation under Executive Order 12866, RSPA has analyzed, based on information currently available to the agency, the impact of this rule on all affected parties, including small businesses. The preliminary regulatory evaluation is available for review in the public docket (62 FR 7646).

In the IFR, RSPA also asked a series of questions intended to elicit economic, safety and technical data for use in the preparation of a final regulatory evaluation. A discussion of the economic impacts of this rule appears below and in the final regulatory evaluation that is available in the public docket.

II. Issues and Comments

RSPA received over 90 comments on the provisions specified in the IFR. These comments were from Members of Congress, trade associations, marketers, carriers, and State and local agencies. All comments, including late submissions and comments made at the meetings and workshops, were considered by RSPA to the extent practicable. Most commenters stated that they could comply with the provisions of the IFR, except for those provisions requiring the person attending the unloading to have an unobstructed view of the discharge system, and be within arm's reach of a means for closure of the internal self-closing stop valve or other device that will immediately stop the discharge of product from the cargo tank. (See § 171.5(a)(1)(iii)). While the affected industries expressed their interest in working with RSPA to develop systems and procedures that assure safe unloading of hazardous materials from the MC 330 and MC 331 cargo tank motor vehicles in every circumstance, the propane industry adamantly opposes these particular elements of the IFR which it characterizes as being neither practicable, reasonable, nor in the public interest. Specifically, the NPGA estimated annual costs of $660 million to its member companies in order to comply with the attendance requirement in the IFR. This cost

estimate is attributed largely to the NPGA's understanding that a literal interpretation of the rule effectively requires at least two, and possibly three, operators for each unloading operation. NPGA explained that, in addition to the current operator who attends to the delivery of propane at the receiving tank, a second operator would be required to be under the truck to observe the piping and a third operator would be required at the remote control on the internal valve in order to have all the discharge system in view during the transfer operation. If a third operator were actually required, as hypothesized, the NPGA contends the cost of compliance would double to $1.32 billion.

The $660 million estimate of annual costs calculated by NPGA results from a misreading of the rule. In the preamble to the IFR, RSPA set forth several options for complying with "the unobstructed view" and "arm's reach" requirements. In that discussion, RSPA stated "(u)ntil an automatic flow control system is developed, this may require two operator attendants on a cargo tank motor vehicle or the use of a lanyard, electro-mechanical, or other device or system to remotely stop the flow of product." (62 FR at 7643).

The cost of various alternatives was analyzed by RSPA in the preliminary regulatory evaluation prepared in support of the IFR. Where two operators would be required, RSPA estimated additional annual costs in the amount of $237 million. RSPA recognized the cost estimate as being so great as to effectively eliminate the two-person method of compliance from consideration as a feasible alternative. RSPA subsequently assessed the NPGA's suggested use of a lanyard and that resulted in the significantly lower estimate of costs of compliance of $12.5 million. Therefore, the lanyard system and equally efficient means of achieving compliance with the IFR were determined by RSPA to be among the common-sense approaches that could be taken by industry to permit its continued operation of the non-conforming cargo tank motor vehicles.

The NPGA then contrasted its extremely high estimate of costs to comply with the arm's reach and unobstructed view provisions of the IFR with the comparatively low estimate of $322,192 to $1.5 million in annual benefits to society calculated by RSPA in the preliminary regulatory evaluation. RSPA calculated those benefits on the basis of sixteen actual incidents contained in the Hazardous Materials Information Reporting System database that occurred between 1990–1996. The approach taken by RSPA was an attempt to determine the average cost of each gallon of propane unintentionally released to the environment so it might be used to compare the estimated cost-per-gallon price increase attributed to the IFR that likely would be passed on to the ultimate consumer of propane. The costs to society of each gallon of propane spilled was estimated in a range of $115.98 to $547.41, or $0.00164 per gallon of propane unloaded from cargo tank motor vehicles. When RSPA compared these costs to the calculated additional costs of compliance, the decision to apply temporary operational controls contained in the IFR was fully justified and quite reasonable. When RSPA considered further the potential threats to life and property posed by plausible accident scenarios, such as the possible consequences that may have occurred in Sanford, NC, had the spilled propane ignited, the reasonableness of the temporary rules became even more apparent.

Numerous comments submitted by small propane dealers serving agricultural interests in the midwestern United States cited an estimate of approximately $2,500 per vehicle to replace non-performing (defective) emergency discharge control systems with a fully operational passive shut-off system. They claimed this cost is excessive and unnecessary, especially considering that none of those commenters had ever experienced a failure of the emergency discharge control system to function properly. Related comments suggested that these small businesses accepted in good faith claims made by equipment manufacturers that their cargo tank motor vehicles met all technical requirements of the HMR. Furthermore, those commenters claimed they should not be penalized for equipment deficiencies that they could not reasonably be expected to identify through an independent evaluation. Some conclude by suggesting that RSPA should require persons that completed the certificate of compliance for each cargo tank motor vehicle to bear the cost of a retrofit, following the example of the National Highway Traffic Safety Administration in ordering automobile manufacturers to correct identified safety defects.

RSPA does not agree with the commenters' reasoning that, because it was only recently determined that most of the affected cargo tank motor vehicles do not conform to a long-standing safety requirement, the agency should accept the *status quo* as the officially recognized standard for safety. As indicated earlier in this preamble, the need for and value of fully operational emergency discharge controls is undisputed. Actual threats to life and property posed during the unloading of liquefied compressed gases demand that RSPA require compliance with a performance standard that appears to be reasonably achievable through technological innovations that are now undergoing field tests.

A. Barriers to Compliance

A number of motor carriers noted practical barriers to their full compliance with requirements in the interim final rule. One problem concerns the regulatory requirement that the operator be within arm's reach of a means for closure of the internal self-closing stop valve while operational necessity sometimes calls for the operator to enter the vehicle's cab in order to engage the power take-off for the pump. For large capacity trailers, (*e.g.*, those with a nominal capacity of 10,500 gallons), those controls are normally accessible only from the vehicle operator's position in the truck tractor. A few operators reported that while most bobtail trucks have the controls mounted on the rear deck of the vehicle, unloading controls for some bobtail trucks also are located in the vehicle cab. Thus, these operators claimed the need for two operators.

With respect to retail deliveries of propane to residential and industrial customers, numerous commenters noted that the operator is most frequently located at the delivery end of the hose which may be 100 feet, or farther, from the vehicle. Additionally, these commenters noted that it is not unusual for the receiving tank to be located in a position that prohibits the operator from having an unobstructed view of the cargo tank motor vehicle, as required by § 177.834(i)(3). The commenters state that, in their opinion, because § 177.834(i)(5) specifies that the delivery hose when attached to the cargo tank is considered part of the vehicle, the operator in these circumstances is in compliance with § 177.834(i)(3). Also, where the receiving tank and the cargo tank motor vehicle are in positions which do not allow for a direct line of sight, these carriers believe that compliance is possible by having the operator assume a position within 25 feet of the hose at the corner of the house, or other structure, from which point both cargo tank and receiving tank may be observed. The impediment to compliance in these cases is that, for relatively short periods when the operator is connecting/disconnecting the hose to the receiving tank, it is

impossible to observe the cargo tank. To avoid the high costs of compliance associated with hiring and training a second operator to assist in these frequently occurring situations, the commenters petitioned for relief from the requirements of § 171.5(a)(1)(iii) by requesting the following amendment:

> In addition to the attendance requirements in § 177.834(i) of this subchapter, the person who attends the unloading of a cargo tank vehicle must, except as necessary to facilitate the unloading of product or to enable that person to monitor the receiving tank, remain within arm's reach of a remote means of automatic closure (emergency shut-down device) of the internal self-closing stop valve.

See Ferrellgas *et al.* Petition for Reconsideration of Interim Final Rule (Appendix B).

RSPA rejects the industry's interpretation of the long-standing operator attendance rules in § 177.834(i)(3) that a single operator satisfies requirements for an unobstructed view of the cargo tank, and is within 25 feet of the cargo tank, merely by being in proximity to, and having an unobstructed view of, any part of the delivery hose, which may be 100 feet or more away from the cargo tank motor vehicle, during the unloading (transfer) operation. The rule clearly requires an operator be in a position from which the earliest signs of problems that may occur during the unloading operation are readily detectable, thereby permitting an operator to promptly take corrective measures, including moving the cargo tank, actuating the remote means of automatic closure of the internal self-closing stop valve, or other action, as appropriate. RSPA contends the rule requires that an operator always be within 25 feet of the cargo tank. Simply being within 25 feet of any one of the cargo tank motor vehicle's appurtenances or auxiliary equipment does not constitute compliance.

B. Transports

Compliance with the long-standing attendance requirements is rather easily achieved by a single operator in most instances involving the unloading of "transports" at bulk plants, similarly configured industrial facilities, neighborhood gasoline service stations, and other delivery sites which generally provide for use of transfer hoses that do not exceed 20 feet in length. It is the provision in the IFR, requiring the operator to be within arm's reach of a means for closure of the internal self-closing stop valve or other device that will immediately stop the discharge of product from the cargo tank at all times, that makes compliance by a single operator difficult or impossible.

In order to assure that temporary operational safety controls specified in § 171.5 may be reasonably complied with by the operating motor carriers, RSPA is revising the rule by providing that the person in attendance of the cargo tank may be away from the mechanical means for closure of the internal self-closing stop valve for the short period necessary to engage or disengage the motor vehicle power take-off or other mechanical, electrical, or hydraulic means used to energize the pump and other components of the discharge system. RSPA believes this provision allows for a single operator to perform necessary unloading functions, while also reducing potential threats to safety by requiring the operator to quickly assume a position within arm's reach of the emergency discharge control mechanism. With this revision, RSPA is satisfied that compliance with the temporary rule may be accomplished by one operator and without requiring the additional use of a lanyard, electro-mechanical, or other device or system to remotely stop the flow of product. Thus, under this final rule, operators of transports may avoid the costs associated with equipping the cargo tanks with devices or systems that provide an alternative means of compliance with the HMR. This provision is responsive to concerns raised by petitioners representing the propane industry. *See* Appendices A and B.

C. Bobtails (Local Delivery Trucks)

Issues raised by commenters concerning general applicability of requirements in § 177.834(i) pertaining to operator attendance during the unloading of cargo tank motor vehicles relate to a larger number of motor carriers and specification cargo tanks than those addressed in this final rule. Therefore, the attendance issue is addressed only to the extent it bears on temporary operational controls set-out in this rule. In an ANPRM published in today's **Federal Register** RSPA addresses those broader issues with respect to liquefied compressed gases transported in specification MC 330, MC 331 and certain non-specification cargo tank motor vehicles. That rulemaking proposal specifically solicits participation by emergency responders and other affected persons whose concerns were not made known during the course of this rulemaking action.

RSPA is revising the IFR attendance requirements to address economic concerns raised by petitioners on behalf of operators of bobtail trucks. Peculiarities in the siting of receiving tanks, accessibility of a cargo tank motor vehicle to the vicinity of the receiving tank, permanent structures, including high fences, walls, and the like, create scenarios that need to be addressed separately.

When a bobtail truck is used solely to service receiving tanks that are located within 25 feet of the cargo tank and the operator has a direct line of sight, RSPA is confident that compliance with the temporary rule may be accomplished by one operator and without incurring additional costs for the application of a lanyard, electro-mechanical, or other device or system to remotely stop the flow of product.

Another scenario common to bobtail operations involves the delivery of propane to a receiving tank which provides for an unobstructed view of the cargo tank, but is at a distance greater than 25 feet from the cargo tank. In this situation, a single operator conceivably could comply with the temporary operational controls in the same manner as discussed above for transports. However, the need to closely observe the receiving tank takes the operator more than 25 feet from the cargo tank motor vehicle and effectively mandates installation of a remote control system or other system that allows the operator to promptly activate the emergency discharge controls. Installation of a remote control system allows the motor carrier to avoid high labor costs identified by the industry that would otherwise be incurred when a second operator is employed to achieve compliance with these temporary regulations. Data provided by the industry concerning radio-controlled systems that are capable of stopping the engine and, in turn, shutting-down the operation of the pump, thereby allowing the internal self-closing stop valve to revert to its fail-safe position, indicate that most bobtail cargo tanks could be so equipped at a unit cost of approximately $250 to $500.

Still another frequently reported unloading scenario involves situations where the receiving tank is more than 25 feet from the cargo tank motor vehicle and the operator's view is obstructed by a structure, a natural formation, foliage, or some other barrier. RSPA understands further that many residential deliveries of propane fall into this unloading scenario. This situation is of greatest concern to RSPA because the possibility exists that a failure of a discharge valve, pump seal, hose reel swivel joint, or hose during unloading (transfer) may not be immediately detected. Should that occur, a dangerous quantity of propane

could be released to the environment, possibly ignite, and result in serious injuries, extensive property damage, or both.

In the unloading scenario described above, when a single operator attends to the unloading operation, that person is required by this final rule to take additional safety precautions. Before commencing the transfer of product, (*i.e.*, opening the internal valve), the operator must assume a position near the cargo tank motor vehicle that is within arm's reach of the emergency discharge controls. Alternatively, if the operator has a remote control system, or other device, that has a capability to immediately close the internal valve, the operator must assume a position that assures an unobstructed view of the cargo tank. In either event, a transfer of product may be affected only at such times as the operator has an unobstructed view of the cargo tank.

RSPA believes this final rule clearly provides motor carriers with the ability for a single operator to safely unload liquefied compressed gases transported in specification MC 330 and MC 331 cargo tank motor vehicles in most circumstances and at a minimal cost for installation, maintenance, and training in the use of remote control systems, or other devices, that permit the operator to promptly stop the flow of product in the event of an unintentional release to the environment. The temporary rules permit motor carriers to continue until March 1, 1999, their use of cargo tank motor vehicles that do not conform to § 178.337–11 for the transportation of hazardous materials that are essential to home, agriculture, and industry.

Prior to March 1, 1999, RSPA anticipates the industry will have perfected passive shut-off systems that allow motor carriers to bring their cargo tank motor vehicles into compliance with requirements of § 178.337–11.

D. Need for Passive System Requirements

Several commenters question whether the emergency discharge requirement in § 178.337–11 is necessary. ICI Technology and Barrett Transportation Compliance state that RSPA is placing too much emphasis on a passive automatic shut-down device. They believe that knowing the cause of accidents and focusing on prevention is better than trying to mitigate the incident once it occurs.

TFI believes that a hose management program, along with industry awareness training programs, possible requirements for brake interlock systems, and improvements to the delivery system of cargo tanks in ammonia service, including the emergency-shut-off valve, are sufficient to provide an equivalent level of safety to a fully passive excess flow valve, and may be one possible long-term solution to the problem at hand. NPGA supports TFI's position and believes that enhanced hose testing, training and inspection procedures would provide an equivalent level of safety inasmuch as the majority of product discharges are the result of hose ruptures rather than complete separations which excess flow valves are intended to address.

The HMR address two unintentional release scenarios, specifically: (1) Total hose or piping rupture or separation; and (2) partial hose or piping rupture, separation, or leak. Commenters correctly note that the passive emergency discharge control requirement in § 178.337–11(a)(1)(i) is meant to protect against the unintentional discharge of liquefied compressed gases where there is a total hose or piping rupture or separation. Such events have potentially large consequences and high probability of incapacitating the operator to the extent that person cannot perform emergency procedures. For partial hose or piping rupture, separation, or leak, operator-dependent countermeasures are the primary safety measure. The operator-attendance requirements for unloading operations in § 177.834(i)(2) ensure that the person attending an unloading operation is alert, can see the cargo tank during the unloading operation and is close enough to the cargo tank to reach the emergency shut-off system in the event of an emergency. The training requirements in § 172.700 are intended to ensure that the person attending the unloading operation is aware of safety procedures and is familiar with the HMR in general and the requirements that apply specifically to the functions the employee performs. Where a partial hose or piping rupture, separation, or leak occurs, only the operator-dependent countermeasures come into play.

With issuance of this final rule and the ANPRM, RSPA is reviewing and addressing existing HMR requirements, including the passive system requirement in § 178.337–11. RSPA also is considering the need for a hose management program and other measures that address the problem of hose ruptures. RSPA will review these requirements from a cost/benefit perspective, especially in light of new technologies that are available now or will shortly be available.

E. Decisions on Petitions for Reconsideration

Based on the above information and discussions, NPGA's March 21, 1997 petition for reconsideration of the "arm's reach" requirement contained in the February 19, 1997 IFR is denied. Based on the same information and discussions, the March 21, 1997 petition for reconsideration of the IFR filed by Ferrellgas, *et al* (joint petitioners) is granted in part and denied in part. Specifically, as requested by the joint petitioners, this final rule authorizes the person attending the unloading of a cargo tank motor vehicle to step away from the mechanical means of closure of the internal self-closing stop valve for the short duration necessary to engage or disengage the motor vehicle power take-off or other mechanical, electrical, or hydraulic means used to energize the pump and other components of the discharge system on the cargo tank. It does not, however, authorize that person to step away from the means of immediate closure of the internal self-closing stop valve for any other reason.

III. Provisions of the Final Rule

A. Section 171.5

Paragraph 171.5(a)(1) sets forth use provisions under which MC 330, MC 331 and non-specification cargo tank motor vehicles authorized under § 173.315(k) may be operated and unloaded. Also, this paragraph makes clear that § 171.5 does not apply to cargo tank motor vehicles used to transport carbon dioxide.

Paragraph 171.5(a)(1)(i) requires that, before each transfer of product is initiated from a cargo tank motor vehicle, the person performing the unloading function should verify that each component of the discharge system is of sound quality, is free of leaks, and that all connections are secure. Also, the transfer hose must be subjected to full transfer pressure prior to the first unloading of product each day.

Paragraph 171.5(a)(1)(ii) requires that, before the transfer of product is initiated from a cargo tank motor vehicle using a new or repaired transfer hose, or a modified hose assembly for the first time, the hose assembly must be subjected to a specified pressure test. This paragraph also provides that a hose or associated equipment that shows signs of leakage, significant bulging or other defects may not be used. Where hoses are used to transfer liquefied compressed gases, a procedure must be instituted to ensure that hose assemblies are maintained at a level of integrity suited to each hazardous material. An acceptable procedure for maintenance,

testing and inspection of hoses is outlined in publication RMA/IP-11-2, "Manual for Maintenance, Testing and Inspection of Hose", 1989 edition, published by the Rubber Manufacturers Association.

Paragraph 171.5(a)(1)(iii) requires that, in the event of an unintentional release of lading to the environment during transfer, the person attending the unloading operation must promptly activate the internal self-closing stop valve and shut down all motive and auxiliary power equipment. This paragraph clarifies that prompt activation can be accomplished in at least three ways, specifically: (1) Through compliance with the requirements in § 178.337-11(a)(1)(i); (2) through the use of a qualified person positioned within arm's reach of the mechanical means of closure throughout the unloading operation, except during the short period of time necessary to engage or disengage the motor vehicle power take-off or other mechanical, electrical, or hydraulic means used to energize the pump and other components of a cargo tank's discharge system; or (3) through the use of a fully operational radio-controlled system that is capable of stopping the transfer of lading by use of a transmitter carried by a qualified person unloading the cargo tank.

This paragraph also provides that where a radio-controlled system is used as a means of promptly activating the internal self-closing stop valve, the attendance requirements of § 177.834(i)(3) are satisfied when the qualified person unloading the cargo tank: (1) Carries a radio transmitter that will activate the closure of the internal self-closing stop valve; (2) remains within the operating range of the transmitter; and (3) has an unobstructed view of the cargo tank motor vehicle at all times when its internal stop-valve is open.

Paragraph 171.5(a)(1)(iv) states that cargo tank motor vehicles that meet the emergency discharge system requirements in § 178.337-11(a)(1)(i) may be operated under the provisions of § 171.5(a)(1).

Paragraph 171.5(a)(1)(v) requires that a comprehensive written emergency operating procedure be developed by persons conducting transfer operations, that the written procedures be prominently displayed on or in each affected cargo tank motor vehicle, and that hazmat employees who perform unloading functions be trained in those procedures.

Paragraph 171.5(a)(1)(vi) requires that cargo tank manufacturers, assemblers, retesters, motor carriers, and other hazmat employers subject to § 171.5 train their employees to perform the new function-specific requirements in § 171.5 and maintain records of this training as required under § 172.704(d). As a general provision, this requirement already exists. Section 172.702 of the HMR requires that a hazmat employer ensure that each of its hazmat employees is trained in accordance with Subpart H of Part 172. The training requirements apply to persons who manufacture, maintain, and test cargo tanks, and to persons who operate cargo tanks. Testing, and a "certification that the hazmat employee has been trained and tested," is required by the regulation and Federal hazmat law. RSPA views emergency discharge controls and their operation to be essential to cargo tank safety and to be a significant element in the training program of any involved hazmat employer. Also, there are the driver training requirements in § 177.816 that include special requirements for operators of cargo tanks with a specific reference to training on the operation of emergency control features.

Paragraph 171.5(a)(2), regarding the continuing qualification of a cargo tank motor vehicle, allows existing in-service cargo tank motor vehicles that do not meet the requirements of § 178.337-11(a)(1)(i) to continue in operation if the Certificate of Compliance and inspection report required under § 180.417(b) contain the following statement: "Emergency excess flow control performance not established for this unit."

Paragraph 171.5(a)(3), regarding new cargo tank motor vehicles manufactured, marked and certified prior to March 1, 1999, states that those vehicles may be marked and certified as conforming to specification MC 331 if they meet all of the specification requirements, with the exception of the emergency excess flow control function, and the following statement appears on the certification document, "Emergency excess flow control performance not established for this unit."

Paragraph 171.5(b) specifies the marking that must be displayed on a cargo tank used or represented for use under § 171.5.

Paragraph 171.5(c) states that requirements specified in § 171.5 are applicable from August 16, 1997, through March 1, 1999.

B. Immediate Compliance

This final rule is an alternative to existing requirements. Industry may choose to comply with the requirements in § 178.337-11, tracing back to 1941, or with provisions in § 171.5. However, because segments of industry are in non-compliance with requirements in § 178.337.11(a)(1)(v) and the attendance requirements in § 177.834(i)(3), a serious threat to the public safety continues to exist and must be addressed without delay. Furthermore, continued non-compliance with the above-stated requirements poses a serious economic threat to industry in that MC 330 and MC 331 cargo tank motor vehicles that do not conform to the HMR may not be used to transport hazardous materials. As stated by NPGA in its application for exemption, the impacts of continued operation of these vehicles are "so many" and "so pervasive as to be almost incalculable from an economic impact viewpoint." Based on the above, and the fact that the final rule requirements are refinements of the IFR requirements that have been in effect since February 19, 1997, good cause exists for making this rule immediately effective upon expiration of the IFR.

IV. Rulemaking Analyses and Notice

A. Executive Order 12866 and DOT Regulatory Policies and Procedures

This final rule is considered a significant regulatory action under section 3(f) of Executive Order 12866 and was reviewed by the Office of Management and Budget. The rule is considered significant under the Regulatory Policies and Procedures of the Department of Transportation (44 FR 11034).

The preliminary regulatory evaluation prepared in support of the interim final rule published on February 19, 1997, was reexamined and modified to remove certain incidents that were not appropriate to issues considered in this rulemaking, and to consider economic cost data submitted to the docket by commenters. The final regulatory evaluation is available for review in the public docket.

Most of the compliance cost burden of this rule is expected to fall on propane dealers, and RSPA expects these costs to be passed on to customers. A total one-time expenditure of $4.7 million to $9.2 million is estimated as being required of these dealers. This expenditure is very small in relation to the revenue from sales of liquefied petroleum gas by dealers to final users, without even counting those sales that may be made directly to industrial, agricultural or commercial customers by merchant wholesalers or gas producers. The latest available (1992) *Census of Retail Trade* showed annual sales of liquefied petroleum gas by retail dealers alone to amount to $4.87 billion. The $4.7

million to $9.2 million estimated above is relatively small when compared only to the margin between operating expenses and revenues net of the cost of such purchases and appears to add relatively little to a year's worth of outlays made by these dealers for capital equipment.

The U.S. Bureau of the Census has provided RSPA with 1992 sample-survey-based estimates of these quantities that are normally not published in such industry-specific detail since they have been subjected to only limited review. They were only available combined with those for fewer than 300 miscellaneous types of fuel dealers that could not be classified as "fuel oil" vendors, but this minor category accounted for only 1.3% of combined sales according to the 1992 *Census of Retail Trade*. 98.7% of the estimated operating margin and of the estimated annual capital expenditure (other than for land) amounted to $499 million and $191 million, respectively, for retail liquefied petroleum gas dealers.

Another way of putting these estimated compliance costs in perspective is to express their major component, the equipping of bobtails with radio frequency devices, as an average expenditure per retail liquefied petroleum gas business location. Using the 5393 such locations in existence during an entire year that were shown in the 1992 *Census of Retail Trade*, yields an average of under $800 per location.

These essentially one-time-only costs of $4.7 million to $9.2 million (or annualized costs of $3.13 million to $6.14 million, when amortized over the 18 months this temporary regulation will be in effect) compare favorably with estimated annual benefits to society, in terms of reduced injuries, evacuations, and property damages, ranging from a low of $322,071 to a high of $3 million. The low end of this range is based upon data contained in fourteen unloading incidents reported to RSPA during the past seven years. The high end of the range considers those same incidents but then adjusts for a ten-fold estimate of under reporting of economic losses and a two-fold estimate of under reporting of the actual number of incidents, based upon the Office of Technology Assessment report "Transportation of Hazardous Materials" (July 1986). In event the requirements specified in this revised final rule were to prevent a major release of propane potentially threatening the life of four or more persons, the rule would yield a net benefit to society.

B. Executive Order 12612

This final rule has been analyzed in accordance with the principles and criteria contained in Executive Order 12612 ("Federalism"). The Federal hazardous materials transportation law, 49 U.S.C. 5101–5127, contains an express preemption provision (49 U.S.C. 5125(b)) that preempts State, local, and Indian tribe requirements on certain covered subjects. Covered subjects are:

(1) The designation, description, and classification of hazardous materials;

(2) The packing, repacking, handling, labeling, marking, and placarding of hazardous materials;

(3) The preparation, execution, and use of shipping documents related to hazardous materials and requirements related to the number, contents, and placement of those documents;

(4) The written notification, recording, and reporting of the unintentional release in transportation of hazardous material; or

(5) The design, manufacture, fabrication, marking, maintenance, recondition, repair, or testing of a packaging or container represented, marked, certified, or sold as qualified for use in transporting hazardous material.

This interim final rule addresses covered subject item (5) above and preempts State, local, and Indian tribe requirements not meeting the "substantively the same" standard. Federal hazardous materials transportation law provides at § 5125(b)(2) that, if DOT issues a regulation concerning any of the covered subjects, DOT must determine and publish in the **Federal Register** the effective date of Federal preemption. The effective date may not be earlier than the 90th day following the date of issuance of the final rule and not later than two years after the date of issuance. RSPA has determined that the effective date of Federal preemption for these requirements will be November 17, 1997. Thus, RSPA lacks discretion in this area, and preparation of a federalism assessment is not warranted.

C. Regulatory Flexibility Act

The Regulatory Flexibility Act (Act), as amended, 5 U.S.C. 601–612, directs agencies to consider the potential impact of regulations on small business and other small entities. The Act, however, applies only to rules for which an agency is required to publish a notice of proposed rulemaking pursuant to section 553 of the Administrative Procedure Act (APA), 5 U.S.C. 553. *See* 5 U.S.C. 603(a) and 604(a). Because of the emergency nature of this rule, RSPA is authorized under sections 553(b)(B) and 553(d)(3) of the APA to forego notice and comment and to issue this final rule with an immediate effective date. Consequently, RSPA is not required under the Act to do a regulatory flexibility analysis in this rulemaking.

Specifically, under sections 553(b)(B) and 553(d)(3), APA authorizes agencies to dispense with certain procedures for rules, including notice and comment, when they find "good cause" to do so. "Good cause" includes a finding that following notice-and-comment procedures would be "impracticable, unnecessary, or contrary to the public interest." Section 553(d)(3) allows an agency, upon a finding of good cause, to make a rule effective immediately. "Good cause" has been held to include situations where immediate action is necessary to reduce or avoid health hazards or other imminent harm to persons or property, or where inaction would lead to serious dislocation in government programs or the marketplace.

Nevertheless, RSPA is concerned with the effect this rule may have on small business. Consequently, in preparing a regulatory evaluation under Executive Order 12866, RSPA analyzed, based on information currently available to the agency, the impact of this rule on all affected parties, including small businesses. The regulatory evaluation is available for review in the public docket.

The Regulatory Flexibility Act is concerned with identifying the economic impact of regulatory actions on small businesses and other small entities. It requires a final rule to be accompanied by a final regulatory flexibility analysis, consisting of a statement of the need for the rule, a summary of public comments received on regulatory flexibility issues and agency responses to them, a description of alternatives to the rule consistent with the regulatory statutes but imposing less economic burden on small entities, and a statement of why such alternatives were not chosen. Unless alternative definitions have been established by the agency in consultation with the Small Business Administration, the definition of "small business" has the same meaning as under the Small Business Act. Because no special definition has been established, RSPA employs the thresholds published (in 13 *CFR* 121.201) of 100 employees for wholesale trade in general and $5,000,000 annual sales for retail trade in general. As noted above, liquefied petroleum gas dealers constitute the principal type of business

on which significant compliance costs will be imposed by this rule, in particular for equipment on retail-type delivery vehicles. Using the Small Business Administration definitions and the latest (1992) available *Census of Retail Trade*, it appears that over 95% of retail liquefied petroleum gas dealers must be considered small businesses for purposes of the Regulatory Flexibility Act. They accounted in the 1992 Census for over 50% of business locations and almost 43% of annual sales. Unpublished 1992 *Census of Wholesale Trade* figures provided to RSPA by the U.S. Bureau of the Census indicate that over 95% of merchant wholesalers of liquefied petroleum gas also must be considered small businesses; they accounted for approximately 40% of business locations and over 50% of annual sales.

The Regulatory Flexibility Act suggests that it may be possible to establish exceptions and differing compliance standards for small business and still meet the objectives of the applicable regulatory statutes. However, given the importance of small business in liquefied petroleum gas distribution, especially in its retail sector where improved emergency shut-off equipment is necessary to assure adequate safety during delivery operations, RSPA believes that it would not be possible to establish differing standards and still accomplish the objectives of Federal hazardous materials transportation law (49 U.S.C. 5101 *et seq.*). RSPA further believes that the discussion in the regulatory evaluation and in the February 19, 1997 **Federal Register** publication of the interim final rule, as to the need for regulatory action, issues raised by the public and the consideration of alternatives open to the government, apply to small as well as large businesses in the affected industries.

While certain regulatory actions may affect the competitive situation of an industry by imposing relatively greater burdens on small-scale than on large-scale enterprises, RSPA does not believe that this will be the case with this rule. The principal types of compliance expenditure effectively required by the rule, radio frequency emergency shut-off system installation, is imposed on each vehicle, whether operated within a large or a small fleet. While there is undoubtedly some administrative efficiency advantage to a large firm in being able to make a single set of arrangements for such installations on a large number of vehicles at a time, imposition of the requirement contemplates use of commercially-available equipment, without any need for extensive custom development work that only a large firm could afford. While the only other compliance expenditure that is believed to be significant in the aggregate, that for documentation of emergency procedures, has been projected here on a per-firm rather than a per-vehicle or per-location basis, the average of $62 estimated for each preparation does not appear high enough to significantly affect the economics of small-scale as contrasted with large-scale distribution of the affected commodities.

D. Unfunded Mandates Reform Act

This rule does not impose unfunded mandates under the Unfunded Mandates Reform Act of 1995. It does not result in costs of $100 million or more to either State, local, or tribal governments, in the aggregate, or to the private sector, and is the least burdensome alternative that achieves the objective of the rule.

E. Paperwork Reduction Act

The information collection and recordkeeping requirements contained in this final rule have been submitted for renewal to the Office of Management and Budget (OMB) under the provisions of the Paperwork Reduction Act of 1995. The requirement is currently approved under OMB Control Number 2137-0595. Section 1320.8(d), Title 5, Code of Federal Regulations requires that RSPA provide interested members of the public and affected agencies an opportunity to comment on information collection and recordkeeping requests. RSPA estimates that the total information collection and recordkeeping burden in this final rule is 18,573 hours, at a cost of $422,660, for the development and maintenance of the comprehensive emergency operating procedure. These figures are based in RSPA's belief that standardized emergency operating procedures can be developed for use by a majority of industry members, thus reducing substantially the burden hours and cost to individual industry members of compliance with the emergency operating procedures requirement. Requests for a copy of this information collection should be directed to Deborah Boothe, Office of Hazardous Materials Standards (DHM-10), Research and Special Programs Administration, Room 8102, 400 Seventh Street, SW, Washington, DC 20590-0001. Telephone (202) 366-8553. Under the Paperwork Reduction Act of 1995, no person is required to respond to an information collection unless it displays a valid OMB control number.

F. Regulation Identifier Number (RIN)

A regulation identifier number (RIN) is assigned to each regulatory action listed in the Unified Agenda of Federal Regulations. The Regulatory Information Service Center publishes the Unified Agenda in April and October of each year. The RIN number contained in the heading of this document can be used to cross-reference this action with the Unified Agenda.

List of Subjects in 49 CFR Part 171

Exports, Hazardous materials transportation, Hazardous waste, Imports, Reporting and recordkeeping requirements.

In consideration of the foregoing, 49 CFR part 171 is amended as follows:

PART 171—GENERAL INFORMATION, REGULATIONS, AND DEFINITIONS

1. The authority citation for Part 171 is revised to read as follows:

Authority: 49 U.S.C. 5101-5127; 49 CFR 1.53.

2. Section 171.5 is added to read as follows:

§ 171.5 Temporary regulation; liquefied compressed gases in cargo tank motor vehicles.

(a) *Operation of new and existing cargo tank motor vehicles.* For a cargo tank motor vehicle used to transport liquefied compressed gases, other than carbon dioxide, § 178.337-11(a)(1)(i) of this subchapter requires that each internal self-closing stop valve and excess flow valve must automatically close if any of its attachments are sheared off or if any attached hoses or piping are ruptured or separated. Other regulations in Parts 173 and 180 of this subchapter reference this requirement or similar requirements in effect at the time of manufacture of a cargo tank motor vehicle. Notwithstanding this requirement, a DOT MC 330 or MC 331 specification cargo tank motor vehicle, or a non-specification cargo tank motor vehicle conforming to the requirements of § 173.315(k) of this subchapter, may, without certification and demonstrated performance of the internal self-closing stop valve or the excess flow feature or self-closing stop valve of its emergency discharge control system, be represented for use and used to transport certain liquefied compressed gases under the following conditions:

(1) *Use.* The cargo tank motor vehicle must otherwise be operated, unloaded and attended in full conformance with all applicable requirements of this subchapter and the following additional requirements:

(i) Before initiating each transfer from the cargo tank motor vehicle, the person performing the function shall verify that each component of the discharge system is of sound quality, is free of leaks, and that connections are secure. In addition, prior to commencing the first transfer of each day, the transfer hose shall be subjected to full transfer pressure.

(ii) Prior to commencing transfer using a new or repaired transfer hose or a modified hose assembly for the first time, the hose assembly must be subjected to a pressure test. The pressure test must be performed at no less than 120 percent of the design pressure or maximum allowable working pressure (MAWP) marked on the cargo tank motor vehicle, or the pressure the hose is expected to be subjected to during product transfer, whichever is greater. This test must include all hose and hose fittings and equipment arranged in the configuration to be employed during transfer operations. A hose or associated equipment that shows signs of leakage, significant bulging, or other defects, may not be used. Where hoses are used to transfer liquefied compressed gases, a procedure must be instituted to ensure that hose assemblies are maintained at a level of integrity suited to each hazardous material. An acceptable procedure for maintenance, testing and inspection of hoses is outlined in publication RMA/IP-11-2, "Manual for Maintenance, Testing and Inspection of Hose", 1989 edition, published by the Rubber Manufacturers Association, 1400 K Street, N.W., Washington, DC 20005.

(iii) If there is an unintentional release of lading to the environment during transfer, the internal self-closing stop valve shall be promptly activated, and the qualified person unloading the cargo tank motor vehicle shall promptly shut down all motive and auxiliary power equipment. Prompt activation of the internal self-closing stop valve may be accomplished through:

(A) Compliance with § 178.337-11(a)(1)(i) of this subchapter; or

(B) A qualified person positioned within arm's reach of the mechanical means of closure for the internal self-closing stop valve throughout the unloading operation; except, that person may be away from the mechanical means only for the short duration necessary to engage or disengage the motor vehicle power take-off or other mechanical, electrical, or hydraulic means used to energize the pump and other components of the cargo tank motor vehicle's discharge system; or

(C) A fully operational remote-controlled system capable of stopping the transfer of lading by operation of a transmitter carried by a qualified person attending unloading of the cargo tank motor vehicle. Where the means for closure of the internal self-closing stop valve includes a remote-controlled system, the attendance requirements of § 177.834(i)(3) of this subchapter are satisfied when a qualified person:

(*1*) Is carrying a radio transmitter that can activate the closure of the internal self-closing stop valve;

(*2*) Remains within the operating range of the transmitter; and

(*3*) Has an unobstructed view of the cargo tank motor vehicle at all times that the internal stop-valve is open.

(iv) A cargo tank motor vehicle that has an emergency discharge system conforming to the requirements in § 178.337-11(a)(1)(i) of this subchapter may be operated under the provisions of this paragraph (a)(1).

(v) A comprehensive written emergency operating procedure must be developed for all transfer operations and hazmat employees who perform unloading functions must be trained in its provisions. The emergency operating procedure must be prominently displayed in or on the cargo tank motor vehicle.

(vi) As required by § 172.704 of this subchapter, each manufacturer, assembler, retester, motor carrier and other hazmat employer subject to the requirements of this section shall ensure that its hazmat employees are trained to properly perform these new function-specific requirements including the meaning of the marking specified in paragraph (b) of this section. The hazmat employer shall ensure that a record of the training is created, certified, and maintained as specified in § 172.704(d) of this subchapter.

(2) *Continuing qualification.* An existing in-service cargo tank motor vehicle may continue to be marked and documented as required by Part 180 of this subchapter if the following statement is added to the Certificate of Compliance by the owner or operating motor carrier: "Emergency excess flow control performance not established for this unit."

(3) *New cargo tank motor vehicles.* A new (unused) cargo tank motor vehicle manufactured, marked and certified prior to March 1, 1999, may be marked and certified as conforming to specification MC 331 if it otherwise meets all requirements of the specification and the following statement is added to the certification document required by § 178.337-18 of this subchapter: "Emergency excess flow control performance not established for this unit."

(b) *Marking.* The following marking must be displayed on a cargo tank motor vehicle used or represented for use under this section:

BILLING CODE 4910-60-P

BILLING CODE 4910-60-C

(1) The letters must be white and the background black.

(2) The letters must be at least 1.5cm in height.

(3) The marking must be 6cmx15cm.

(c) Requirements of this section are applicable to a cargo tank motor vehicle used to transport liquefied compressed gases, other than carbon dioxide, from August 16, 1997 through March 1, 1999.

Issued in Washington, DC on August 13, 1997, under authority delegated in 49 CFR part 1.

Kelley Coyner,

Acting Administrator, Research and Special Programs Administration.

Appendices

Note: The following appendices will not appear in the Code of Federal Regulations.

Appendix A—National Propane Gas Association Petition for Reconsideration of Interim Final Rule

March 21, 1997

By First Class Mail

The Honorable Dharmendra K. Sharma,
Administrator, Research & Special Programs Administration, U.S. Department of Transportation, 400 7th Street, S.W., Washington, D.C. 20590-0001.

Re: Amendment to NPGA's Petition for Reconsideration

Dear Administrator Sharma: On behalf of the National Propane Gas Association ("NPGA" or the "Petitioner") and its members, we hereby amend our Petition for Reconsideration of the Emergency Interim Final Rule on Cargo Tank Motor Vehicles in Liquefied Compressed Gas Service ("Interim Final Rule"), Docket No. RSPA-97-2133 (HM-225), filed on March 21, 1997, to correct a typographical error.

On the bottom of page eight (8) of our Petition for Reconsideration, we inadvertently stated that the $660 million in additional costs would represent "a potential increase of .07 cents per gallon to the consumer." The costs would reflect a potential increase of 7 cents per gallon to the consumer. Therefore, the sentence containing this statement should read as follows: "This figure represents a potential increase of $.07 per gallon to the consumer."

We apologize for any confusion this error may have caused.

Respectfully submitted,

Eric A. Kuwana,

Counsel for the National Propane Gas Association.

March 21, 1997

By Hand Delivery

202-457-6420

Dr. Dharmendra K. Sharma,
Administrator, Research & Special Programs Administration, U.S. Department of Transportation, 400 7th Street, S.W., Washington, D.C. 20590-0001.

Re: Petition for Reconsideration of Interim Final Rule, Pursuant to 49 CFR § 106.35; and Petition for Rulemaking Pursuant to 49 CFR § 106.31

Dear Administrator Sharma: On behalf of the National Propane Gas Association ("NPGA" or the "Petitioner") and its members, we hereby petition the Research and Special Programs Administration ("RSPA") of the U.S. Department of Transportation ("DOT") for reconsideration of a single requirement imposed in the Emergency Interim Final Rule on Cargo Tank Motor Vehicles in Liquefied Compressed Gas Service ("Interim Final Rule"), Docket No. RSPA-97-2133 (HM-225), which was published on February 19, 1997 (62 FR 7638). By this petition, NPGA and its members do not seek or otherwise request reconsideration of the entire Interim Final Rule. Instead, NPGA seeks reconsideration of the single requirement addressed herein. At the same time, we remain committed to work with RSPA to ensure the safe loading and unloading of LP-gas (or propane gas) from cargo tank motor vehicles.

The Petitions

Pursuant to the procedural provisions in 49 CFR § 106.35(a), we specifically petition RSPA for reconsideration of the additional attendance requirement in 49 CFR § 171.5(a)(1)(iii), which states, in relevant part, that "[t]he person who attends the unloading of a cargo tank motor vehicle must have an unobstructed view of the discharge system and be within arm's reach of a means for closure (emergency shut-down device) of the internal self-closing stop valve or other device that will immediately stop the discharge of product from the cargo tank." This language effectively mandates that two or more attendants travel to and be present during the unloading of propane gas from a cargo tank motor vehicle. The additional attendance requirement is not justified by the exceptional safety record of the propane gas industry, is not necessary to ensure the safe unloading of propane gas from a cargo tank motor vehicle, and will result in enormous costs and devastating impacts to the propane gas industry.

This Petition for Reconsideration satisfies the standard set forth in 49 CFR § 106.35(a) for such petitions in that compliance with the additional attendance requirement in § 171.5(a)(1)(iii) is neither practicable, reasonable, nor in the public interest. The provision, which was effective immediately upon publication of the Interim Final Rule on February 19, is extremely costly and will have an immediate and severe financial impact on the industry. Because the additional attendance requirement in the Interim Final Rule has no demonstrated nexus to the reported accidents or incidents cited by RSPA in that rule, RSPA cannot justify the approximately $660 million cost of compliance. NPGA and its members strongly believe that, based on the clear weight of the evidence and the other reasons set forth herein, this Petition for Reconsideration of the additional attendance requirement in the Interim Final Rule warrants the removal of that burdensome requirement by RSPA.[1] Especially because the requirement was imposed without any opportunity for notice and comment, we further request that the effectiveness of the additional attendance requirement be stayed pending consideration of this petition.

As discussed further below, NPGA believes the magnitude of the impact on the propane gas industry justifies RSPA's acting on its Petition for Reconsideration immediately without delay, an opportunity for notice and comment, or any other proceedings. Such expedited treatment is expressly contemplated in the procedural provisions of § 106.35. Nonetheless, pursuant to the provisions in 49 CFR § 106.31, we additionally petition RSPA for rulemaking to amend 49 CFR § 171.5(a)(1)(iii) in the event RSPA denies the NPGA's Petition for Reconsideration of the Interim Final Rule.

NPGA's Efforts

Initially, we need to emphasize that NPGA and its members have an absolute commitment to the safe unloading of propane gas from cargo tank motor vehicles. Simply stated, the propane gas industry must maintain a record of safety in order to keep its customers, to receive insurance, to maintain a favorable perception in the community and, at the bottom line, to remain in business. The propane industry has achieved an admirable record of safety.

Consistent with this absolute commitment to safety, members of the propane gas industry undertook an immediate investigation after the September 1996 incident at Sanford, North Carolina, and voluntarily evaluated and disclosed the specific issue relating to emergency discharge control systems that triggered the Interim Final Rule. Further, NPGA voluntarily formed a task force to identify viable alternatives to the current emergency discharge control systems and to ensure the safe unloading of propane gas under all conditions.[2] Consistent with this process, NPGA and its members continue to embrace the opportunity to participate with RSPA to identify and fashion measures to ensure the safe unloading of propane gas from cargo tank motor vehicles in every circumstance.

NPGA Membership

NPGA is the national trade association representing the LP-gas (principally propane) industry and has about 3,500 member entities and companies in all 50 states, including 37 affiliated state and regional associations. Propane gas is vital to the economic well-

[1] NPGA proposes instead that RSPA adopt the less burdensome, but equally safe, requirement that "[t]he vehicle driver be continually in attendance and control of the loading and unloading operations."

[2] A brief discussion of NPGA's efforts, including those related to the Special Presidential Task Force, can be found in NPGA's prepared Statement submitted to Docket No. RSPA-97-2133 (HM-225) during the public meeting on March 20, 1997. The Statement is incorporated herein by reference.

being of this nation and is distributed for critical industrial, commercial and residential uses every single day of the year. While the single largest group of NPGA members are retail marketers of propane gas, the membership also includes propane producers, transporters and wholesalers, as well as manufacturers and distributors of associated equipment, containers and appliances. Propane gas is used in over 18 million installations nationwide for home and commercial heating and cooking, in agriculture, in industrial processing, and as a clean air alternative engine fuel for both over-the-road vehicles and industrial lift trucks.

The majority of NPGA's members are small businesses, which bear a disproportionate burden of the Interim Final Rule. According to its own analysis, RSPA acknowledges that at least 90 percent of the businesses affected by the Interim Final Rule are small businesses (62 FR 7646). It is NPGA's position that the additional attendance requirements will have an immediate and devastating financial impact on these small businesses.[3] A more detailed analysis of the economic impact of the additional attendance requirement is provided below.

Industry Safety Record

The propane gas industry has achieved an extraordinary safety record. From 1986 to 1995, there were almost 10 million tank transport truck deliveries and almost 300 million bobtail deliveries of propane. (Attachment A).

Those deliveries carried almost 90 billion gallons of propane to residential, commercial, agricultural and industrial consumers throughout every state and county in the United States. (Attachment B).[4] Except for the incident in Sanford, North Carolina described below, NPGA is unaware of any other serious reported incident during this 10 year period relating to a failure of the emergency discharge control system during the unloading of a tank transport truck. There have been no fatalities, injuries, fires or explosions caused by a failure of the emergency discharge control system during the unloading of a tank transport truck in more than 10 million deliveries of propane. As to the smaller bobtail cargo tanks, RSPA acknowledges in the Interim Final Rule that only 9 incidents of propane release have been reported during the past 10 years involving any allegation of a failure of the emergency discharge control system on a bobtail cargo tank.[5] None of the 9 incidents of propane release cited by RSPA resulted in any fatalities. This represents approximately one release per 30 million bobtail deliveries. Based on these numbers, this also represents one release per almost 10 billion gallons of propane delivered in the past ten years.

The Sanford Event

Notwithstanding these statistics, RSPA promulgated the Interim Final Rule without providing for notice and comment after an accidental release of propane that involved no fire, no explosion and no injuries or fatalities in Sanford, North Carolina on September 8, 1996. The release involved a large cargo tank semi-trailer pulled by a highway truck tractor unloading a cargo of propane into permanent storage tanks at a propane marketing facility. Shortly after the transfer operation began, the transfer hose separated from the transfer connection at its juncture with the plant piping and began discharging liquid propane into the atmosphere. The vehicle driver heard sounds unusual for a transfer operation and shut off the vehicle engine. According to the report of the Federal Highway Administration ("FHWA") inspector, the driver was not able to get to the remote controls to close the internal stop flow valve. Nonetheless, apparently as a result of the failure of the excess flow protection in the cargo tank motor vehicle, the entire propane cargo of approximately 9,700 gallons was discharged into the atmosphere. There was no ignition of the propane, and thus no fire, explosion, loss of life or loss of property.

More importantly, the emergency flow protection built into the permanent storage tanks at the propane marketing facility apparently did not activate automatically as designed and, as a result, the approximately 35,000 gallons of propane in the storage facility were also discharged into the atmosphere. The failure of the flow protection built into the permanent storage tanks contributed the vast majority of the released propane, not the cargo tank motor vehicle. Because RSPA apparently does not have jurisdiction over the permanent storage tanks, the Interim Final Rule does not seek to address the most significant failure connected with the release at Sanford, North Carolina.

There is absolutely no evidence that the event at Sanford could not have been prevented by the improved training, hose testing and system inspection requirements proposed by NPGA in its Application for an Emergency Exemption and subsequently adopted by RSPA in its Interim Final Rule.

The Other Incidents Cited By RSPA

In addition to the Sanford incident, RSPA cites to six other unrelated incidents involving propane ignition and tragic fatalities. Based in large part on these six unrelated incidents, RSPA promulgated the Interim Final Rule without notice and comment to prevent the "grave consequences" of an accidental release of propane. Significantly, RSPA failed to cite a single instance of a documented failure of an emergency discharge control system on a cargo tank motor vehicle resulting in an explosion, fire, injury or loss of life in the Interim Final Rule. The unrelated six incidents, as listed by RSPA in the Interim Final Rule, are as follows:

- On July 25, 1962 in Berlin, NY, an MC 330 bulk transport ruptured releasing about 6,900 gallons of liquid propane. Ignition occurred. Ten persons were killed, and 17 others were injured. Property damage included total destruction of 18 buildings and 11 vehicles.
- On March 9, 1972 near Lynchburg, VA, an MC 331 bulk transport overturned and slid into a rock embankment. The impact ruptured the tank's shell releasing about 4,000 gallons of liquid propane. Ignition occurred. Two persons were killed and five others were injured. Property damage included a farmhouse, outbuildings and about 12 acres of woodland.
- On April 29, 1975, near Eagle Pass, Texas, an MC 330 bulk transport struck a concrete headwall and ruptured releasing more than 8,000 gallons of liquefied petroleum gas. The ensuing fire and explosion killed 16 persons, injured 51, and destroyed 51 vehicles.
- On February 22, 1978, 23 tank cars derailed in Waverly, Tennessee. During wreck-clearing operations, a 30,000 gallon tank car containing liquefied petroleum gas ruptured. The ensuing fire and explosion killed 16 persons, injured 43, and caused $1.8 million in property damage.
- On December 23, 1988, in Memphis, Tennessee, an MC 330 bulk transport struck a bridge abutment and ruptured releasing 9,388 gallons of liquefied petroleum gas. The ensuing fire and explosion killed eight persons and injured eight.
- On July 27, 1994, in White Plains, New York, an MC 331 bulk transport struck a column of an overpass and ruptured releasing 9,200 gallons of propane. Ignition occurred. The driver was killed, 23 people were injured, and an area within a radius of approximately 400 feet was engulfed in fire. (62 FR 7639.)

In five of the above listed incidents, a cargo tank motor vehicle was involved in a serious accident resulting in a ruptured tank and subsequent ignition of the propane gas. While tragic examples of highway accidents, none of these incidents would have been avoided or minimized in any manner by the new requirements of the Interim Final Rule or an improved emergency discharge control

[3] RSPA asserts that this rulemaking is exempt from the Regulatory Flexibility Act, as amended, 5 U.S.C. §§601 et seq., because the Act is not applicable when a Notice of Proposed Rulemaking is not required (62 FR 7646). RSPA's argument relies on the validity of its "good cause" finding that it was impracticable, unnecessary or contrary to the public interest to provide for notice and comment. Because the Interim Final Rule was not tailored carefully or otherwise necessary to avoid any imminent harm, RSPA's finding of good cause is deficient and cannot justify an exemption from the Act.

[4] Based on current data compiled by NPGA, there were 9,891,403 tank transport deliveries and 296,742,077 bobtail deliveries for a total of 306,633,479 deliveries of propane during the 10 year period. These deliveries carried 89,022,623,000 gallons of propane. Indeed, this estimate is conservative because in actuality, these quantities of propane are transported twice: first by transport truck from the terminal to the bulk storage retail facility, and then by bobtail to the residential, commercial or industrial users. And, each instance of transportation itself involves two transfers: loading and unloading.

[5] NPGA notes that the exact causes of the 9 incidents of propane release cited by RSPA in the Interim Final Rule are not clear. There is absolutely no evidence in the Interim Final Rule that the additional attendance requirement in §171.5(a)(1)(iii) would have prevented those 9 incidents or is tailored to address the causes of those incidents. NPGA strongly believes that improved training, hose testing and system inspections are more likely to prevent accidental releases of propane than the burdensome and unnecessary additional attendance requirement.

system. More specifically, the additional attendance requirement in § 171.5(a)(1)(iii) could not have prevented or helped to prevent these tragic accidents.[6]

Finally, the sixth incident listed by RSPA, the February 22, 1973, accident in Waverly, Tennessee, involved rail tank cars, not cargo tank motor vehicles, and thus is completely unrelated to the Interim Final Rule. In fact, the rupture in this particular case did not even occur until wreck-clearing operations had commenced. Again, there is absolutely no evidence that this rail accident, or the five other above listed accidents, could have been prevented to any extent by the wholly unrelated requirements in the Interim Final Rule.

This Petition for Reconsideration Meets the Standard Set Forth in 49 CFR 106.35(a)

The petition for reconsideration meets the standard set forth in 49 CFR 106.35(a) in that the challenged provision is not reasonable, practicable, nor consistent with the public interest.

The Additional Attendance Requirement Is Not Reasonable

The Administrative Procedure Act ("APA"), 5 U.S.C. § 706(2)(A) provides that an agency's actions in promulgating rules may be set aside if "arbitrary, capricious, an abuse of discretion or otherwise not in accordance with law."[7] In order to withstand a challenge that one of its rules is arbitrary or capricious, an agency "must examine the relevant data and articulate a satisfactory explanation for its action including a 'rational connection between the facts found and the choice made.'"[8] Thus, courts will scrutinize whether relevant data was taken into consideration by the agency when it fashioned its regulatory requirements.[9] Additionally, reviewing courts will give increased deference (1) to an agency depending on its degree of persuasiveness of the agency's rationale for a rule and (2) to a long-standing rule.[10]

The new requirement added to Section 171.5(a)(1)(iii) by the Interim Final Rule is not reasonable in that the economic burdens it will place on the industry are not justified by the industry's safety record and are not reasonably tailored to remedy the problems identified by RSPA in its preamble to the Interim Final Rule, and the explanantion provided by the agency does not provide a rational connection between the facts found and the choices made. The six incidents other than Sanford cited by RSPA in the Interim Final Rule still would have occurred if the additional attendance requirement was in effect. Conversely, there is no evidence to suggest that the Sanford incident would not have been prevented by a combination of the improved training, hose testing, system inspection and qualification requirements contained in the Interim Final Rule and a requirement that the vehicle driver be continually in attendance and control of the loading and unloading operations. Thus, RSPA has "offered an explanation for its decision which runs counter to the evidence before the agency."[11] There is simply no evidence that having additional service personnel at each unloading would have prevented any of the incidents identified and cited by RSPA in its Interim Final Rule.[12] In sum, the severe economic consequences of the challenged requirement are not reasonably related to the goals cited by RSPA.

The Cost/Benefit Analysis Defies Common Sense

An agency's rulemaking must be tailored to address the problem at hand, and the economic burden to the regulated industry must bear some reasonable relationship to the goal of the regulation. In this case, it is obvious that RSPA either did not consider or determined to disregard the unjustified and unnecessary economic burden on the propane industry. While the propane industry is working diligently to develop, manufacture and retrofit a new emergency discharge control system for cargo tank motor vehicles, operators of all tank transport trucks and bobtails will need to recruit, hire, train and pay new employees to meet the additional attendance requirement in the Interim Final Rule if it is allowed to stand.

The economic impacts of the additional attendant requirement are extremely onerous for the propane industry and its customers. Based on a representative survey of its members, NPGA estimates the cost of compliance with the additional attendance requirement to be $660 million, taking into account costs associated with employee recruitment, function specific training, salary, and employee benefits.[13] This figure represents a potential increase of .07 cents per gallon to the consumer. Even according to the conservative estimates in the Government's Preliminary Regulatory Evalution for the Interim Final Rule filed in Docket No. HM-225 on March 19, 1997, the aggregate cost to the propane industry for a second operator to comply with the additional attendance requirement in § 171.5(a)(1)(iii) is $237,017,143 annually.[14]

The extraordinary compliance costs estimated by both NPGA ($660 million) and RSPA (almost $240 million) as a result of the additional attendant requirement in the Interim Final Rule stand in sharp contrast to the proven safety record of the propane industry over many years. In the Interim Final Rule, RSPA cites to only 9 incidents of releases relating to the emergency discharge control systems on cargo tank motor vehicles, none of which resulted in any fatalities. RSPA also cites to 6 tragic incidents that are wholly unrelated to emergency discharge control systems on cargo tank motor vehicles. Even in the Government's Preliminary Regulatory Evaluation, RSPA's search of the DOT's Hazardous Materials Incident Reporting System ("HMIS") found only 16 reports of propane releases, which may or may not be related in any way to emergency discharge control systems, from 1990 to 1996. Those 16 releases averaged 3,109 gallons of propane[15]—and there were no fatalities and only 2 serious and 2 minor injuries resulting in total damages of $932,166.

Most significantly, the Government's own analysis of the aggregate total costs to society from releases of propane as a result of a

[6] Indeed, if the Interim Final Rule had been in effect at the time of these five accidents, a second person likely would have been riding along with the driver of the cargo tank motor vehicle at the time of the accident because of the additional attendance requirement for the unloading of propane. Simply stated, the Interim Final Rule would have increased, not decreased, the loss of life in each incident cited by RSPA.

[7] See also *Citizens to Preserve Overton Park* v. *Volpe*, 401 U.S. 402, 414 (1971); *Bowman Transportation, Inc.* v. *Arkansas Best Freight System, Inc.*, 419 U.S. 281 (1974).

[8] *Motor Vehicle Manufacturers Association of the United States, Inc. et al.* v. *State Farm Mutual Automobile Insurance Co., et al.*, 463 U.S. 29, 43 (1983) citing *Burlington Truck Lines, Inc.* v. *United States*, 371 U.S. 156, 168 (1962).

[9] The Court in Motor Vehicle Mfgr. Assoc. noted "[n]ormally, an agency rule would be arbitrary and capricious if the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise." 463 U.S. at 43.

[10] *Visiting Nurse Association of North Shore, Inc.* v. *Bullen, et al.*, 93 F.3d 997, 1007 (1st Cir. 1996); *Bowen* v. *American Hosp. Ass'n.*, 476 U.S. 610, 64 n. 34; *Mayburg* v. *Sec. Of Health and Human Services*, 740 F.2d 100, 106 (1st Cir. 1984).

[11] Motor Vehicle Mfgr. Assoc., supra., at 43.

[12] See *American Horse Protection Assoc.* v. *Lyng*, 812 F.2d 1 (D.C. Cir. 1987) (agency's decision set aside where agency failed to consider evidence which demonstrated that the factual presumptions upon which the agency's decision was based were inaccurate).

[13] Based on 1995 retail sales volume of 9,429,570 gallons multiplied by $.07 per gallon.

[14] The estimate on its face is faulty. On page 16 of the Preliminary Regulatory Evaluation, RSPA concludes that only bobtails will be required to hire a second attendant to remain with the bobtail throughout the entire day of deliveries. RSPA apparently hypothesizes that the only increased costs for the larger tank transport trucks will be the use a second attendant during the two hours of actual unloading at a total hourly rate of $13.38. RSPA apparently makes the unsupported assumption that the larger tank transports will be able to hire a qualified and trained individual at the point for unloading and be able to compensate that individual for only two hours work. This assumption is further undermined by the fact that it is common practice in the industry for deliveries to be made in the evenings and on weekends so as not to disturb the operations of the recipient. As there would not ordinarily be anyone else on site at these times, there would necessarily have to be a second person riding in the truck, or someone would have to be hired at overtime wages to attend the transfer during the evening or on the weekend period.

[15] The chart containing this information on page 4 of the Preliminary Regulatory Evaluation acknowledges that the estimated high amount of any single release was 40,000 gallons, which included the 30,000 gallons released from the two storage tanks during the Sanford event. Discounting the 30,000 gallons from that event, which was completely unrelated to any failing of an emergency control system on the cargo tank motor vehicle, the average per release decreases from 3,109 (49,744/16) gallons to 1,234 (19,744/16) gallons. This reduction would reduce greatly the annual cost calculation for Alternative 1 ("do nothing") and Alternative 2 ("temporarily withdraw the requirement for emergency discharge system") in the Government's Preliminary Regulatory Evaluation.

decision not to implement any changes or new regulatory requirements is between $322,192 to $1,520,705 annually.[16] Simply stated, according to the Government's own estimates, complete Government inaction (e.g., no Interim Final Rule) on the issue of emergency discharge control systems on cargo tank motor vehicles would result in an annual total cost below $1.5 million. Moreover, the Government's analysis demonstrates that a total suspension of the regulatory requirement for an emergency discharge control system on cargo tank motor vehicles would result in essentially the same relatively low range of cost to society—between $322,192 to $1.5 million. Because the additional attendance requirement has not been demonstrated to rectify any specific safety problem and its imposition is wholly unsupported by the incidents cited by RSPA in its Interim Final Rule, the requirement cannot be justified in light of the incredible increase in costs to the industry ($240 to $660 million) compared to costs to society from Government inaction ($322,192 to $1.5 million).

Finally, NPGA submits that the additional attendance requirement in § 171.5(a)(1)(iii) will result in additional deaths and increased costs to society based on the incidents cited by RSPA in its Interim Final Rule. Of the five cargo tank motor vehicle accidents cited by RSPA, an attendant passenger could not have prevented the accidents and likely would have died in each case. Using the Government's own estimates of $2.7 million for the value of a single life from the Preliminary Regulatory Evaluation, those five additional deaths would have resulted in $13.5 million increased aggregate costs to society from that requirement. These additional deaths and increased costs are certainly not warranted by the wholly undocumented and questionable benefits.

The overwhelming economic evidence cited above should not be construed in any manner to indicate a lack of concern by NPGA about safety in the propane industry. NPGA and its members are committed to the safe loading and unloading of propane gas from cargo tank motor vehicles under all conditions. Moreover, we are not arguing that regulations that increase safety cannot increase costs for the regulated industry and its customers. But in this particular case, the additional attendance requirement is not based on any evidence that the requirement is reasonable, necessary, practicable and consistent with the public interest. Simply stated, the additional attendance requirement is regulatory overkill and an enormous burden on the propane industry and its customers without any demonstrated benefits to society.

The Additional Attendance Requirement Is Not Practicable

NPGA and its members additionally seek reconsideration of Section 171.5(a)(1)(iii) of the Interim Final Rule in that compliance with this requirement is not practicable.[17]

First, in addition to the costs of adding a second attendant described above, two attendants may be insufficient to meet the letter of the provisions for the majority of bobtail deliveries. Approximately half of the piping on a bobtail delivery truck is underneath the cargo tank between the vehicle chassis frame rails. The piping therefore may not be in view of someone standing beside the vehicle. Thus, to comply literally with the provisions of the Rule, one attendant must be under the truck and a second attendant must be at the remote control on the internal valve, in order to have all the discharge system in view during the transfer operation. These two attendants are, of course, in addition to the third, principal delivery person, who would attend the transfer of product. The economic impact outlined above therefore would be doubled.

Second, the recruiting, hiring and training of the additional attendants required by this new requirement makes the rule not practicable. The Interim Final Rule, by its very terms, is temporary in nature. Nonetheless, the rule mandates a lengthy process of recruiting, hiring and training, some of which may not be completed by the end of the temporary period on August 15, 1997. Moreover, the extremely high fixed costs for such a process in light of the temporary nature of the rule magnifies that the rule is not practicable. Finally, NPGA submits that the arm's reach requirement now contained in Section 171.5(a)(1)(iii) violates the National Fire Prevention Association ("NFPA") 58's requirement for separation of the receiving tank and source, further rendering the provision impracticable in that compliance with the Interim Rule may cause violation of applicable fire code provisions.

The Additional Attendance Requirement Is Contrary to the Public Interest

An agency is to consider the important aspects of a problem in fashioning a rule.[18] Here, RSPA has failed to address several key aspects of the issue presented and, as a result, has promulgated a rule that is contrary to the public interest. Although RSPA may promulgate rules for the safe transport of hazardous materials, such rules cannot properly be issued where the burden and impact on the public is not warranted or has not been considered in light of its tangible benefits.

The public interest will not be served by enforcement of the additional attendance requirement in that the economic burden of compliance will disproportionately impact small business. As noted above, RSPA estimates that at least 90 percent of the businesses impacted by the Interim Final Rule are small businesses under the Small Business Administration's size standard definitions (62 FR 7646). Thus, the largest percentage by far of the estimated $660 million in compliance costs will be borne by small businesses. Because the cost of an additional attendant will be a huge fixed cost and small businesses will have less revenue to absorb this new fixed cost, it is likely that many of these small businesses will cease to exist. The loss of these small businesses will result in higher unemployment and will have a very real and direct impact on their communities. Moreover, to the extent that small businesses are able to survive, they will pass these costs on to the consumer. Unnecessary higher costs for all consumers of propane gas is also contrary to the public interest.

The preamble to the Interim Final Rule specifically seeks comment as to whether there are alternatives to the Final Rule that accomplish RSPA's objectives, while at the same time imposing less of an impact on small businesses. NPGA strongly believes that the Interim Rule's testing, training, and qualification requirements, together with the requirement that the vehicle driver be continually in attendance and control of the loading and unloading operations, meet RSPA's objectives, while at the same time preserving the continued economic viability of the small businesses comprising the majority of this industry.

Request for Relief

NPGA seeks expedited reconsideration of the additional attendance requirement added by the new provisions of § 171.5(a)(1)(iii) to existing part 171 of Title 49, Code of Federal Regulations, by the Interim Final Rule. The additional attendance requirement, which effectively mandates the physical presence of a second attendant during the unloading of a cargo tank motor vehicle, imposes unreasonable and unnecessary financial burdens on the affected industry, and is not in the public interest in that it is not reasonably tailored to achieve the safety results at which it is aimed. NPGA further submits that the requirement will have a disproportionate and irreparable adverse effect on small businesses nationwide. As a result, the NPGA respectfully requests that the Administrator stay the effectiveness of the additional attendance requirement in § 171.5(a)(1)(iii) pending a decision on this Petition.

For the reasons cited above, NPGA petitions RSPA to reconsider the additional attendance requirement in the Interim Final Rule. As an alternative, NPGA recommends the language from our Application for Emergency Exemption requiring that "[t]he driver will be continually in attendance and control of the loading and unloading operations."

Conclusion

For the foregoing reasons, NPGA, on behalf of its members, petitions RSPA to reconsider Section 171.5(a)(1)(iii) of its Interim Final Rule, and to stay the effectiveness of this

[16] As stated above, this calculation would decrease due to the Government's overestimate of the average number of gallons released in the 16 reported incidents.

[17] At the March 20, 1997 Public Meeting, the issue was raised as to the requirements now contained in 49 CFR § 177.834(i)(3) that an attendant have an unobstructed view of the cargo tank and be within 7.62 meters (25 feet) of the cargo tank. Paragraph 177.834(i)(5) provides that the delivery hose, when attached to the cargo tank, is considered part of the vehicle. Under this definition, an attendant monitoring the delivery within 25 feet of the delivery hose would be in compliance with the previous section of the regulations.

[18] Motor Vehicle Manufacturers Association, 463 U.S. at 43.

provision during its consideration of our petition. In the event RSPA denies this petition, we request that it be converted to a petition for rulemaking to amend this provision under 49 C.F.R. § 106.31.

Please do not hesitate to contact us in the event RSPA requires further information to process this petition.

Respectfully submitted,

Mary Beth Bosco, Eric A. Kuwana,

Counsel for the National Propane Gas Association.

Attachments

ATTACHMENT A.—Propane Tank Truck Deliveries

[1986–1995]

Year	Propane fuel sales 1,000 gallons	Number of bobtail deliveries represented	Number of transport deliveries represented	Scheduled commercial airline departures
1986	7,999,283	26,664,277	888,809	.....
1987	8,299,830	27,666,100	922,203	.....
1988	8,484,351	28,281,170	942,706	.....
1989	9,763,059	32,543,530	1,084,784	.....
1990	8,281,606	27,605,353	920,178	.....
1991	8,611,571	28,705,237	956,841	.....
1992	9,217,256	30,724,187	1,024,140	.....
1993	9,483,509	31,611,697	1,053,723	.....
1994	9,452,588	31,508,627	1,050,288	.....
1995	9,429,570	31,431,900	1,047,730	7,700,000
Total	89,022,623	296,742,077	9,891,403	7,700,000
		Total Deliveries—306,633,479		

ATTACHMENT B.—SALES OF PROPANE BY PRINCIPAL FUEL USES, 1986–1995

[1,000 Gallons]

Year	Residential and commercial	Industrial [1]	Engine fuel	Farm	Other [2]	Total
1986	4,368,591	1,614,711	654,168	1,131,905	229,908	7,999,283
1987	4,837,271	1,387,696	629,848	1,075,463	369,552	8,299,830
1988	4,806,779	1,695,978	582,749	1,063,537	335,308	8,484,351
1989	5,388,742	1,709,440	581,155	1,172,811	910,911	9,763,059
1990	4,974,632	1,340,196	531,325	1,135,712	299,741	8,281,606
1991	5,324,740	1,287,077	542,064	1,133,539	324,151	8,611,571
1992	5,213,548	1,918,169	500,092	1,363,327	222,120	9,217,256
1993	5,460,571	1,914,762	500,278	1,383,022	224,876	9,483,509
1994	5,375,245	2,032,765	507,193	1,405,033	132,352	9,452,588
1995	5,513,207	1,994,819	466,636	1,322,556	132,352	9,429,570
Total	.....	.....	.....	.....	.....	89,022,623

[1] Includes refinery fuel use, synthetic rubber manufacture, and gas utility.
[2] Includes secondary recovery of petroleum and SNG feedstock.
Source: American Petroleum Institute.

Appendix B—Ferrellgas et al. Petition for Reconsideration of Interim Final Rule

April 21, 1997

The Honorable Dharmendra K. Sharma,
Administrator, Research and Special Programs Administration, U.S. Department of Transportation, 400 7th Street, SW, Room 8410, Washington, DC 20590.

Dear Administrator Sharma: On March 21, 1997, Ferrellgas, LP., Suburban Propane, L.P., AmeriGas Propane L.P., Agway Petroleum Corporation, and Cornerstone Propane Partners, L.P., (collectively "Petitioners") filed a Petition for Reconsideration pursuant to 49 CFR 106.35 seeking modification of an emergency interim final rule published at 62 FR 7638 (February 19, 1997). By this letter, National Propane, L.P., seeks to join in that Petition as a party. With the addition of National Propane, L.P., Petitioners include six of the eight largest propane service companies in the Nation. In addition to adding National Propane as a party, Petitioners seek to supplement their pending petition with the following supplemental cost benefit information to assist you in the evaluation of their Petition.

As discussed in their pending Petition, Petitioners' specific concern is with an operator attendance requirement imposed as an element of an interim compliance option provided under the emergency rule. The operator attendance requirement in question was designed specifically to address the risk that the automatic excess flow feature on an MC 330, MC 331 or non-specification cargo tank vehicle in liquefied compressed gas service may fail to operate as required under 49 CFR 178.337–11(a) during product unloading. Under 49 CFR 178.337–11(a), the automatic shut-off systems in question are required to function only "in the event of a complete failure (separation) of any attached hoses or piping," not "in response to leaks or partial failure of a pipe, fitting, or hose." 62 FR 7638 at 7643 col. 2 (February 19, 1997). The risk addressed by this operator attendance requirement is thus the risk that: (1) A complete separation of attached hoses or piping will occur; (2) that such separation will occur during product unloading (when the attendance requirement applies); and (3) that the automatic excess flow feature will not actually function as required. Because Petitioners are concerned principally with the operator attendance requirement as it applies to bulk tank vehicles (bobtails), Petitioners have attempted to quantify the magnitude of this risk in the bobtail context.

Based on RSPA's suggestion that nine events involving the failure of automatic excess flow features have occurred in bobtail service over the last seven years,[1] the likelihood of such an event occurring during a bobtail delivery is extremely remote: on the order of one in 35,000,000 based on calculations presented in Petitioners' Petition for Reconsideration. Nevertheless, RSPA Officials have expressed concern that its own data may be underinclusive, and that the actual risk of such an event might therefore be higher.

In an effort to address this concern, Petitioners have attempted to identify any incidents in the course of their own operations in which an excess flow feature failed (or may have failed) to operate after a complete separation of attached hoses or piping occurred during the unloading of a bobtail vehicle. In this effort, Petitioners have examined their safety and insurance records, and have consulted with employees who would be expected to be aware of any such instances that may have occurred. In most cases, documentary information was found to be available going back at least three years, and employees were identified who could be expected to be aware of any incidents that may have occurred within the last decade (in several cases, the employees consulted had a knowledge base going back several decades). As a result of these efforts, Petitioners collectively have been able to identify a total of only three such instances.[2] Although Petitioners cannot positively establish that they have identified every such incident that has occurred in their operations over the last seven years, they are very confident—based upon the nature and extent of the inquiries undertaken—that their tally of incidents is not substantially in error.

Because Petitioners collectively operate slightly over one third of the estimated population of 18,000 bobtails in service nationwide, their incident rate of three incidents over seven years could reasonably be extrapolated to a rate of nine incidents over the same period for the industry as a whole. This is the same number of incidents that Petitioners assumed in calculating a one in 35,000,0000 incident rate in their Petition for Reconsideration. Even if it is assumed that the industry-wide incident rate is higher than the incident rate Petitioners have experienced, the overall incident rate at issue would still be extraordinarily low.[3] In fact, as discussed in Petitioners' Petition for Reconsideration, the estimated incident rate suggested by the available data would have to be assumed to be *five times higher* before it would even approach the incident rate of passenger deaths per enplanement for the U.S. commercial aviation transportation system. Petitioners do not believe that this incremental risk is of sufficient magnitude to justify the high costs that compliance with the operator attendance requirement of the emergency rule would entail. Petitioners accordingly urge RSPA to take prompt and favorable action on their pending Petition by modifying the operator attendance requirement of the emergency rule appropriately.

Please let me know if you have any questions or if additional information would be helpful.

Sincerely,

Walter B. McCormick, Jr.

cc: Alan I. Roberts
Docket No. RSPA-97-2133 (HM-225)

March 31, 1997

Mr. Alan I. Roberts,
Associate Administrator for Hazardous Materials Safety, Department of Transportation, 400 7th Street, SW, Mail Code: DHM-1, Washington, DC 20590.

Dear Mr. Roberts: This letter responds to your request for specific suggested regulatory language designed to address the concerns raised in the Petition of Ferrellgas, L.P., Suburban Propane, L.P., AmeriGas Propane L.P., Agway Petroleum Corporation, and Cornerstone Propane Partners, L.P., (collectively "Petitioners") for reconsideration of RSPA's emergency interim final rule published at 62 FR 7638 (February 19, 1997).

We did not suggest specific regulatory language in our Petition for Reconsideration because we believe that our concerns could appropriately be addressed through a variety of different changes in regulatory language. For example, Petitioners would fully support adoption of the regulatory language suggested on page 2, footnote 1 of the Petition for Reconsideration filed with respect to the same emergency rule by the National Propane Gas Association. Alternatively, Petitioners would be satisfied if new Section 171.5(a)(1)(iii) were amended to read as follows:

"In addition to the attendance requirements in § 177.834(i) of this subchapter, the person who attends the unloading of a cargo tank vehicle must, except as necessary to facilitate the unloading of product or to enable that person to monitor the receiving tank, remain within an arm's reach of a remote means of automatic closure (emergency shut-down device) of the internal self-closing stop valve."

If neither of these suggested regulatory amendments is acceptable to the Agency, Petitioners would be satisfied with any alternative regulatory amendment that would reasonably meet their needs as articulated in their Petition for Reconsideration. It should be emphasized, however, that Petitioners' need for relief is most urgent. As the attached documents demonstrate, local authorities are already beginning to enforce the requirements of the emergency rule at issue, a factor that is exacerbating the already impossible problems Petitioners face under that rule. Accordingly, we urge RSPA to provide appropriate relief in some form as quickly as possible.

As we have discussed, Petitioners would appreciate the opportunity to meet with the Agency to discuss their Petition, to provide supplementary information, and to discuss any questions or concerns you or your staff may have. In the interim, we hope that this clarification of the relief we seek is useful.

Thank you for the personal attention you have paid to this important matter.

Sincerely,

Barton Day,

Counsel for Petitioners Ferrellgas, L.P., Suburban Propane, L.P., AmeriGas Propane L.P., Agway Petroleum Corporation, and Cornerstone Propane Partners, L.P.

Attachment

March 21, 1997

The Honorable Dharmendra K. Sharma,
Administrator, Research and Special Programs Administration, U.S. Department of Transportation, 400 7th Street, S.W., Room 8410, Washington, DC 20590.

Dear Administrator Sharma: Enclosed pursuant to 49 CFR 106.35 is a Petition for Reconsideration of the emergency interim final rule published at 62 FR 7638 (February 19, 1997). This petition is being filed on behalf of Ferrellgas, L.P., Suburban Propane, L.P., AmeriGas Propane L.P., Agway Petroleum Corporation, and Cornerstone Propane Partners, L.P., (collectively "Petitioners"). Petitioners are five of the eight largest propane service companies in the United States, and together they serve over 3,000,000 customers across all fifty states.

The emergency rule that is the subject of this Petition was promulgated in response to information suggesting that the excess flow control valve designs currently in use on specification MC 330, MC 331, and certain non-specification cargo tank vehicles used to transport propane may not satisfy the requirements of 49 CFR 178.337-11(a). As Petitioners understand it, the purpose of this emergency rule was to provide a safe alternative means of compliance that would allow continued operation of such vehicles on an interim basis while a long-term solution to this problem is identified and implemented. Unfortunately, it appears that modification of certain operator attendance provisions included in the emergency rule, is necessary in order for the rule to achieve its intended purpose. The basic problem is that immediate compliance with the operator attendance requirement of the emergency rule, as currently written, does not appear to be possible. In fact, it is reasonable to question whether full compliance with these interim requirements could realistically be expected much before the interim compliance period is scheduled to end, on August 15th 1997. In addition, it appears that these requirements would not be reasonable interim compliance measures even if they could be implemented relatively quickly.

[1] It should be noted that Petitioners are not aware of any documented basis for this suggestion.

[2] In one of these instances, ignition did not occur and no injuries or property damage resulted. Petitioners also identified one instance in which the automatic excess flow feature functioned immediately upon separation of a hose during a bobtail delivery (no ignition, injuries, or damage occurred). This latter instance was not included in Petitioners' incident tally, because the operator attendance requirement at issue would provide a benefit only in an instance in which the automatic excess flow feature fails to function as intended.

[3] It should further be noted that this low risk reflects the risk that a release will occur, whether or not there is any ignition of the gas released. See Footnote 2.

Petitioners believe that prompt modification of these requirements is necessary to ensure that the requirements of the interim compliance option provided are reasonably achievable on an interim basis.

Petitioners appreciate the constructive manner in which RSPA has responded to the issues underlying the emergency rule, and look forward to working with your staff cooperatively in order to resolve the concerns raised in the Petition.

Sincerely,

Walter B. McCormick, Jr.

Enclosure

cc: Judith S. Kaleta, Chief Counsel, Alan I. Roberts, Associate Administrator for Hazardous Materials Safety, Docket No. RSPA-97-2133 (HM-225)

United States Department of Transportation Research and Special Programs Administration Before the Administrator

In Re: Hazardous Materials: Cargo Tank Motor Vehicles in Liquefied Compressed Gas Service; Interim Final Rule

62 FR 7638 (February 19, 1997)

[Docket No. RSPA-97-2133 (HM-225)]

Petition of Ferrellgas, L.P., Suburban Propane, L.P., Amerigas Propane, L.P., Agway Petroleum Corporation and Cornerstone Propane Partners, L.P. for Reconsideration of RSPA's February 19, 1997 Interim Final Rule

Pursuant to 49 CFR 106.35, Ferrellgas, L.P., Suburban Propane, L.P., AmeriGas Propane L.P., Agway Petroleum Corporation, and Cornerstone Propane Partners, L.P., (collectively "Petitioners") hereby petition for reconsideration of the emergency interim final rule published at 62 FR 7638 (February 19, 1997). The emergency rule was promulgated in response to information suggesting that the excess flow control valve designs currently in use on specification MC 330, MC 331, and certain non-specification cargo tank vehicles used to transport propane may not satisfy the requirements of 49 CFR 178.337-11(a). The purpose of the emergency rule, as explained at RSPA's March 4, 1997 Workshop concerning the rule, was to provide a safe alternative means of compliance that would allow continued operation of such vehicles on an interim basis while a long-term solution to this problem is identified and implemented. Petitioners appreciate the Agency's prompt efforts to achieve this critical objective, and support most of the requirements of the interim compliance option provided under the emergency rule. Unfortunately, however, the interim compliance option RSPA has provided includes new operator attendance requirements that are unreasonable, impracticable, and are not in the public interest. In fact, it appears that immediate compliance with these requirements is impossible, and that there is some basis to question whether efforts to comply might do more to increase than to decrease the overall risks associated with propane delivery, especially in the short term.

To adequately protect the public interest, Petitioners urge RSPA to take immediate action to modify the new operator attendance requirements of its interim final rule so as to provide a reasonable and practicable interim means of compliance for operators of the cargo tank vehicles at issue. Such action is necessary because, although automatic systems that should satisfy RSPA's expectations under 49 CFR 178.337-11(a) are already under development, there appears to be no immediate way for the propane industry to comply either with the requirements of the interim final rule or with the requirements of 49 CFR 178.337-11 as RSPA interprets them. As RSPA itself has recognized, unachievable regulatory requirements for propane delivery are unacceptable because any interruptions in propane service would expose members of the public to "unacceptable threats to their safety and economic interests." [4] Such requirements are particularly inappropriate in this case, because there is no evidence of any safety crisis that would justify them. To the contrary, the conditions of concern to RSPA have existed continuously over many years—and over the course of hundreds of millions of propane deliveries—apparently without any significant pattern of problems having occurred. In fact, based on the information cited by the Agency itself, it seems clear that the incremental risk at issue is extraordinarily low. It is therefore imperative that some reasonably practicable interim means of compliance be provided for the propane industry. It is also important to ensure that this interim means of compliance will provide positive safety benefits.

Introduction

Petitioners are the first, second, third, fifth, and eighth largest propane service companies in the United States. Together they provide service to some 3,039,000 customers in all fifty states. Petitioners operate approximately 690 transports and 5,950 bulk trucks (bobtails) of the type that are the subject of the emergency rule at issue.

Petitioners understand RSPA's concern over the suggestion that the excess flow control valves currently in use on such vehicles may not satisfy the requirements of 49 CFR 178.337-11. Petitioners are committed to the highest level of safety in the conduct of their business, and would like to work in partnership with RSPA to address this concern. As announced at RSPA's March 4th Workshop, it appears that at least one automatic system that should satisfy RSPA's expectations has already been devised,[5] and Petitioners are aware that other such systems are also currently under development. The problem is that it will take a significant amount of time to more fully test such systems, to get them into commercial production, and to retrofit existing vehicles. Until this process can be completed, a reasonable option for interim compliance must be available.

Since the emergency rule was published, Petitioners have made diligent efforts to understand and implement the requirements of the interim compliance option RSPA provided.

Specifically, Petitioners have augmented their safety procedures and operator training, and are in the process of testing potential engineering options both for interim and long-term compliance. Unfortunately, it appears that immediate compliance with the new vehicle attendance requirements of this option is not possible, and that longer-term compliance would not be reasonable. Because the emergency rule provides neither a grace period for compliance nor any reasonable means by which Petitioners can achieve compliance in the near future, it leaves Petitioners in an impossible position from which they require immediate relief. Accordingly, Petitioners urge RSPA to act immediately to modify the vehicle attendance requirements of its emergency rule as necessary to provide a reasonably practicable interim compliance option that will, if implemented, provide positive safety benefits.

Discussion

I. It Is Imperative That RSPA Provide a Reasonable and Practicable Compliance Option for the Propane Industry

A. Continued Propane Service Is Vital to the Public

Millions of Americans are dependent on propane for their basic energy needs. Consequently, as RSPA has acknowledged, any interruptions in propane service would expose the public to "unacceptable threats to their safety and economic interests." [6] To protect the public interest, it is therefore vital to ensure that propane service companies such as Petitioners have some practicable and lawful means of continuing their operations.

B. The Risks at Issue Do Not Justify Stringent Interim Regulation

RSPA's concern is essentially that excess flow control features on specification MC 330, MC 331 and certain non-specification cargo tank vehicles used to transport propane or other liquid compressed gases may not function effectively under all operating conditions. This concern is based primarily upon one confirmed incident (the Sanford incident), although the Agency does suggest that nine other incidents (all involving bobtails) may have occurred over the past seven years.[7] At the March 4th Workshop, RSPA officials indicated that it does not receive reports of all incidents that occur, and suggested that additional incidents involving the failure of excess flow control devices may in fact have occurred.

Although this information is troubling, it is important to recognize that it is indicative of only an extremely low risk. In fact, if the suggestion that nine bobtail incidents occurred over a seven year period is accepted at face value, this would suggest that the risk

[4] Preliminary Regulatory Evaluation, Docket HM-225, Cargo Tank Motor Vehicles in Liquified Compressed Gas Service (February 1997) at p. 6.

[5] A copy of the announcement issued by A-B Products, Inc. on March 3, 1997 is provided as an attachment to this Petition.

[6] Preliminary Regulatory Evaluation, Docket HM-225, Cargo Tank Motor Vehicles in Liquified Compressed Gas Service (February 1997) at p. 6.

[7] *See* Preliminary Regulatory Evaluation at 1. Petitioners note that no documentation concerning these alleged incidents is included in the administrative record.

of an incident involving failure of an excess flow control device during a bobtail delivery is in the range of one in 35 million.[8] Even if five times this number of incidents had actually occurred, the risk of any such incident during a residential propane delivery would still be significantly lower than the risk of a commercial airline passenger being killed in an air crash on any single flight.[9] While even one accident is too many, these are, by any reasonable assessment, very low risks indeed.

Certainly these risks are too low to justify interim regulatory controls that will impose harsh compliance burdens on the propane industry.

II. The Emergency Rule Fails To Provide Any Reasonable and Practicable Compliance Option for the Propane Industry

A. Immediate Compliance With the Alternative Compliance Option Provided in the Emergency Rule Is Impossible

The alternative compliance option provided in the emergency rule imposes a number of specific requirements. Several of these—including certain inspection and testing requirements—are practicable requirements that provide concrete safety benefits. Petitioners concern is with a new operator attendance requirement that effectively requires that the operator "have an unobstructed view of the cargo delivery lines, and be within an arm's reach of a means for closure of the internal self-closing stop valve or other device that will stop the discharge of product from the cargo tank." 62 FR at 7643 col. 3. RSPA acknowledges that "this may require two operator attendants on a cargo tank motor vehicle or the use of a lanyard, electro-mechanical, or other device or system to remotely stop the flow of product." *Id.* In fact, it appears that compliance with this requirement would always require such measures. One of the principal practical problems is that, in almost all cases, at least some of the controls that must be activated in the unloading of product are located out of reach of the controls for the emergency shut-off system.[10] Another is that operators must at least periodically step away from their vehicles during unloading operations to ensure, for safety purposes, that the receiving tank is not being overfilled or overpressurized. Immediate compliance with this new attendance requirement is impossible because none of the options for compliance—multiple attendants, a lanyard, or some other remote shut-off system—can be implemented in less than a matter of months.

The problem with the multiple attendant option is that Petitioners do not have enough qualified personnel to send multiple attendants out on deliveries. To the contrary, Petitioners—being well-run businesses—do not have substantially more operators than they need to serve their customers. Nor can Petitioners substantially increase the workload of the operators they do have; indeed, regulations limiting hours of service for drivers would prohibit them from doing so. To provide additional operators, Petitioners would therefore have to hire them. If Petitioners were to hire one new employee for each of their approximately 6,600 vehicles, this would amount to more than a 40% increase in the total work force of these companies.[11] Hiring programs of this magnitude would obviously take months to complete, even under the best of circumstances. Applicants would need to be solicited and appropriately screened. Once new operators are hired, they would then need to be appropriately trained before they could be put into the field. In short, this option is completely unworkable as a near-term, interim compliance option.

Putting aside the question of whether lanyards would function effectively—which Petitioners contend they would not—the inescapable problem is that they cannot be deployed quickly. All of the propane cargo vehicles Petitioners operate are already equipped with emergency shut-off (ESO) systems. However, Petitioners believe that substantially all of their ESO controls would have to be modified or repositioned before lanyard systems could be used effectively. In most cases the necessary work would need to be performed by a truck fabricator, and it is estimated that the work would take a number of months to complete. The specific mechanical problems are as follows.

Although propane cargo vehicles have ESOs of various different designs, their basic function is to trip the integral closing mechanism for an internal stop valve. The manually-controlled actuating device for the ESO system is normally positioned towards the front of the vehicle where it is more accessible to the operator in the event that a release of product occurs towards the rear of the vehicle where most of the pumping controls and operating valves are located. These ESO systems are normally operated by a lever or push-button controller mounted to the truck frame behind the driver side of the cab. Where levers are used, they are relatively small, and may be mounted in either a vertical or horizontal position. Attachment of a lanyard to this type of controller would require a series of pulleys so as to direct the force of the pull in the proper direction to actuate the system. On a great many vehicles, however, the controllers are of a push-button design that cannot readily be operated by the tug of a lanyard. These systems would need to be jerry-rigged in some manner or replaced with a lever type controller before a lanyard system could be attached at all.

Petitioners are actively testing electro-mechanical remote emergency shut-off systems, but are not aware of any remote control system that has yet been demonstrated to be fully effective for use in propane cargo vehicles. The principal engineering challenges are to ensure that such a device could reliably transmit signals through metal structures, that it would not itself provide a source of ignition in the event of a propane release, and that it would be compatible with the variety of ESO configurations currently in bobtail service. Even if such devices prove effective, however, it would clearly take a considerable amount of time to install them in all of the propane cargo vehicles. In the end, it could potentially take as long to develop, test, and implement this "interim" solution as it would to implement an appropriate final solution. In any event, it does not appear that immediate compliance with the alternative compliance option provided in the emergency rule is possible on any basis at all.

B. Multiple Operator and Remote Activation Options Are Not Reasonable as Interim Compliance Measures

Even if the multiple operator or remote activation options could be implemented substantially before the end of the interim compliance period, Petitioners do not believe that they would represent reasonable interim compliance measures. The basic problem is that either option would impose high costs without providing any commensurate safety benefit.

The multiple employee option would effectively require a very large but temporary expansion in the work force of propane service companies. The costs of recruiting, screening, training, compensating, and then ultimately discharging this large number of excess employees would be very high. Petitioners estimate that these costs could exceed $165,000,000.00 just for Petitioners alone, assuming one new employee for each of Petitioners' 6,600 vehicles.[12] At the same time, for several reasons, the safety benefits of this approach can be expected to be limited at best. First, as already indicated, the risk to be addressed under this approach is extraordinarily low in the first place, and that risk would be reduced even further by implementation of the other requirements of the interim rule, which Petitioners believe would be highly effective in addressing the risk of uncontrolled propane releases during

[8] Assuming nine billion gallons of propane delivered by bobtail annually, with an average of 200 gallons per delivery, it is estimated that there were 315 million bobtail deliveries during the seven year period at issue. If nine incidents are assumed to have occurred in the course of these 315 million deliveries, the corresponding incident rate is approximately 0.029 incidents per million deliveries, for an average of less than one incident in 35 million deliveries.

[9] Even if the kind of bobtail incidents at issue occurred at five times the rate of the reported incidents RSPA has referred to, the incident rate would amount to only about 0.14 incidents per million bobtail deliveries. By contrast, although commercial aviation accident rates fluctuate from year to year, the passenger fatality rate for the "extremely safe" U.S. commercial aviation transportation system has ranged from 0.18 to approximately 0.4 fatalities per million enplanements. National Transportation Safety Board, A Review of Flightcrew-Involved Major Accidents of U.S. Carriers, 1978 Through 1990 (NTSB/SS-94/01) (January 1994) at 1-2.

[10] In the case of bobtails, the flow of gas is initiated from a control located on the end of the product delivery hose. Because bobtails, for safety purposes, are typically located more than 10 feet from the point of product transfer, this control must always be activated from a position that is out of reach of the controls located on the truck. In the case of transports, the clutch and power take off controls necessary for operation of the unloading pumps are located in the vehicle cab, generally out of reach of the emergency shut-off system controls, out of sight of the loading lines, or both.

[11] Together, Petitioners have a total of approximately 15,100 employees.

[12] Conservatively assuming a total cost of $25,000.00 per employee for recruiting costs, salary, training, and benefits.

lading. Second, it would take considerable time to implement this compliance option. As a result, the window of time during which this interim compliance option could effectively provide any safety benefit would be limited. Finally, it should be recognized that it will be difficult to recruit high-quality employees for interim jobs, and that the job itself—standing ready to respond to an event that is extraordinarily unlikely to occur—is not one that should be expected to induce a high level of performance. Accordingly, it appears that interim employees might for practical purposes provide very little safety benefit at all.

As already discussed, the remote activation option would require physical modification of transport vehicles. Assuming that an appropriate remote activation system can indeed be made available at all, significant costs would need to be incurred to purchase and install the necessary equipment. Petitioners estimate that even a relatively low-cost system of the garage-door-opener variety, if available, could not be put to use in Petitioners' 6,600 existing vehicles for less than about $2,300,000.00. Again, however, for several reasons, this substantial cost might provide little practical safety benefit. As already indicated, the risk addressed would be extremely small, particularly in view of the other requirements of the emergency rule. This option would also take considerable time to implement—perhaps nearly as long as an ultimate solution—and might therefore provide interim protection for only a very limited period. In addition, it is not clear that such devices would be capable of operating reliably under real-world conditions, particularly in cold weather and where obstructions—especially metallic obstructions such as sheds, vehicles, or fences—might interfere with signal transmission. Accordingly, it is not clear that such devices, if put to use, would provide substantial safety benefits.

C. Requirements To Employ Multiple Operators or Remote Activation Options Could Potentially Do More To Increase Than To Decrease the Overall Risks Associated With Propane Delivery

In imposing safety regulation, it is important at a minimum to ensure that the rules adopted will do no harm. In particular, it is important to ensure that efforts to address one risk do not effectively increase other risks. Petitioners believe that there is legitimate basis to question whether efforts to comply with the operator attendance requirements of the emergency rule might actually do more to increase than to decrease the overall risks associated with propane delivery, particularly in the short term. Indeed, it appears that those requirements—in attempting to minimize the risks in the event that an uncontrolled release of product occurs during unloading—could potentially increase the overall likelihood that product releases will occur. The basis for this concern is as follows.

Based on their operational experience, Petitioners believe that human error—particularly human error in the overfilling of a customer tank during a bobtail delivery— . represents the greatest risk of a product release associated with unloading operations.[13] For two reasons, the new operator attendance requirements of the emergency rule could potentially increase these risks.

The first concern arises with respect to operators that attempt to achieve compliance through the use of interim employees. As already indicated, this option would essentially require that large numbers of new operators be hired, trained, and put into service as quickly as possible. Petitioners have thorough training programs, and believe that these programs are effective in minimizing the risk of human error in the field. Nevertheless, if there is a way to increase the risk of human error, the compulsion to immediately hire and deploy large numbers of new interim employees—on what amounts to an emergency basis—would appear to be it. Petitioners do not believe that this incremental risk would be substantial, and would obviously work as hard as possible to ensure that it is not. Nevertheless, Petitioners believe that the magnitude of this small incremental risk could very well exceed the magnitude of any incremental risk reduction the interim employee option would provide, particularly over the short term.

The second concern arises with respect to propane marketers that attempt to comply without interim employees. The basic concern is that the operator attendance requirement of the emergency rule would frequently have the effect of anchoring operators in positions from which they will be unable to effectively monitor the tank they are filling during bobtail deliveries. This is a critical concern, because monitoring of the customer tank through use of a manual fixed liquid level valve located on the tank is by far the most effective way to ensure that uncontrolled product releases will not occur due to the overfilling of customer tanks. To the extent that operators are inhibited from monitoring the customer tank by the need to keep a lanyard taut, to avoid signal interference from a shed, or for any other reason, the risks associated with the overfilling of customer tanks is incrementally increased. Again, Petitioners believe that the magnitude of even a very small incremental increase in this risk could well exceed the magnitude of the safety benefit provided by the new operator attendance requirements.

III. Modified Attendance Requirements Would Provide A Practicable Basis for Interim Compliance That Would Provide at Least Equivalent Safety Benefits

As already indicated, Petitioners generally support the interim requirements of the emergency rule, specifically the interim requirements for pressure testing of new or modified hose assemblies and for visual inspection of hoses and hose fittings prior to unloading. These interim requirements directly address the risk of catastrophic hose failure—which is the principal risk at issue—and should provide positive safety benefits.

Petitioners believe that all its concerns regarding the operator attendance requirements of the emergency rule can be addressed—without any real sacrifice in safety—if they are modified to provide additional flexibility for two purposes. First, the operator should be given the flexibility to step away from the ESO system as necessary to conduct the unloading operations.[14] Second, the operator should be allowed the flexibility to step away from the ESO system in order to monitor the customer tank. This approach would effectively ensure that the operator will remain within arms' reach of the ESO system to the extent it is reasonable to do so, but would eliminate the need to attempt to deploy multiple operators or remote activation systems on an interim basis. As modified, the provision would provide a practicable interim means of compliance that provides a level of safety that—for practical purposes—is likely to be at least equivalent to the level of safety the rule now provides.

Conclusion

For the reasons set forth herein, Petitioners urge RSPA to take immediate action to modify the vehicle attendance requirements of its emergency rule as proposed in this Petition to provide a reasonably practicable interim compliance option that will, if implemented, provide actual safety benefits.

Respectfully submitted,

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[13] Overfilling is an issue of concern because propane tanks are pressure vessels containing fluid that expands and contracts in response to ambient temperature variations. In order to ensure that propane is not released as a result of fluid expansion, it is necessary to maintain an adequate vapor space within the tank. For this reason, propane tanks are ordinarily filled only to 80 percent of their full volume. In the event a tank is filled beyond the allowable limit, there is a risk that propane may subsequently be released at some point (often after the operator has left the customer site). If the tank is filled to its full volumetric capacity, a resulting release of product will occur during the unloading process itself. In either case, the safety concerns involved are serious.

[14] This modification would by itself be sufficient to address Petitioners' concerns with respect to propane transports.