''major rule'' as defined by 5 U.S.C. 804(2).

List of Subjects in 40 CFR Part 180

Environmental protection, Administrative practice and procedure, Agricultural commodities, Pesticides and pests, Reporting and recordkeeping requirements.

Dated: February 14, 2000.

James Jones,

Director, Registration Division, Office of Pesticide Programs.

Therefore, 40 CFR chapter I is amended as follows:

PART 180—[AMENDED]

1. The authority citation for part 180 continues to read as follows:

Authority: 21 U.S.C. 321(q), 346(a) and 371.

2. In § 180.1001, the tables in paragraphs (c) and (e) are amended by adding alphabetically the following inert ingredients to read as follows:

§ 180.1001 Exemptions from the requirement of a tolerance.

* * * * *

(c) * * *

Inert ingredients	Limits	Uses
* * * * *	*	*
Dimethyl silicone polymer with silica (CAS No. 67762–90–7).	.....	Moisture barrier, anti-caking agent, anti-settling agent
* * * * *	*	*
Hexamethyldisilizane, reaction product with silica (CAS No. 68909–20–6).	.....	Moisture barrier, anti-caking agent, anti-settling agent
* * * * *	*	*
Silane, dichloromethyl-, reaction product with silica (CAS No. 68611–44–9).	.....	Moisture barrier, anti-caking agent, anti-settling agent, anti-thickening agent
* * * * *	*	*

* * * * *

(e) * * *

Inert ingredients	Limits	Uses
* * * * *	*	*
Dimethyl silicone polymer with silica (CAS No. 67762–90–7).	.....	Moisture barrier, anti-caking agent, anti-settling agent
* * * * *	*	*
Hexamethyldisilizane, reaction product with silica (CAS No. 68909–20–6).	.....	Moisture barrier, anti-caking agent, anti-settling agent
* * * * *	*	*
Silane, dichloromethyl-, reaction product with silica (CAS No. 68611–44–9).	.....	Moisture barrier, anti-caking agent, anti-settling agent, anti-thickening agent
* * * * *	*	*

[FR Doc. 00–4659 Filed 2–29–00; 8:45 am]

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DEPARTMENT OF TRANSPORTATION

Research and Special Programs Administration

49 CFR Part 193

[Docket No. RSPA–97–3002; Amdt. 193–17]

RIN 2137–AD11

Pipeline Safety: Incorporation of Standard NFPA 59A in the Liquefied Natural Gas Regulations

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

ACTION: Final rule.

SUMMARY: This final rule incorporates by reference an industry consensus standard for liquefied natural gas (LNG) facilities subject to the pipeline safety regulations. This standard, developed by the National Fire Protection Association (NFPA), specifies siting, design, construction, equipment, and fire protection requirements that apply to new LNG facilities and to existing facilities that have been replaced, relocated, or significantly altered. All new, replaced, relocated, and significantly altered facilities are also subject to the new operating and maintenance requirements, and all other requirements specified in this rule, as well as the unchanged portions of the regulations. The fire protection requirements also apply to existing LNG facilities. The incorporation by reference of this standard will allow the LNG industry to use the latest technology, materials, and practices while maintaining the current level of safety.

DATES: This final rule takes effect March 31, 2000. The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of March 31, 2000.

FOR FURTHER INFORMATION CONTACT: Mike Israni, (202) 366–4571, or by e-mail: mike.israni@rspa.dot.gov, regarding the subject matter of this final rule, or the Dockets Facility (202) 366–9329, for copies of this final rule or other material in the docket. All materials in this docket may be accessed electronically at http://dms.dot.gov. General information about the RSPA/Office of Pipeline Safety programs can be obtained by accessing OPS's Internet home page at http://ops.dot.gov.

SUPPLEMENTARY INFORMATION:

Background

On August 26, 1996, the NFPA petitioned RSPA to replace substantive portions of 49 CFR Part 193 with ANSI/NFPA 59A (1996 edition), titled ''Standards for the Production, Storage

and Handling of Liquefied Natural Gas (LNG)''. The petition specifically recommends removing the Subparts on siting, design, construction, equipment, and fire protection, and instead referencing chapters 1 through 9 of ANSI/NFPA 59A (1996 edition). The petition recommends retaining, with minor changes, the Subparts on operation, maintenance, personnel qualification and training, and security.

The current Federal safety standards for LNG facilities were developed as a requirement of the Pipeline Safety Act of 1979, now re-codified in 49 United States Code Section 60103. In 1979, Congress determined that the public would be better served if the U.S. Department of Transportation (DOT) developed its own standards for the LNG industry. Prior to July 1, 1976, no Federal standards for LNG facilities existed. The current standard, which addresses LNG facilities used in gas pipeline transportation, was issued as a Final Rule on February 11, 1980 [45 FR 9203] and now appears at 49 CFR Part 193. Between July 1, 1976, and February 11, 1980, LNG facilities were required to comply with ANSI/NFPA 59A (1972 edition) and Part 192.

A report issued on July 31, 1978, by the General Accounting Office titled ''Liquefied Energy Gases'' highlighted some of the safety concerns in the transportation and storage of LNG. Foremost among those were: (1) protection of persons and property near an LNG facility from thermal radiation caused by ignition of a major spill of LNG, (2) protection of persons and property near an LNG facility from dispersion and delayed ignition of a natural gas cloud arising from a major spill of LNG, and (3) reduction of the potential for a catastrophic spill of LNG.

RSPA identified many deficiencies in the pre-1980 LNG standards which needed to be corrected to reduce the potential for a major spill of LNG and provide an acceptable level of safety. Because of the difference in format and the need for regulatory language to facilitate enforcement, a few sections of ANSI/NFPA 59A were rewritten for their adoption in Part 193.

There have been significant changes in the ANSI/NFPA 59A since 1980. The 1996 edition of the ANSI/NFPA 59A includes the latest developments in LNG facility design and safety. Many of these developments have not been incorporated into current Part 193. The format and language of the ANSI/NFPA 59A has also changed significantly, over the years, to facilitate enforcement. ANSI/NFPA 59A is revised on a regular basis, and the revision process includes input from a wide variety of experts and a broad representation of interests.

RSPA has been very active in incorporating by reference voluntary consensus standards in its pipeline safety regulations. RSPA has participated for many years on several voluntary committees that develop consensus standards, including the ANSI/NFPA 59A technical committee. The existing Part 193 references provisions of ANSI/NFPA 59A in eight different locations. Recent amendments to the LNG regulations (February 25, 1997; 62 FR 8402 and August 1, 1997; 62 FR 41311) have brought Part 193 closer to ANSI/NFPA 59A. Unlike older editions of the ANSI/NFPA 59A, text in the current standard is in a regulatory format that makes it more suitable for incorporation by reference. RSPA is adopting the 1996 version of the ANSI/NFPA 59A. When the standard is revised in the future, RSPA will incorporate by reference the revised versions, as appropriate.

This rule replaces major subparts covering siting, design, construction, equipment, and fire protection with provisions of NFPA standard, and makes minor changes in the operation and maintenance requirements. These changes apply only to new and significantly altered facilities. Incorporation by reference of ANSI/NFPA 59A will maintain current levels of safety and allow industry flexibility in applying the latest technology. Based on the above factors and the potential benefits to Federal and State regulators, the LNG industry, and most of all, to public safety, RSPA decided to consider the adoption of ANSI/NFPA 59A into Part 193.

In November 1997 and May 1998, RSPA briefed the Technical Pipeline Safety Standards Committee (TPSSC) on proposed changes to the LNG regulations. In February and April 1998, RSPA held meetings with the National Association of Pipeline Safety Representatives (NAPSR) LNG Part 193 committee to receive their input on the proposed changes.

On March 31, 1998, RSPA met with representatives of the LNG industry, State and local governments, and the public to gather information on experiences with the current Federal LNG safety regulations and with ANSI/NFPA 59A. On April 22, 1998, RSPA held a joint meeting with NFPA, the American Gas Association (AGA) and the NAPSR LNG review committee to discuss technical differences between Part 193 and ANSI/NFPA 59A.

Proposed Rule

RSPA published an NPRM [63 FR 70737; December 22, 1998], proposing to replace most LNG requirements for siting, design, construction, equipment, and fire protection in Part 193 by referencing the American National Standards Institute (ANSI), National Fire Protection Association (NFPA) Standard 59A (1996 edition), titled ''Standards for the Production, Storage and Handling of Liquefied Natural Gas (LNG)''. The NPRM also proposed some minor amendments to operation and maintenance requirements for new and significantly altered facilities. (Existing facilities need only comply with previously existing operations and maintenance requirements.) RSPA proposed these changes because ANSI/NFPA 59A more accurately reflects current technology and practices in the LNG industry. Only those requirements which ANSI/NFPA does not address or adequately cover were retained. On May 18, 1999, at the AGA conference in Cleveland, commenters requested, and were granted, an additional month for comments. RSPA received comments on the NPRM from 11 sources. Commenters included two trade associations, two standards organizations, six operators, and one State agency.

Advisory Committee Review

We submitted the proposed LNG rule to the Technical Pipeline Safety Standards Committee (TPSSC) for comments on technical feasibility, reasonableness, cost-effectiveness, and practicality. On May 5, 1999, the TPSSC voted unanimously to approve the proposed rule without comment.

Discussion of Comments and Changes in the Final Rule

We received comments from the following in response to the NPRM:

Trade associations: American Gas Association (AGA); The New England Gas Association (NEGA)

Standards organization: National Fire Protection Association (NFPA); American Society of Safety Engineers (ASSE);

Operators: Duke Energy Corporation; Philadelphia Gas Works (PGW); William's Gas Pipeline, KeySpan Energy Corporation; Paiute Pipeline Company, Alaska North Slope LNG project.

State agency: Iowa Utilities Board (Iowa).

All 11 commenters generally supported the NPRM, but expressed some concerns or suggested changes. All significant comments on the NPRM are

summarized below along with RSPA's responses.

General Comment: Partial Adoption of ANSI/NFPA 59A

Four commenters, including AGA and NEGA, requested adoption of ANSI/NFPA 59A for siting, design, construction, equipment, and fire protection, without modification except for regulatory language consistency. They expressed concerns over selectivity of various parts of 49 CFR Part 193, and ANSI/NFPA 59A. AGA commented that adoption of only portions of ANSI/NFPA 59A will make the standards difficult to administer by both the regulatory agencies and the LNG facility operators. AGA feels that RSPA's approach would require substantial cross-referencing between two documents and various referenced standards, to determine which one is applicable in any given situation, resulting in confusion, errors and potential violations of the final rule. In AGA's view, this could have significant cost impact to operators without much safety benefit.

Response—During proposed rule development, our analysis of Part 193 and ANSI/NFPA 59A showed that certain LNG safety requirements in design, siting, construction, and equipment were not adequately addressed in ANSI/NFPA 59A. Following discussions with state regulators and LNG consultants, we decided to retain all of those requirements in the proposed rule that were not adequately addressed in ANSI/NFPA 59A. However, after review of comments received on the NPRM, and detailed discussions on specific requirements with the industry, trade associations, LNG consultants, and regional directors, we have concluded that only some of the safety requirements proposed in the NPRM are critical, therefore, should be retained. However, most of proposed safety requirements are already covered in performance language in ANSI/NFPA 59A, therefore, those requirements should be removed from Part 193. This final rule reflects those changes.

General Comment: Limit ANSI/NFPA 59A References to Only Design, Construction, and Siting Issues

AGA, NEGA, and two plant operators expressed concern over the proposed changes in Subpart F—Operations, and Subpart G—Maintenance. They said that in meetings leading up to the NPRM, DOT indicated that operations and maintenance requirements in part 193 would not be revised because ANSI/NFPA 59A does not adequately address these issues. They also said DOT's revisions to operations and maintenance areas are broad and unclear. Specific examples of such instances offered by commenters are discussed below.

Response—Under operation and maintenance subparts of this rule, operators of new and significantly altered LNG facilities are required to maintain design and construction related inspection, testing and investigation records specified under NFPA 59A. We have specified frequency of those tests and duration of recordkeeping. Operators are also reminded in the operation and maintenance subparts that these requirements only apply to new and significantly altered LNG facilities constructed after the effective date of this rule.

Editorial Comments

One commenter noted inconsistencies in listing subparts affected by this rule. This commenter suggested that reference be made to subparts A–E and I throughout the text. This commenter also pointed out that the preamble indicated that section 193.2119 would be retained, yet in the rule this section has been removed.

Response—We have removed inconsistencies regarding affected subparts in the final rule. We inadvertently removed Section 193.2119 from the proposed rule. This final rule retains it.

Listed below are comments or changes to specific sections:

Subpart A—General

Section 193.2001 Scope of Part

In the NPRM, we revised Section 193.2001 to include reference to ANSI/NFPA 59A. Because ANSI/NFPA 59A is not applicable to all subparts in Part 193, we have removed the reference. Therefore, Section 193.2001 as currently specified will remain unchanged.

Section 193.2003 Semisolid Facilities Has been removed from the rule as proposed in the NPRM.

Section 193.2005 Applicability

This section 193.2005 has been restructured to clarify that new requirements apply to new and significantly altered LNG facilities after the effective date of this rule unless otherwise noted.

Proposed Sections 193.2007 Through 193.2019 Are unchanged in the final rule.

Subpart B—Siting Requirements

Section 193.2051 Scope

We proposed that this section would be retained because ANSI/NFPA 59A does not specify where siting is needed. One commenter argued that sections 2–1, 2–2 and 2–3 of ANSI/NFPA 59A clearly delineate siting requirements for process equipment, building and structures, transfer systems, flammable containers, LNG containers, and spill and leak control in important process areas. This commenter said that it is the combination of section 193.2051 and ANSI/NFPA 59A that will cause confusion and misinterpretation. The commenter suggested that the standards simply reference ANSI/NFPA 59A.

Response—We agree that ANSI/NFPA 59A specifies where siting is required, therefore, we have revised the text of the scope under this section to avoid duplication and confusion. The revised scope now states that each LNG facility after effective date of the final rule must be provided with siting requirements in accordance with requirements of this part and of ANSI/NFPA 59A. In the event of a conflict between this part and ANSI/NFPA 59A, this part prevails. Operators are reminded that the requirements retained in this part are not covered in ANSI/NFPA 59A.

Section 193.2057 Thermal Radiation Protection

In the NPRM we proposed that the thermal radiation distances calculations use: (1) wind speed and ambient temperatures which produce maximum exclusion distances except that values that occur less than 5% of the time shall not be used; (we regret that in the preamble of the NPRM we explained this requirement incorrectly.) (2) LNGFIRE III model; (3) offsite targets currently listed in paragraph (d). We also proposed deletion of paragraph (b)(4) which required use of highest anticipated heating value of LNG.

The NFPA and the Iowa Utility Board commented on the preceding requirements. NFPA commented that wind speed need not be included in the calculation, because it is already included in the acceptable heat flux for offsite targets. NFPA also pointed out that Part 193 does not specify how wind speed is to be determined and what figure (maximum or average) is to be used.

NFPA recommended that Part 193 should reference ANSI/NFPA 59A because NFPA cites a method (from a

GRI report) rather than specific computer model, such as LNGFIRE III, for calculating thermal radiation distances. NFPA also commented that number of ''offsite targets'' listed in paragraph (d) in section 193.2057 does not provide the source of these numbers or how to calculate an area, whereas the NFPA numbers are taken from widely used NFPA 101, the Life Safety Code. This code provides a method to calculate the area occupied by persons for use as an offsite target.

Response—(1) The old formula for calculating thermal radiation distance d=F.A½ (where d=distance, F=flux correlation factor, A=surface area within impoundment), which was replaced in Part 193 with the LNGFIRE model, is still allowed under NFPA 59A in certain applications. That formula calculates distances based on the assumption that the flame is at a 45 degree angle. In other words, the formula already accounts for wind speed. But, in the LNGFIRE model, wind speed is one of the input factors. We specify that the maximum wind speeds be used, except for those that occur less than 5% of the time. Therefore, the wind speed portion of the requirement is retained.

(2) We disagree with NFPA comment that a method rather than specific computer model be specified. We review and analyze each specific model before adoption thus, making the compliance process easier for both the operator and inspector. This rule requires that the LNGFIRE III model be used. Other models may be used, subject to the Administrator's approval.

(3) NFPA 101, the Life Safety Code, is basically a building code. For building design one needs to know area occupied by an individual person. The LNGFIRE model *does not* require the area of an individual person. Incident flux gives intensity of heat in Btu/hr-square foot, which means, Btu's that would be received by one square foot of the target if it were exposed to the thermal radiation for one hour. Number of persons or size of a person does not change the Btu/square foot received by the target. The 20 and 50 person criteria used for an 'offsite target' in Part 193 and ANSI/NFPA 59A, respectively, are arbitrary numbers. Because we do not see justification for using different figures, in the final rule we have eliminated the Offsite target and incident radiant flux figures and simply referenced ANSI/NFPA 59A.

Comment on 193.2057 (b)(4)—The Iowa Utility Board questioned deletion of use of ''highest anticipated heating value of LNG'' in the calculations of thermal radiation distances. Iowa Utility Board said in their experience higher heating value (HHV) of ''aged'' LNG has reached 1200 Btu/scf compared to 1023 Btu/scf for methane. And based on the potential for the buildup of heavier hydrocarbons in stored LNG, the Iowa Utility Board asked for clarification of our decision to delete this requirement.

Response—The common units for higher heating values used in the natural gas industry are British thermal units (Btu) per standard cubic foot (scf). But, in reality HHV in Btu/lb determines the size of the flame, and the thermal radiation distances. The mass per unit volume of gas changes with composition for LNG mixture. In fact, decrease in Btu/lb is more significant than increase in Btu/scf for aged LNG as compared to methane. Therefore, flame size for aged LNG is lower than the flame size of methane, resulting in shorter thermal radiation distance. In reality, there is only 0.1 to 0.2% difference in radiation distances. Therefore, this requirement has been deleted.

Section 193.2059 Flammable Vapor-Gas Dispersion Protection

In the NPRM we proposed to: (1) retain minimum 10 minute spill duration for vaporization design rate; (2) delete planned vapor control; (3) retain 2.5% lower flammable concentration limit at the outer boundary of flammable vapor; and (4) add one hour time duration necessary for spill detection and response for tanks with an internal shutoff valve. AGA, NEGA, NFPA, two operators and the Iowa Utility Board each offered comments against one or more of those requirements.

AGA, NEGA and one operator commented that NFPA standard 59A does not set a 10 minute spill duration limit so that operators can take advantage of technology by using controls that can provide response time in less than 10 minutes.

NEGA said that by deleting planned vapor control to mitigate the emerging vapor from a design LNG spill increases burden on the operator and denies the operator alternative credit.

The Iowa Utility Board supported the proposal to retain the 2.5% lower limit for gas concentration. NFPA said that the 5% lower flammability limit is sufficient because the model takes concentration variations into account, and our requirement is too conservative.

One operator said there is no rationale for a one hour response time for spill detection for a tank with an internal shutoff valve.

Response—(1) We agree with the commenters that with the current technology and control system operators can respond to spills in less than 10 minutes. We have revised this requirement to agree with the ANSI/NFPA 59A standard that 10 minute spill time can be reduced if the operator can demonstrate by instrument surveillance and emergency shutdown system that less than 10 minutes is needed to respond to spills.

(2) We have deleted, as we proposed in the NPRM, the planned vapor control requirement from the regulations. We do not believe, any facility would opt for this alternative. In this final rule planned vapor control requirement will still be allowed as an alternative through a waiver.

(3) We have retained the requirement for 2.5% lower flammable limit (LFL) concentration at the outer boundary of flammable vapor to provide a reasonable margin of safety. The DEGADIS model predicts only average concentration of LNG. Because vapor does not disperse uniformly, pockets of 5% LFL concentration could be adjacent to the average distance line predicted by the model. In other words, the model can under predict the actual concentration of LNG. Because many assumptions go in the formula, the distances predicted are not always accurate. Using a 2:1 safety margin was suggested by those who developed this model. On August 19, 1999, the NFPA 59A committee discussed this issue in great detail and voted to revise ANSI/NFPA 59A standard to require a 2.5% LFL in lieu of 5% LFL. Therefore, we see no need to revise the current concentration level in the regulations.

In this final rule, we are allowing use of the FEM3A vapor dispersion model as an alternate to DEGADIS. The FEM3A model accounts for additional cloud dilution which may be caused by the complex flow patterns induced by tank and dike structures. Dispersion distances are calculated in accordance with this model described in Gas Research Institute report GRI–96/0396.5, ''Evaluations of Mitigation Methods for Accidental LNG Releases. Volume 5: Using FEM3A for LNG Accident Consequence Analyses.''

(4) ANSI/NFPA 59A standard also requires a one hour duration for spills from tanks fitted with internal shutoff valves. We have referenced ANSI/NFPA 59A for determining design spills.

Proposed requirement on determining Vaporization design rate under 193.2059(d) has been deleted in this rule to allow operators more flexibility in computing.

Section 193. 2063 Flooding Section; 193. 2069—Other Severe Weather and Natural Conditions; and Section 193.2071—Adjacent Activities

We proposed to retain these sections because the subjects that these sections cover are not addressed adequately in ANSI/NFPA 59A. NFPA commented the ''general plant site consideration'' requirement under section 2–1.1 of ANSI/NFPA 59A adequately addresses these subjects.

Response—We agree that NFPA standard requires evaluation of potential incidents and the inclusion of safety measures in the design or operation of the facility in lieu of specifying natural disasters. Also, the NFPA standard requires consideration of factors applicable to the specific site that may have a bearing on the safety of plant personnel and the public. We believe this performance language meets the intent of our regulation. Therefore, requirements in sections 193. 2063, 193.2069, and 193.2071 have been removed.

Section 193.2067 Wind Forces

We proposed to retain this section because ANSI/NFPA 59A does not take into consideration uncertainties associated with high winds and storms, such as hurricanes. NFPA commented that Paragraph 4–1.4 of ANSI/NFPA 59A does take into account wind and snow loads by reference to ASCE 7 (90–100 mph), using a 100-year mean occurrence. NFPA also said this reference applies to LNG tanks, and noted that spill prevention during a hurricane is a maximum priority of this reference. Therefore, NFPA suggested reference for this section be given to ANSI/NFPA 59A.

Response—In the proposal, we reduced wind speed from 200 to 150 mph under (b)(2)(i), because 94% of hurricanes, according to a study, have wind speeds of less than 150 mph. Further, lower wind speed design may be approved by the Administrator, so long as the reduction is justified by adequate supportive data. Therefore, this section has been retained as proposed.

Subpart C—Design

Section 193.2101 Scope

We have revised the text of the scope under this section to avoid duplication and confusion. The revised scope now states that each LNG facility designed after the effective date of the final rule must be designed in accordance with requirements of this part and of ANSI/NFPA 59A. In the event of a conflict between this part and ANSI/NFPA 59A, this part prevails.

Section 193.2119 Records

In the preamble of the NPRM we said this Section was necessary to verify material properties. However, in the rule section of the NPRM we inadvertently omitted it. In this final rule, we are retaining this requirement.

Section 193.2125 Automatic Shutoff Valves

In the NPRM we proposed to retain this section because it requires avoidance of fluid-hammer, and because Part 193 better defines fail-safe. NFPA commented that ANSI/NFPA 59A has specific reference to ASME B31.3, B31.5, B31.8, and API 6D for valve design and selection criteria. And these consensus standards provide sufficient safeguards including fluid-hammer.

Response—We agree with the NFPA comment that consensus standards like ASME B31.3, B31.8, and API 6D referenced in the ANSI/NFPA 59A for the valve design and selection criteria provide sufficient safeguards. Also, discussions with LNG plant designers and consultants revealed that fluid-hammer is taken into consideration as standard practice in the selection of valves for LNG pipes. Therefore, we are deleting this specific requirement by removing § 193.2125.

Section 193.2149 Impoundment Required

In the NPRM we proposed to retain this section because it requires grading, drainage or an impounding system around transfer piping and parking areas for loaded LNG trucks. These items are not covered in the ANSI/NFPA 59A. NFPA and two operators objected to this requirement. NFPA said that impoundment is not required for transfer piping because spills are controlled by the valves in the piping. NFPA and one operator alleged that there is no data to support impoundment for the truck parking areas at the LNG plants, when they are able to park in other areas, and are intended for movement over streets and highways.

Response—After discussions with the LNG plant operators, designers and consultants we have determined that the most likely sources of leaks within LNG plant are LNG storage tanks, cargo transfer areas, and vaporizers and process equipment, which are all addressed in paragraph 2–2.1.2 of the ANSI/NFPA 59A. Therefore, we believe ANSI/NFPA 59A will satisfy this requirement, and we are removing § 193.2149.

Section 193.2155 Structural Requirements

Proposed paragraph (b) under section 193.2155 reduced distance requirements from LNG tanks to airport runways. It also removed requirements for concrete dikes capable of withstanding the impact of the largest aircraft serving that airport. One commenter suggested that the proposed paragraph (b) should be moved into Subpart B (Siting requirements), because it relates to siting and not structural requirements.

Response—This requirement was originally placed under the Design subpart because it contains structural performance and integrity specifications. Although this regulation also relates to siting, we rather retain it under the Design subpart so readers do not misunderstand and think this requirement has been removed.

Section 193.2159 Floors

The NPRM proposed retaining this section because ANSI/NFPA 59A did not address this requirement adequately. Further review of ANSI/NFPA 59A reveals that Section 2–2 of this standard covers the same requirement with performance-related language. Therefore, we are deleting this section from the final rule.

Section 193.2161 Dikes, General

The NPRM proposed retaining the prohibition on any penetration through dike walls. AGA stated that prohibiting dike penetration is unjustified given the safety record of LNG facilities.

Response—Paragraph 2–2.2.4 in the ANSI/NFPA 59A permits penetration of the dike only if they are designed to withstand the full hydrostatic head of the impounded LNG or flammable refrigerant, the effect of rapid cooling to the temperature of the liquid to be confined, any anticipated fire exposure, and natural forces, such as earthquakes, wind, and rain. We are satisfied with the dike penetration requirements in ANSI/NFPA 59A. Therefore, this requirement has been removed in this rule.

We are retaining paragraph (b) of the proposed rule.

Section 193.2167 Covered Systems

We had proposed retaining this provision in the NPRM. However, because covered impoundment systems are considered unsafe, we do not anticipate that such systems will be built in the future. This requirement has been deleted, except for concrete wall tanks where the concrete wall is an outer wall serving as a dike.

Section 193.2171 Sump Basins

The NPRM proposed requiring a sump basin in each impounding system. Upon further reconsideration, we believe requiring a sump basin in each impoundment system for collection of water is design restrictive, so we have removed this requirement.

Section 193.2173 Water Removal

This section of the proposed rule is retained with some modification to paragraph (a). Paragraph (a) now states that impoundment areas must be constructed such that all areas drain completely to prevent water collection. Sump pumps and piping must be provided to remove water from the sump basin. Alternative means of drainage may be acceptable subject to the RSPA Administrator's approval.

Paragraph (b) has been retained as proposed.

Section 193.2175 Shared Impoundment

The NPRM proposed retaining this requirement. Upon reconsideration this provision been removed because it is covered in paragraph 2–2.2.1 of ANSI/NFPA 59A.

Section 193.2179 Impoundment Capacity: General

The NPRM proposed retaining this requirement. This provision has been removed because it is covered in paragraph 2–2.2.1 of ANSI/NFPA 59A.

Section 193.2183 Impoundment Capacity: Equipment and Transfer Systems

We proposed a minimum 10 minute spill period to avoid confusion among operators because spill time was not specified. AGA, NEGA, and two operators objected to our minimum 10 minute spill time requirement and suggested DOT should follow ANSI/NFPA 59A and allow for design of an impounding area with a volumetric capacity to accommodate a discharge period less than 10 minutes. The commenters indicated this would enable operators to utilize current technology, materials, and practices. The commenters also suggested that a shorter period (less than 10 minutes) should be allowed based on demonstrable instrument surveillance and emergency shutdown provisions.

Response—We agree that current technology, instrumentation, and control systems could achieve emergency shutdown in a very short time. Therefore, we are removing section 193.2183 as proposed and instead in the final rule allowing a shorter design spill time based on demonstrable instrument surveillance and emergency shutdown systems by referencing ANSI/NFPA 59A.

In the same section of impoundment capacity for transfer systems, one operator objected to including discharge from permanent transfer piping in the impoundment capacity calculations, and suggested we should instead use failure of cargo transfer piping. The commenter's justification is that impoundment along the permanent piping from liquefaction process to the LNG tanks and from the LNG tanks to loading arms, adds significantly to the plant cost without addressing a realistic release scenario. This commenter said that ANSI/NFPA 59A specifically excludes permanent plant piping from the definition of transfer area.

Response—We agree and have removed this requirement as explained above in Section 193.2149.

Section 193.2185 Impoundment Capacity: Parking Areas, Portable Containers

The NPRM proposed retaining this requirement. We are removing this section because it is covered in performance language in ANSI/NFPA 59A.

Section 193.2187 General

The NPRM retained this section. In this rule, the title of this Section is changed to Nonmetallic membrane liner. Paragraph (a) has been removed because it is no longer applicable. Paragraph (b) has been retained.

Section 193.2191 Stratification

The NPRM proposed retaining this requirement because it specified a method to prevent rollover. In this rule, this requirement is removed because all plant designers are familiar with rollover prevention methods and it is addressed in ANSI/NFPA 59A.

Sections 193.2205 Frost Heave and 193.2207 Insulation

The NPRM proposed retaining these requirements. Further review indicates that both requirements are addressed in ANSI/NFPA 59A. Therefore, they have been removed in this rule.

Section 193.2209 Instrumentation for LNG Storage Tanks

We retained this section in the NPRM because ANSI/NFPA 59A does not require any recorders. One commenter said ANSI/NFPA 59A adequately covers it. Continuous monitoring or short interval scanning, trending, and multi-level alarms for process variables and tank levels are standard features of current computer based monitoring and control devices. This commenter said that ANSI/NFPA 59A and sound engineering practice make it unnecessary to retain this section to provide an added level of safety.

Response—We agree that all plants designed today will have necessary instrumentation and electronic recording systems. ANSI/NFPA 59A covers basic requirements for instrumentation. Therefore, we have removed this section from the final rule.

Subpart D—Construction

Section 193.2301

We have revised the text in the scope section to avoid duplication and confusion. The revised scope now states that each LNG facility constructed after the effective date of the final rule must be constructed in accordance with requirements of this part and of ANSI/NFPA 59A. In the event of a conflict between this part and ANSI/NFPA 59A, this part prevails.

Section 193.2303 Construction Acceptance

Is unchanged except that a reference to ANSI/NFPA 59A has been added.

Section 193.2304 Corrosion Control Overview Is Unchanged

Section 193.2305 Procedures; Section 193.2307 Inspection; Section 193.2315 Piping Connections; and Section 193.2317 Retesting

The NPRM proposed retaining some provisions that we believed were not adequately addressed in ANSI/NFPA 59A. One commenter said that the NPRM did not adequately explain why these sections should be retained. The commenter said that the procedures and specifications in ANSI/NFPA 59A and the various codes and consensus standards it incorporates by reference, such as, ASME, ASTM, ACI, ASCE, TEMA, API and others, provide more detail and necessary requirements for design, selection, construction, testing procedures. The commenter further said these codes and consensus standards provide appropriate requirements for inspection and piping connections. The commenter cited a few specific sections of ANSI/NFPA 59A where requirements for inspection and piping connections are detailed.

Response—Upon reconsideration we agree with the comment that ANSI/NFPA 59A coverage is adequate. Therefore, the above sections have been removed from this rule.

Section 193.2321 Nondestructive Tests

We revised this section in the NPRM by retaining requirements not adequately addressed in ANSI/NFPA 59A. One commenter suggested that material in this section is covered in section 6–6.3 of ANSI/NFPA 59A, and the section could be deleted without compromising safety.

Response—We agree that proposed Section 193.2321 paragraphs (a) and (b) are covered in ANSI/NFPA 59A. However, the requirement in paragraph (c) which states that welds on ASME tanks that are subject to cryogenic temperatures be subject to 100% radiographic tests is critical and therefore, is retained.

Section 193.2325 Testing Control Systems

In the NPRM we retained this requirement, but further review indicates NFPA does not use the term ''control system'' but instead uses the terms ''testing of components'' or ''testing of component systems'' in various sections of ANSI/NFPA 59A. Thus, ANSI/NFPA 59A covers this requirement. Therefore, this requirement is removed in the rule.

Section 193.2329 Construction Records

Paragraphs 6–6.2, 6–6.5, and 6–6.6 of ANSI/NFPA 59A cover this requirement adequately. Therefore, section has been deleted from this rule.

Subpart E—Equipment

Section 193.2401 Scope

The scope in this rule has been revised. It states that after the effective date of the final rule, vaporization equipment, liquefaction equipment, and control systems must be designed, fabricated, and installed in accordance with requirements of this part and of ANSI/NFPA 59A. In the event of a conflict between this part and ANSI/NFPA 59A, this part prevails.

Section 193.2407—Operation control; Section 193.2409—Shutoff Valves; Section 193.2413—Combustion Air Intakes; Section 193.2417—Control of Incoming Gas; Section 193.2419—Backflow, Section 193.2421—Cold Boxes; Section 193.2427—General; Section 193.2429—Relief Devices; Section 193.2431—Vents; Section 193.2433—Sensing Devices; Section 193.2435—Warning Devices; Section 193.2437—Pump and Compressor control; and Section 193.2439—Emergency Shutdown Control Systems

These requirements have been deleted from the final rule. All of these requirements are equivalent to requirements in ANSI/NFPA 59A.

Sections 193.2441 Control Center, and 193.2445—Sources of Power

Have been retained in the rule.

Section 193.2443 Fail-safe Control

This section is deleted because it is covered in section 7–5 of ANSI/NFPA 59A.

Subpart F—Operations & Subpart G—Maintenance

Section 193.2521 Operating Records and Section 193.2639 Maintenance Records

In the NPRM, we revised these sections to include operation records of results of inspection tests, investigation and data of instrument recorders, and maintenance records of periodic tests and inspections requirements, of both Part 193 and ANSI/NFPA 59A. AGA, NEGA, and two other operators raised concerns that this revision requires existing recordkeeping requirements and unspecified additional recordkeeping requirements from ANSI/NFPA 59A. The commenters assert that this revision may lead to confusion unless specific sections of ANSI/NFPA 59A are identified. In existing facilities, they argue, it may not be possible to produce the new records required by ANSI/NFPA 59A. The commenters suggested that current operations and maintenance requirements should not be changed.

Response—The additional operation and maintenance records that ANSI/NFPA 59A requires are applicable only to those LNG facilities that are designed and constructed after the effective date of this final rule. Operations and maintenance requirements of existing LNG facilities will not be affected by this rulemaking. This final rule clarifies that ambiguity.

Section 193.2609—Support Systems

We proposed adding an inspection time frame to the existing inspection requirements for support systems. AGA and NEGA objected to placing additional burdens on LNG operators, especially when Section 193.2605 allows operators to determine and perform necessary periodic inspections consistent with generally accepted engineering practice. Both commenters supported keeping maintenance requirements under 193.2609 unchanged.

Response—We agree with the comment that Section 193.2609 provides operator sufficient flexibility to determine inspection time frames. Therefore, this proposed requirement is deleted.

Section 193.2611 Fire Protection

In the NPRM, we proposed an additional requirement that would require operators to have a maintenance program for all plant fire protection equipment. AGA commented that the proposed change was unnecessary since 193.2605(b) already covers it.

Response—We agree with the AGA's comment that Section 193.2605(b) covers this proposed requirement. Therefore, it has been deleted.

Section 193.2619 Control Systems

We proposed under section 193.2619(c) a yearly (not exceeding 15 months) inspection and testing of control systems in service, but not normally in operation, such as relief valves and automatic shutdown devices, and internal shutoff valves. AGA, NEGA and one operator disagreed with this proposed change. NEGA said this requirement could be erroneously interpreted as a requirement to inspect the valve itself (inside the tank) rather than the control system associated with the valve. One operator commented that this requirement should be clarified to apply only to those tanks with external pumps. AGA said this requirement is excessive, impractical, and impossible to enforce.

Response—We have revised the wording to clarify that the control system for internal shutoff valves for bottom penetration tanks must be inspected and tested every year. It means that valve operation must be tested. This should not be interpreted as inspection of the valve inside the tank. Revised wording should alleviate any confusion. This requirement is important because we have allowed shorter design spill times for tanks with internal shutoff valves.

Another commenter suggested that under section 193.2619(c)(2) inspection and testing requirements for control systems intended for fire protection be extended from six months to yearly not exceeding 15 months. This commenter said that six months is excessive for this type of system inspection.

Response—We believe a six month interval for inspection and testing is necessary to ensure proper operation of fire protection systems. Fire protection systems are the most critical safety feature of an LNG facility and the smallest possible margin for error must be sought. Therefore, the current requirement is not changed.

Subpart H—Personnel Qualification and Training

Section 193.2717 Training: Fire Protection

Although DOT did not propose any changes to the subpart on training, AGA recommended incorporating the fire protection training requirements under section 9–1.4.2 of ANSI/NFPA 59A. AGA believes the fire protection training requirements of NFPA, the experts in the industry, should supercede any other standards.

Response—Currently Part 193 requires fire protection training every two years and ANSI/NFPA 59A requires training every year. With the excellent safety record of LNG industry we do not see a need for making this requirement more burdensome.

Subpart I—Fire Protection

Section 193.2801 Scope

We proposed to replace subpart I, except for a few sections with important safety features which are not adequately addressed in ANSI/NFPA 59A, by referencing ANSI/NFPA 59A, Chapters 2 and 9. AGA, NEGA, and two operators commented that combining some requirements of Part 193 and the requirements of ANSI/NFPA 59A would create duplicate and conflicting requirements, would be expensive, and would not enhance safety. One commenter said that exclusion from the fire protection requirements of ANSI/NFPA 59A for existing LNG plants that temporarily do not contain LNG should be expanded to include fire protection at all existing LNG plants.

Response—After review of requirements in this subpart and ANSI/NFPA 59A, and discussions with LNG plant operators, designers and consultants, we have determined that the fire protection requirements of ANSI/NFPA 59A are adequate. Therefore, in this rule we are referencing ANSI/NFPA 59A without any additional requirements in subpart I.

Section 193.2807 Smoking

We proposed to retain paragraph (c) regarding ''No Smoking'' signs. One commenter said this requirement would result in excessive signage and not necessarily control smoking at the plant.

Response—This requirement had been removed along with all other fire protection requirements contained in Subpart I for reasons stated above.

Section 193.2817 Fire Equipment and Section 193.2821 Fire detection

One commenter said that the revision to this section requires additional fire protection equipment, additional unspecified fire alarms from ANSI/NFPA 59A, and additional protection or cooling requirements for critical components. The commenter said these requirements should be specifically identified with reference to the appropriate section of ANSI/NFPA 59A.

Response—These requirements have been removed in Subpart I for reasons stated above. The ANSI/NFPA 59A requirements will apply to LNG facilities designed and constructed after the effective date of this final rule.

Section 193.2819 Gas detection

Response—This requirement had been removed in Subpart I for reasons stated above.

Subpart J—Security.

This subpart is retained.

Appendix A to Part 193

Is revised to reflect changes in the list of Organizations and addresses and list of documents incorporated by reference due to Part 193 revisions. One new document added in the list is the GRI–96/0396.5—''Evaluation of Mitigation Methods for Accidental LNG Releases, Volume 5: Using FEM3A for LNG Accident Consequence Analysis.''

Regulatory Analyses and Notices

Executive Order 12866 and DOT Regulatory Policies and Procedures

The Department of Transportation (DOT) does not consider this action to be a significant regulatory action under section 3(f) of Executive Order 12866 (58 FR 51735; October 4,1993). Therefore, it was not forwarded to the Office of Management and Budget. This final rule is not significant under DOT's regulatory policies and procedures (44 FR 11034: February 26, 1979).

This final rule amends 49 CFR Part 193 by replacing substantive sections of the current regulation with ANSI/NFPA Standard 59A, titled ''Standard for the Production, Storage and Handling of Liquefied National Gas (LNG)''. The purpose of this adoption is to enable operators to utilize current technology, materials, and practices, thereby reducing costs and enhancing national growth. This change to Part 193 will eliminate unnecessary and burdensome requirements. Further the adoption of industry standards is consistent with the President's goals of regulatory reinvention and improvement of customer service to the American people. Adoption of industry standards also meets the goals of OMB's Budget Circular A–119, ''Federal Participation in the Development and Use of Voluntary Standards,'' promoting adoption of voluntary consensus standards wherever possible.

The NFPA has a standing committee which regularly reviews ANSI/NFPA 59A. RSPA has a representative on this committee, and RSPA sought the committee's input in several discussions concerning the adoption of ANSI/NFPA 59A into Part 193. Members of the ANSI/NFPA 59A technical committee include: RSPA, Federal Energy Regulatory Commission, Coast Guard, State governments, insurance interests, contractors, and fire departments. Representation by this group ensures that essentially all interests involved in LNG safety issues have been represented in this standard. The NFPA has over 67,000 individual members and includes over 100 national trade and professional groups. Its goal as an organization is to reduce the burden of fire on the quality of life by advocating scientifically based consensus codes and standards, research, and education for fire safety issues.

As mentioned above, there should be little to no cost to the industry to adopt these regulations as LNG operators are already well aware of these standards and they are already being implemented by the industry. In fact adoption of this rule should actually reduce the costs to industry as the main purpose of this rule is to allow the adoption of newer technology that was not anticipated when the earlier LNG regulations were promulgated. Because this rule does not represent any new burden to the industry and in fact will reduce costs, RSPA believes that a regulatory evaluation of this rule is unnecessary. Furthermore, adoption of this rule meets the guidelines of Federal Government policy discussed above while reducing the administrative burdens on industry and allowing for the use of the latest technology and practices.

Regulatory Flexibility Act

Under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*), RSPA must consider whether a rulemaking would have a significant economic impact on a substantial number of small entities. As discussed above, RSPA is amending part 193 by replacing substantive portions of this subpart with the adoption of consensus industry standards developed by the NFPA. These safety standards are well known and have been implemented by operators of LNG facilities throughout the United Sates. The replacement of major portions of Part 193 with the ANSI/NFPA 59A standard should in fact reduce costs of the present regulations to LNG operators, including

any small operators, and allow the use of more current technologies as mentioned in the previous section. RSPA invited comments from small business operators who objected to this rule, and received no comments addressing this issue. Based on the above discussion, I certify pursuant to Section 605 of the Regulatory Flexibility Act (5 U.S.C. 605) that the action will not have a significant economic impact on a substantial number of small entities.

Executive Order 13084

This final rule has been analyzed in accordance with the principles and criteria contained in Executive Order 13084 (''Consultation and Coordination with Indian Tribal Governments''). Because this final rule does not significantly or uniquely affect the communities of the Indian tribal governments and does not impose substantial direct compliance costs, the funding and consultation requirements of Executive Order 13084 do not apply.

Executive Order 13132

This rule has been analyzed in accordance with the principles and criteria contained in Executive Order 13132 (''Federalism''). This final rule does not adopt any regulation that:

(1) Has substantial direct effects on the States, the relationship between the national government and the States, or the distribution of power and responsibilities among the various levels of government;

(2) Imposes substantial direct compliance costs on States and local governments; or

(3) Preempts state law.

Therefore, the consultation and funding requirements of Executive Order 13132 (64 FR 43255; August 10, 1999) do not apply. Nevertheless, in February and April 1998, RSPA held meetings with the National Association of Pipeline Safety Representatives (NAPSR) LNG Part 193 committee, which includes state pipeline safety regulators, to receive their input on the changes to this rule.

Unfunded Mandates

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 least burdensome alternative that achieves the objective of the rule.

Paperwork Reduction Act

This rule does not substantially modify the paperwork burden on LNG industry. OPS does not believe that LNG industry will have any additional paperwork burden because of the incorporation by reference of these consensus standards, and therefore no separate paperwork submission is required.

National Environmental Policy Act

RSPA has analyzed this action for purposes of the National Environmental Policy Act (42 U.S.C. 4321 *et seq.*) and has determined that this action would not significantly affect the quality of the human environment. An Environmental Assessment and a Finding of No Significant Impact are in the docket.

Impact on Business Processes and Computer Systems

We do not want to impose new requirements that would mandate business process changes when the resources necessary to implement those requirements would otherwise be applied to ''Y2K'' or related computer problems. This final rule does not mandate business process changes or require modifications to computer systems. Because this rule does not affect organizations' ability to respond to those problems, we are not delaying the effectiveness of the requirements.

List of Subjects in 49 CFR Part 193

Construction, Design, Equipment, Fire protection, Incorporation by reference, Liquefied natural gas, Maintenance, Operation, Pipeline safety, Reporting and recordkeeping, and Siting requirements.

Accordingly, RSPA amends 49 CFR 193 as follows:

PART 193—[AMENDED]

1. The authority citation for part 193 continues to read as follows:

Authority: 49 U.S.C. 5103, 60102, 60103, 60111, 60118 and 49 CFR 1.53.

Subpart A—General

* * * * *

§ 193.2003 [Removed and reserved]

2. Section 193.2003 is removed and reserved.

3. Section 193.2005 is revised to read as follows:

§ 193.2005 Applicability.

(a) Safety requirements mandating compliance with standard ANSI/NFPA 59A and other changes in this part governing siting, design, construction, equipment, fire protection, operation and maintenance apply to LNG facilities placed in service after March 31, 2000 unless otherwise noted.

(b) If an existing LNG facility (or facility under construction before March 31, 2000 is replaced, relocated or significantly altered after March 31, 2000, the facility must comply with the applicable requirements of this part governing, siting, design, installation, and construction, except that:

(1) The siting requirements apply only to LNG storage tanks that are significantly altered by increasing the original storage capacity or relocated, and

(2) To the extent compliance with the design, installation, and construction requirements would make the replaced, relocated, or altered facility incompatible with the other facilities or would otherwise be impractical, the replaced, relocated, or significantly altered facility may be designed, installed, or constructed in accordance with the original specifications for the facility, or in another manner subject to the approval of the Administrator.

§ 193.2007 Definitions.

4. Section 193.2007 is amended by removing ''including an underground cavern'' from definition of Storage tank, ''or solidifying'' from definition of LNG facility, and ''or semisolid'' from definitions of *Liquefied natural gas* or *LNG, Vaporization,* and *Vaporizer.*

Subpart B—Siting Requirements

5. Section 193.2051 is revised to read as follows:

§ 193.2051 Scope.

Each LNG facility designed, constructed, replaced, relocated or significantly altered after March 31, 2000 must be provided with siting requirements in accordance with the requirements of this part and of ANSI/NFPA 59A. In the event of a conflict between this part and ANSI/NFPA 59A, this part prevails.

§ 193.2055 [Removed and reserved]

6. Section 193.2055 is removed and reserved.

7. Section 193.2057 is revised to read as follows:

§ 193.2057 Thermal radiation protection.

Each LNG container and LNG transfer system must have a thermal exclusion zone in accordance with section 2–2.3.1 of ANSI/NFPA 59A with the following exceptions:

(a) The thermal radiation distances shall be calculated using Gas Research

Institute's (GRI) report GRI–89/0176, which is also available as the ''LNGFIRE III'' computer model produced by GRI. The use of other alternate models which take into account the same physical factors and have been validated by experimental test data shall be permitted subject to the Administrator's approval.

(b) In calculating exclusion distances, the wind speed producing the maximum exclusion distances shall be used except for wind speeds that occur less than 5 percent of the time based on recorded data for the area.

(c) In calculating exclusion distances, the ambient temperature and relative humidity that produce the maximum exclusion distances shall be used except for values that occur less than five percent of the time based on recorded data for the area.

8. Section 193.2059 is revised to read as follows:

§ 193.2059 Flammable vapor-gas dispersion protection.

Each LNG container and LNG transfer system must have a dispersion exclusion zone in accordance with section 2–2.3.2 of ANSI/NFPA 59A with the following exceptions: (a) Flammable vapor-gas dispersion distances must be determined in accordance with the model described in the Gas Research Institute report GRI–89/0242, ''LNG Vapor Dispersion Prediction with the DEGADIS Dense Gas Dispersion Model.'' Alternatively, in order to account for additional cloud dilution which may be caused by the complex flow patterns induced by tank and dike structure, dispersion distances may be calculated in accordance with the model described in the Gas Research Institute report GRI 96/0396.5, ''Evaluation of Mitigation Methods for Accidental LNG Releases. Volume 5: Using FEM3A for LNG Accident Consequence Analyses''. The use of alternate models which take into account the same physical factors and have been validated by experimental test data shall be permitted, subject to the Administrator's approval.

(b) The following dispersion parameters must be used in computing dispersion distances:

(1) Average gas concentration in air = 2.5 percent.

(2) Dispersion conditions are a combination of those which result in longer predicted downwind dispersion distances than other weather conditions at the site at least 90 percent of the time, based on figures maintained by National Weather Service of the U.S. Department of Commerce, or as an alternative where the model used gives longer distances at lower wind speeds, Atmospheric Stability (Pasquill Class) F, wind speed = 4.5 miles per hour (2.01 meters/sec) at reference height of 10 meters, relative humidity = 50.0 percent, and atmospheric temperature = average in the region.

(3) The elevation for contour (receptor) output H = 0.5 meters.

(4) A surface roughness factor of 0.03 meters shall be used. Higher values for the roughness factor may be used if it can be shown that the terrain both upwind and downwind of the vapor cloud has dense vegetation and that the vapor cloud height is more than ten times the height of the obstacles encountered by the vapor cloud.

(c) The design spill shall be determined in accordance with section 2–2.3.3 of ANSI/NFPA 59A.

§§ 193.2061–193.2065 [Removed and reserved]

9. Sections 193.2061 through 193.2065 are removed and reserved.

10. Section 193.2067 is amended by revising paragraphs (b)(1) and (b)(2)(i) to read as follows:

§ 193.2067 Wind forces

* * * * *

(b) * * *

(1) For shop fabricated containers of LNG or other hazardous fluids with a capacity of not more than 70,000 gallons, applicable wind load data in ASCE 7.

(2) * * *

(i) An assumed sustained wind velocity of not less than 150 miles per hour, unless the Administrator finds a lower velocity is justified by adequate supportive data; or

* * * * *

§§ 193.2069–193.2073 [Removed and reserved]

11. Sections 193.2069 through 193.2073 are removed and reserved.

Subpart C—Design

12. Section 193.2101 is revised to read as follows:

§ 193.2101 Scope.

Each LNG facility designed after March 31, 2000 must comply with requirements of this part and of ANSI/NFPA 59A. In the event of a conflict between this part and ANSI/NFPA 59A, this part prevails.

§§ 193.2103–193.2117 [Removed and reserved]

13. Sections 193.2103 through 193.2117 are removed and reserved.

§§ 193.2121–193.2153 [Removed and reserved]

14. Sections 193.2121 through 193.2153 are removed and reserved.

15. Section 193.2155 is amended by removing paragraph (b), redsignating paragraph (c) as paragraph (b), and revising paragraph (a) introductory text and newly designated paragraph (b) to read as follows:

§ 193.2155 Structural requirements.

(a) The structural members of an impoundment system must be designed and constructed to prevent impairment of the system's performance reliability and structural integrity as a result of the following:

* * * * *

(b) An LNG storage tank must not be located within a horizontal distance of one mile (1.6 km) from the ends, or ¼ mile (0.4 km) from the nearest point of a runway, whichever is longer. The height of LNG structures in the vicinity of an airport must also comply with Federal Aviation Administration requirements in 14 CFR Section 1.1.

§§ 193.2157–193.2159 [Removed and reserved]

16. Sections 193.2157 through 193.2159 are removed and reserved.

17. Section 193.2161 is revised to read as follows:

§ 193.2161 Dikes, general.

An outer wall of a component served by an impounding system may not be used as a dike unless the outer wall is constructed of concrete.

§§ 193.2163–193.2165 [Removed and reserved]

18. Sections 193.2163 through 193.2165 are removed and reserved.

19. Section 193.2167 is revised to read as follows:

§ 193.2167 Covered systems.

A covered impounding system is prohibited except for concrete wall designed tanks where the concrete wall is an outer wall serving as a dike.

§§ 193.2169–193.2171 [Removed and reserved]

20. Sections 193.2169 through 193.2171 are removed and reserved.

21. Section 193.2173 is amended by revising paragraphs (a) and (b) to read as follows:

§ 193.2173 Water removal.

(a) Impoundment areas must be constructed such that all areas drain completely to prevent water collection. Drainage pumps and piping must be provided to remove water from

collecting in the impoundment area. Alternative means of draining may be acceptable subject to the Administrator's approval.

(b) The water removal system must have adequate capacity to remove water at a rate equal to 25% of the maximum predictable collection rate from a storm of 10-year frequency and 1-hour duration, and other natural causes. For rainfall amounts, operators must use the ''Rainfall Frequency Atlas of the United States'' published by the National Weather Service of the U.S. Department of Commerce.

* * * * *

§§ 193.2175–193.2179 [Removed and reserved]

22. Sections 193.2175 through 193.2179 are removed and reserved.

23. Section 193.2181 is revised to read as follows:

§ 193.2181 Impoundment capacity: LNG storage tanks.

Each impounding system serving an LNG storage tank must have a minimum volumetric liquid impoundment capacity of:

(a) 110 percent of the LNG tank's maximum liquid capacity for an impoundment serving a single tank;

(b) 100 percent of all tanks or 110 percent of the largest tank's maximum liquid capacity, whichever is greater, for the impoundment serving more than one tank; or

(c) If the dike is designed to account for a surge in the event of catastrophic failure, then the impoundment capacity may be reduced to 100 percent in lieu of 110 percent.

§ 193.2183 and 193. 2185 [Removed and reserved]

24. Sections 193.2183 and 1913.2185 are removed and reserved.

25. Section 193.2187 is revised to read as follows:

§ 193.2187 Nonmetallic membrane liner.

A flammable nonmetallic membrane liner may not be used as an inner container in a storage tank.

§§ 193.2189–193.2233 [Removed and reserved]

26. Sections 193.2189 through 193.2233 are removed and reserved.

Subpart D—Construction

27. Section 193.2301 is revised to read as follows:

§ 193.2301 Scope.

Each LNG facility constructed after March 31, 2000 must comply with requirements of this part and of ANSI/NFPA 59A. In the event of a conflict between this part and ANSI/NFPA 59A, this part prevails.

28. Section 193.2303 is amended by adding a phrase ''and ANSI/NFPA 59A.'' at the end of the section.

§ 193.2305–193.2319 [Removed and reserved]

29. Sections 193.2305 through 193.2319 are removed and reserved.

30. Section 193.2321 is revised to read as follows:

§ 193.2321 Nondestructive tests.

The butt welds in metal shells of storage tanks with internal design pressure above 15 psig must be radiographically tested in accordance with the ASME Boiler and Pressure Vessel Code (Section VIII Division 1), except that hydraulic load bearing shells with curved surfaces that are subject to cryogenic temperatures, 100 percent of both longitudinal (or meridional) and circumferential (or latitudinal) welds must be radiographically tested.

§§ 193.2323–193.2329 [Removed and reserved]

31. Sections 193.2323 through 193.2329 are removed and reserved.

Subpart E—Equipment

32. Section 193.2401 is revised to read as follows:

§ 193.2401 Scope.

After March 31, 2000, each new, replaced, relocated or significantly altered vaporization equipment, liquefaction equipment, and control systems must be designed, fabricated, and installed in accordance with requirements of this part and of ANSI/NFPA 59A. In the event of a conflict between this part and ANSI/NFPA 59A, this part prevails.

§§ 193.2403–193.2439 [Removed and reserved]

33. Sections 193.2403 and 193.2439 are removed and reserved.

§ 193.2443 [Removed and reserved]

34. Section 193.2443 is removed and reserved.

Subpart F—Operation

35. Section 193.2521 is revised to read as follows:

§ 193.2521 Operating records.

Each operator shall maintain a record of results of each inspection, test and investigation required by this subpart. For each LNG facility that is designed and constructed after March 31, 2000 the operator shall also maintain related inspection, testing, and investigation records that ANSI/NFPA 59A requires. Such records, whether required by this part or ANSI/NFPA 59A, must be kept for a period of not less than five years.

Subpart G—Maintenance

36. Section 193.2619 in Subpart G is amended by revising paragraph (c) introductory text to read as follows:

§ 193.2619 Control systems.

* * * * *

(c) Control systems in service, but not normally in operation, such as relief valves and automatic shutdown devices, and control systems for internal shutoff valves for bottom penetration tanks must be inspected and tested once each calender year, not exceeding 15 months, with the following exceptions:

* * * * *

37. Section 193.2639 is amended by revising paragraph (a) to read as follows:

§ 193.2639 Maintenance records.

(a) Each operator shall keep a record at each LNG plant of the date and type of each maintenance activity performed on each component to meet the requirements of this part. For each LNG facility that is designed and constructed after March 31, 2000 the operator shall also maintain related periodic inspection and testing records that ANSI/NFPA 59A requires. Maintenance records, whether required by this part or ANSI/NFPA 59A, must be kept for a period of not less than five years.

* * * * *

Subpart I—Fire Protection

38. Section 193.2801 is revised to read as follows:

§ 193.2801 Scope.

Each LNG facility must meet fire prevention and fire control provisions of ANSI/NFPA 59A.

§§ 193.2803–193.2821 [Removed and reserved]

39. Sections 193.2803 through 193.2821 are removed and reserved.

* * * * *

40. Appendix A to Part 193 is revised to read as follows:

Appendix A to Part 193—Incorporation by Reference

I. List of Organizations and Addresses

A. American Gas Association (AGA), 400 North Capital St., Washington, D.C. 20001.

B. American National Standards Institute (ANSI), 11 West 42nd St., New York, NY 10036.

C. American Society of Civil Engineers (ASCE), Parallel Centre, 1801 Alexander Bell Dr., Reston, VA 20191–4400.

D. American Society of Mechanical Engineers (ASME), Three Park Ave., New York, NY 10016–5990.

E. Gas Research Institute (GRI), 8600 West Bryn Mawr Ave., Chicago, IL 60631.

F. National Fire Protection Association (NFPA), 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269–9101.

II. Documents Incorporated by Reference, (Numbers in Parentheses Indicate Applicable Editions)

A. American Gas Association (AGA):
1. ''Purging Principles and Practices''—(1975)

B. American Society of Civil Engineers (ASCE):
1. ASCE 7–95 ''Minimum Design Loads for Buildings and Other Structures'' (1995).

C. American Society of Mechanical Engineers (ASME):
1. ASME Boiler and Pressure Vessel Code, Section VIII, Divisions 1 and 2 (1998).

D. Gas Research Institute (GRI):
1. GRI–89/0176 ''LNGFIRE: A Thermal radiation Model for LNG Fires'' (June 29, 1990).
2. GRI–89/0242 ''LNG Vapor Dispersion Prediction with the DEGDIS Dense Gas Dispersion Model'' (April 1988–July 1990).
3. GRI–96/0396.5 ''Evaluation of Mitigation Methods for Accidental LNG Releases, Volume 5: Using FEM3A for LNG Accident Consequence Analyses.''

E. National Fire Protection Association (NFPA):
1. ANSI/NFPA 59A ''Standard for the Production, Storage, and Handling of Liquefied Natural Gas (LNG)'' (1996 edition).

Issued in Washington, D.C. on February 11, 2000.

John P. Murray,

Acting Deputy Administrator.

[FR Doc. 00–3799 Filed 2–29–00; 8:45 am]

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DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

49 CFR Part 572

[Docket No. NHTSA–2000–6940]

RIN 2127–AG66

Anthropomorphic Test Dummy; Occupant Crash Protection

AGENCY: National Highway Traffic Safety Administration (NHTSA), Department of Transportation.

ACTION: Final rule.

SUMMARY: This document amends 49 CFR Part 572 by adding design and performance specifications for a new dummy whose height and weight are representative of a fifth percentile female adult. This new dummy, which is part of the family of Hybrid III test dummies, can be used to accurately assess the potential for injuries to small-statured adults and teenagers. The new dummy is especially needed both to ensure that air bags protect small-statured adults and teenagers in frontal crashes and to minimize the risk of injury from air bags during those crashes. The dummy will also provide a means of gathering useful information in a variety of crash environments to better evaluate vehicle safety.

Adding the dummy to Part 572 is the first step toward using the dummy to evaluate the safety and effectiveness of air bags for small-statured adults and teenagers. The issue of amending various safety standards to specify use of the dummy in determining compliance with the performance requirements of those standards, *e.g.,* the agency's occupant protection standard, will be addressed in other rulemakings, particularly the agency's advanced air bag rulemaking for which a notice of proposed rulemaking was published in September 1998 and a supplemental notice of proposed rulemaking was published in November 1999.

DATES: *Effective Date:* This regulation becomes effective March 31, 2000. The incorporation by reference of the publications listed in the rule is approved by the Director of the Federal Register as of March 31, 2000.

Petitions: Petitions for reconsideration must be received by April 17, 2000.

ADDRESSES: Petitions for reconsideration should refer to the docket number of this rule and be submitted to: Administrator, National Highway Traffic Safety Administration, 400 Seventh Street, SW, Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT:

For non-legal issues, you may call Stan Backaitis, Office of Crashworthiness Standards, at 202–366–4912.

For legal issues, you may call Rebecca MacPherson, Office of the Chief Counsel, at 202–366–2992.

You may send mail to both of these officials at National Highway Traffic Safety Administration, 400 Seventh St., S.W., Washington, D.C., 20590.

SUPPLEMENTARY INFORMATION:

I. Summary of Decision

Based on our use of the Hybrid-III 5th percentile female (H–III5F) dummy in calibration tests and in frontal impact tests involving restraints such as air bags and belts, and after consideration of the public comments on our September 3, 1998 notice of proposed rulemaking (NPRM) (63 FR 46981), we have concluded that this dummy is suitable for both research and safety compliance assessments. Depending on the intended injury assessment needs, the dummy has the necessary instrumentation to measure the potential for injuries to the head, the upper and lower ends of the neck, the chest, the lumbar spine, the pelvis, and the femurs, as well as the forces on the iliac crests [1] caused by the lap belt. In extensive agency tests, the dummy exhibited excellent durability and robustness as a measuring test tool. Although other dummy users were invited to provide comments on their test experience with the H–III5F dummy, their responses to the NPRM were based primarily on data from calibration-type tests. Little of the data was from the dummy's response in systems tests. Accordingly, our judgment about the adequacy of the dummy in systems tests is based on our own test data. However, we believe that our conclusion is consistent with the calibration data submitted in response to the NPRM by other dummy users, since those data provide a reasonably good match with the agency data.

We have decided to add the H-III5F dummy to Part 572 as Subpart O, and designate it as the alpha version of the dummy. This dummy is not significantly different from the one proposed in the NPRM. Further changes to the dummy will be designated as beta, gamma, etc., to assure that modifications can be easily tracked and identified. The new dummy is defined by a drawing and specification package; a new procedures document for disassembly, assembly, and inspection; and performance parameters including associated calibration procedures as noted in Subpart O.

II. Background

Air bag-related fatalities and injuries to small female drivers seated close to the deploying air bag in low speed crashes have raised serious concerns about the safety of air bags for this portion of the population.[2] One way to

[1] The ilium is the expansive-superior segment of the three bones composing the left or right half of the pelvis.

[2] Close proximity to the air bag is one of the primary factors leading to serious injury or fatality. Several factors can lead to an individual being too close to the air bag at the time of deployment, including failure to wear a safety belt. Nevertheless, very small-statured women appear to constitute the largest segment of the driver population that may not be able to sit a safe distance from the air bag,

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