

**Waiver 193.2071 1 of 1**

April 10, 1995

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF COLORADO

|                                 |   |                             |
|---------------------------------|---|-----------------------------|
| THE APPLICATION OF ROCKY        | ) | NOTICE OF APPLICATION FILED |
| MOUNTAIN NATURAL GAS FOR WAIVER | ) |                             |
| OF RULES GOVERNING SAFETY       | ) | DOCKET NO. 95A-037G         |
| STANDARDS FOR LIQUEFIED NATURAL | ) |                             |
| GAS FACILITIES, 4 CCR 723-11,   | ) |                             |
| PART III                        | ) |                             |

TO ALL INTERESTED PERSONS, FIRMS, OR CORPORATIONS:

You are notified that this application has been filed with the Colorado Public Utilities Commission by Rocky Mountain Natural Gas, Glenwood Springs, Colorado, for a waiver of certain requirements of the Rules Governing Safety Standards, 4 CCR 723-11, Part III, adopting 49 CFR 193, for liquefied natural gas facilities located at Walden, Colorado. The requests for waiver are more specifically stated in the application which is available for public inspection at the Commission office located at 1580 Logan Street, OL 2, Denver, Colorado 80203.

Any person desiring to intervene or participate as a party in this proceeding shall file his petition for leave to intervene, or under the Commission's Rules of Practice and Procedure, file other appropriate pleadings to become a party, within 10 days after the date of this notice. If you do not wish to intervene or become a party, but desire to file comments, you may send written comments addressed to the Public Utilities Commission, Office Level 2 (OL 2), Logan Tower, 1580 Logan Street, Denver, Colorado 80203, (303) 894-2070. This application will be processed in accordance with the Commission's Rules of Practice and Procedure, found at 4 CCR 723-1. As a matter of right, staff may intervene up to 10 days after the date the application is deemed complete.

This proceeding may be considered by the Commission without a hearing if the application is deemed complete and no notice of intervention or petition to intervene is timely filed in accordance with [paragraph] 40-6-109.5, C.R.S.

If the applicant did not file its testimony, or a detailed summary of testimony, and copies of its exhibits with its application, applicant shall file its testimony, or a detailed summary of testimony, and copies of its exhibits not later than 15 days after the date the application is deemed complete. The applicant shall file and serve its testimony, or a detailed summary of testimony, and copies of its exhibits in accordance with Rule 22(f) if the Commission staff is not a party or in accordance with Rule 7 (b) (5) if the Commission staff is a party.

Each intervenor shall file and serve its testimony, or a detailed summary of testimony, and copies of its exhibits not later than 10 days before the first day of the hearing. Each intervenor shall file and serve its testimony, or a detailed summary of testimony, and copies of its exhibits in accordance with Rule 22(f) if the Commission staff is not a party or in accordance with Rule 7(b) (5) if the Commission

staff is a party.

No witness will be permitted to testify and no exhibit will be received in evidence, except in rebuttal, unless filed and served as provided in this notice.

If a party does not meet the requirements of this notice, the Commission may dismiss the application or an intervention upon motion filed by any other party, or upon the Commission's own motion, unless good cause for the failure to meet the requirements is shown.

No motion for continuance will be granted except upon a finding of extraordinary conditions.

The Commission will notify the parties of the hearing date, time, and location.

At the time of this notice, the Commission has not deemed this application complete within the meaning of [paragraph] 40-6-109.5, C.R.S.

(SEAL)

BRUCE N. SMITH  
Director

Dated at Denver, Colorado this 3rd  
day of February, 1995.

Decision No. C95-187

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF COLORADO

THE APPLICATION OF ROCKY )  
MOUNTAIN NATURAL GAS FOR WAIVER )  
OF RULES GOVERNING SAFETY )  
STANDARDS FOR LIQUEFIED NATURAL )  
GAS FACILITIES, 4 CCR 723-11, )  
PART III. )

DOCKET NO. 95A-037G

COMMISSION ORDER GRANTING WAIVER  
OF RULES GOVERNING SAFETY STANDARDS

Mailed Date: February 28, 1995  
Adopted Date: February 23, 1995

STATEMENT

BY THE COMMISSION:

1. This application was filed by Rocky Mountain Natural Gas, Glenwood Springs,

Colorado, ("Applicant"), in accordance with Section 40-2-115, C.R.S. (1993), and 4 CCR 723-11, Part III, **Rules Governing Safety Standards for Liquefied Natural Gas Facilities** ("Part III"). Part III adopted the federal safety standards for liquefied natural gas facilities, Code of Federal Regulations, Title 49, Part 193.

2. The Commission has an agreement with the federal Office of Pipeline Safety under section 60105(a) of the Natural Gas Pipeline Safety Act of 1968, as amended, under which, the Commission assumes safety responsibility for intrastate gas facilities. This responsibility historically has included natural gas and petroleum gas (propane, "LPG"), but not liquefied natural gas ("LNG").

3. The Applicant previously applied to the federal government, Department of Transportation ("DOT") for a waiver or variance of its regulations in 49 CFR 193. The federal Research and Special Programs Administration ("RSPA"), Office of Pipeline Safety ("OPS"), had concerns whether it could grant a waiver within the time required for feasible operation of this facility ("Plant"). The Commission could assert jurisdiction because the Walden LNG facility is an intrastate operation. The Commission did so, and enacted 4 CCR 723-11, Part III.

4. The application states that the Applicant installed a temporary satellite liquefied natural gas send-out facility to serve the town of Walden, Colorado. A formal review regarding compliance of the Walden facility with Part III was prepared by Quest Consultants, Inc. for consideration by the Commission. The Commission under Docket No. 94A-490G has approved the temporary facility through April 30, 1995.

5. The Commission issued notice of this application on February 3, 1995.

6. The Colorado Springs Utilities ("CSU") filed a petition for leave to intervene on February 13, 1995. However, CSU does not oppose the application, nor does it request a hearing.

7. The Commission will determine this matter upon the record, without a formal hearing under [paragraph] 40-6-109(5), C.R.S., and Rule 24, Commission Rule of Practice and Procedure, 4 CCR 723-1, because the application is noncontested and the Applicant did not request a public hearing.

#### FINDINGS OF FACT

8. The Applicant is requesting a waiver of portions of Part III rules as detailed below:

- a. Sections 193.2057 and 193.2059 Applicant does not have legal control of all land within the thermal radiation and vapor-gas zones surrounding the plant. However, the existing structures and activities occurring within those zones meet the specific code requirements and there are no known plans to change those activities within the next six months. Applicant requests a six-month waiver from the requirements. If the Plant continues in operation after that period, Applicant will make permanent legal arrangements with the adjacent landowners. Adjacent landowners have been contacted and understand the required zones surrounding the Plant and are cooperating with the exclusion requirements.

Due to the short operating life of the Plant and surrounding land use applications, the Commission will grant Applicant's request for a waiver of sections 193.2057 and 193.2059.

- b. Section 193.2063 Applicant has obtained documents from Jackson County, Colorado, indicating that the Plant is within the 100-year flood plain. However, applicant states that the quantity of LNG, less than 19,000 gallons, presents no significant hazard, and requests a waiver.

Based on a site review by Commission staff, the Commission agrees that the volume of LNG involved, the short operating life of the plant, and the historical and geographic conditions warrant a waiver of the flood plain requirement. A waiver of this requirement will be granted.

- c. Sections 193.2171 and 193.2173 The impoundment areas surrounding the LNG storage tanks and vaporizers do not have a sump pump for removal of water. However, the soil in the impoundment area consists of sand and gravel which does not readily impound water, and the thermodynamic behavior of pressurized LNG makes this requirement inconsequential to safety. Applicant requests a waiver of the requirement.

Based on a site review by Commission staff, the Commission agrees that the volume of LNG involved, pressurized shop tanks, and soil conditions warrant a waiver of the sump pump and water removal requirement. A waiver of this requirement will be granted.

- d. Section 193.2209 The applicant states that pressure recorders on the pressurized small volume tanks serve no safety-related or operational function. Applicant requests a waiver of this requirement.

Based on a site review by Commission staff, the Commission agrees that the pressure recorders are not necessary due to the shop tank design. A waiver of this requirement will be granted.

- e. Section 193.2249 The LNG storage tanks do not have relief devices to prevent a vacuum from occurring in the tanks. However, applicant points out that small pressurized LNG tanks are structurally resistant to vacuum-induced damage and the operating conditions of such tanks make the possibility of internal vacuum very remote. Applicant requests a waiver of from this requirement.

Based on a site review by Commission staff, the Commission agrees that the concerns over vacuum protection are not warranted since pressurized shop tanks are installed. A waiver of this requirement will be granted.

- f. Section 193.2433 Discretionary vents on the LNG storage tanks are not equipped with heat exchangers. Applicant points out that any vapor vented into the atmosphere from

these tanks will be discharged at high velocity. Field tests have shown that denser-than-air gases can be safely vented into the atmosphere if discharged vertically at high velocity. Operating experience at Walden has confirmed this observation. Applicant requests a waiver of this requirement.

Based on a site review by Commission staff, the Commission agrees that the concerns over heat exchangers on the tank vents are not warranted since pressurized shop tanks are installed. A waiver of this requirement will be granted.

- g. Section 193.2445 The Walden facility does not have two sources of power. However, the applicant states that when the Walden plant loses power, it undergoes an automatic emergency shutdown ("ESD"). The ESD valves require nitrogen to operate, and electric power keeps them open. When electric power is lost, the ESD valves automatically close, resulting in a fail-safe operating condition. A waiver of this requirement is requested. Based on a site review by the Commission Staff and the system's fail-safe design the Commission will grant a waiver to the two power source requirement.

- h. Section 193.2907 The specified height of security fences is eight feet. The applicant notes that the existing fence is seven feet high. An existing seven-foot fence at the propane-air mixing plant has kept out prank-type vandals. Applicant maintains that the dedicated vandal, arsonist or saboteur would not be deterred by an eight-foot fence. A waiver is requested.

Based on a site review, vandal history, and system location, the Commission will grant a waiver to the eight foot fence requirement.

9. The Commission agrees with and approves the following conclusions made in the formal review prepared by Quest Consultants, Inc.:
- a. Quest Consultants does not believe the safety of the public is significantly reduced as a result of the code violations that RMNG's Walden LNG plant currently does not meet. Quest Consultants would recommend that the Colorado PUC grant RMNG's request for waivers from the requirements cited in their letter dated December 13, 1994.
  - b. The temporary LNG facility at Walden is similar in many ways to temporary LNG facilities that use mobile LNG facilities (typically 10,000 to 11,000 gallon capacity) to feed LNG directly into ambient air vaporizers (like that in Walden) for which the federal department of transportation has granted waivers.
  - c. 193.2621 requires annual testing of all hoses used for transferring LNG. This applies not only to the hoses used to transfer LNG from trucks to the storage tanks, but also to hoses used to transfer LNG from one tank to another. Since the Walden plant uses several transfer hoses, this requirement should (will) be enforced.

- d. Part 193, in general, says the operator of an LNG facility is responsible for maintaining plans and procedures, manuals, testing and inspection records, training records, etc. RMNG is responsible for having and maintaining the documents and records referred to in the code. RMNG currently does not have in its possession certain records related to the design, construction, and testing of storage tanks; records of transfer hose tests; and possibly other pertinent data. RMNG must obtain those records from the owners or manufacturers of the equipment they are using at Walden.

#### CONCLUSIONS ON FINDINGS OF FACT

10. The Commission had jurisdiction in this matter under 40-4-106 (2) (a) and (3) (a), C.R.S.
11. No intervenor who filed a petition to intervene or other pleading contests or opposes the application. The application is noncontested and unopposed.
12. The Commission has reviewed the contents of this application and finds that it should be deemed complete.
13. The Commission finds that compliance with the above referenced rules, as contained in Paragraph 8 above, is unnecessary and an unreasonable regulatory burden and, therefore, good grounds for a waiver have been stated in the application.
14. The satellite liquefied natural gas ("LNG") send-out facility will not be necessary after April 30, 1995.
15. The Commission finds that Applicant is responsible to comply with the other provisions of LNG rules, 4 CCR 723-11, Part III, that are not waived. This responsibility includes maintaining plans and procedures, manuals, testing and inspection records, training records, etc. Noncompliance is subject to the civil penalty provisions of Section 40-2-115, C.R.S. (1993) and 4 CCR 723-11, Part II.

#### ORDER

##### THE COMMISSION ORDERS THAT:

1. The petition for leave to intervene by Colorado Springs Utilities is granted.
2. The liquefied natural gas facility at Walden, which is owned by Rocky Mountain Natural Gas, is subject to the jurisdiction of this Commission pursuant to 40-2-115, C.R.S. and 4 CCR 723-11, Part III, **Rules Governing Safety Standards for Liquefied Natural Gas Facilities.**
3. The Commission has reviewed the application, and approves the application for waiver, subject to review by the Office of Pipeline Safety.
4. The Commission has reviewed and approved the Walden facility as a temporary satellite liquefied natural gas send-out facility until April 30, 1995. In the event RMNG desires that this become a permanent facility, they will need to make a new application to that effect.
5. Rocky Mountain Natural Gas is hereby ordered to observe all applicable

Commission rules and Colorado statutes not otherwise waived by this decision.

6. Rocky Mountain Natural Gas is ordered to keep complete and current reports of all requirements for this facility at Walden under 4 CCR 723-11, Part III.

This Order is effective on its Mailed Date.

ADOPTED IN OPEN MEETING the 23rd day of February, 1995.

(SEAL)

THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF COLORADO

ATTEST: A TRUE COPY

ROBERT J. HIX  
CHRISTINE E.M. ALVAREZ  
VINCENT MAJKOWSKI  
Commissioners

(signed)  
Bruce N. Smith  
Director

*Attachment to NOTICE OF APPLICATION FILED*

January 24, 1995

Mr. Anthony Karahalios  
Public Utilities Commission  
1580 Logan Street, Office Level 2  
Denver, Colorado 80203

Dear Mr. Karahalios:

In October 1994, Rocky Mountain Natural Gas (RMNG) installed a temporary satellite liquefied natural gas send-out facility to serve the town of Walden, Colorado. After review of the applicable codes, it was agreed by RMNG, Colorado Public Utilities Commission, and the Federal Department of Transportation that the Pipeline Safety Regulations Part 193 is the jurisdictional code.

A formal review of the compliance of the Walden facility to this code was prepared on behalf of the Colorado Public Utilities Commission by Quest Consultants and is attached to, and referenced to, in this letter. We are responding to that review with a formal request for variances on the specific non-compliance issues identified by Quest. RMNG respectfully requests your consideration on our variance request relative to the following specific issues.

Item #1, Sections 193.2057, 193.2059

As stated in Quest's review, RMNG does not have legal control of all land within the thermal radiation and vapor-gas dispersion zones surrounding the plant. However, the existing structures and activities occurring within those zones meet the specific code requirements and there are no known plans to change those activities within the expected plant service of six months or less.

Based on this situation, RMNG requests a temporary six-month variance from the referenced code requirements. If for any reason, the plant continues in operation beyond that period, RMNG will make permanent legal arrangements with the adjacent landowners.

Item #2, Section 193.2063

RMNG has obtained documents from Jackson County which indicates that the plant area is within the 100 year flood plain. We do not feel that the quantity of LNG (<19000 gal.) present represents a significant hazard relative to the triggering event.

RMNG requests a variance from this requirement.

Item #3, Sections 193.2171, 193.2173

The LNG impoundment areas surrounding the LNG storage tanks and vaporizers do not have a sump pump and sump for removal of water. As stated in Quest's review, the soil in the impoundment area consists of sand and gravel and does not readily impound water, and the thermodynamic behavior of pressurized LNG make this requirement inconsequential to safety of the plant. We therefore request a variance from this requirement.

Item #4, Section 193.2209

We concur with Quest that pressure recorders on the pressurized small volume tanks serve no safety related or operational function. We therefore request a variance from this requirement.

Item #5, Section 193.2429. Relief devices.

The LNG storage tanks in the Walden facility do not have relief devices to prevent a vacuum from occurring in the tanks.

Small, pressurized LNG tanks are structurally resistant to vacuum-induced damage and the operating conditions of such tanks make the possibility of internal vacuum very remote. Therefore, we request a waiver of this requirement.

Item #6, Section 193.2433

Discretionary vents on the LNG storage tanks are not equipped with heat exchangers. Due to the pressure within the LNG tanks, any vapor vented into the atmosphere will be discharged at high velocity. Field tests conducted by several organizations have shown that denser-than-air gases can be safely vented into the atmosphere if discharged vertically at high velocity. Our operating experience at Walden has confirmed this observation. We request a waiver from this requirement.

Item #7, Section 193.2445

The Walden plant does not have two sources of electric power.

When the Walden plant loses power, it undergoes an automatic emergency shutdown (ESD). The ESD valves require nitrogen pressure to keep them open. Nitrogen is routed to the ESD valves through



solenoid valves that require electric power to stay open. When electric power is lost, the solenoid valves move to the exhaust position, nitrogen pressure is lost, and the ESD valves automatically close. Thus, a loss of electric power results in a fail-safe operating condition. Based on this operating sequence, we request a waiver of this requirement.

Item #8, Section 193.2907

The security fence around the LNG plant is approximately seven feet with barbed wire, which is less than the specified eight feet high.

RMNG has a similar fence around our propane-air mixing plant which has not experienced any security problems at that facility. The fence, as constructed, is sufficient to keep out the typical prank type vandalism that might be expected in this location. The dedicated vandal, arsonist, or saboteur would not be deterred by a fence one foot higher.

I believe that this addresses all the non-compliance issues that were identified by Quest.

Thank you very much for your consideration of this request and please let me know if I may provide any additional information.

Sincerely,

Jeff M. Grebe  
Marketing Manager

cc: Harlan Hansen  
Liz Pendley  
Steve Pott  
John Wilson

Enclosure

(Attachment to NOTICE OF APPLICATION FILED)  
December 13, 1994

Mr. Anthony F. Karahalios  
Director of Safety and Enforcement  
Public Utilities Commission  
State of Colorado  
1580 Logan Street, Office Level 2  
Denver, Colorado 80203

Dear Mr. Karahalios:

This letter is in response to your request for Quest Consultants Inc. to provide an evaluation of the Rocky

Mountain Natural Gas (RMNG) satellite LNG facility at Walden, Colorado. The evaluation addresses code compliance issues that confront the satellite facility per 49 CFR 193. However, it is Quest's understanding that the LNG facility will be taken out of service after a pipeline is connected to the Walden Gas distribution system. A possible date of completion was estimated as April, 1995.

As a part of Phase I of our evaluation, we reviewed the following documents:

- SNG Facility Operations Manual (Revision 1)
- SNG Facility Emergency Procedures Manual (Revision 1)
- Plot Plan of the Walden Site (09/26/94)
- Piping Plan of the Walden Site (09/12/94)
- Equipment Plan of the Walden Site (09/20/94)
- Process Flow Diagram (Drawing 94505-SK3)
- Process Flow Diagram (Drawing 94505-SK2)

During Phase 2, we conducted a site inspection (December 1, 1994) and reviewed additional/updated facility drawings and the Unloading Procedures Manual. In addition, we discussed specific issues with representatives from RMNG.

This letter addresses areas in which the RMNG Walden LNG plant does not (or might not) meet specific requirements of 49 CFR 193. However, before we discuss specific violations, we believe it is necessary to discuss the general intent of Part 193 and point out some areas in which Part 193 does not adequately address small-volume LNG plants (such as the Walden plant).

### **GENERAL INTENT OF 49 CFR 193**

The general intent of 49 CFR is to ensure that LNG facilities are sited, designed, constructed, maintained, and operated in such a manner that members of the general public who are located near those facilities will not be exposed to an unacceptable level of risk. The code uses three primary methods to achieve its intent.

1. Prevent releases of hazardous fluids to the atmosphere.  
The public is not at risk so long as all hazardous fluids are kept contained within storage tanks, piping, etc. Therefore, the code contains numerous requirements aimed at preventing releases of LNG, natural gas, or other hazardous fluids.
2. Minimize the size and duration of accidental releases.  
Any release of LNG to the atmosphere, if ignited, has the potential to adversely affect persons or property that are in or near the resulting fire. The distance at which persons or property can be adversely affected is related to spill size and duration. Therefore, the code contains several requirements aimed at limiting the size and duration of any accidental releases that might occur.
3. Limit the use of land areas in which persons or property might be adversely affected by the worst credible accidents that might occur.  
The code addresses this through the use of vapor cloud and fire radiation exclusion zones.

If an operator of an LNG plant adheres to all the requirements that comprise Part 193,

then the plant will not pose an undue risk to the public and property near the plant. In many cases, this same result can be achieved even though some of the requirements of Part 193 are not met. For example, there may be site-specific or facility-specific cases that fall outside the range of situations the code was originally intended to cover. In other cases, rather than strictly adhering to the code, it may be possible to use alternative methods to meet the "spirit and intent" of specific code requirements (e.g., belt versus suspenders). When such occasions arise, we believe the plant operators should apply for a waiver from the code. Each request for a waiver should state the reason for the request and describe how the "spirit and intent" of the code will be met if the waiver is granted.

When considering whether a specific waiver should be granted, the following question can be used for guidance.

Will public safety be significantly reduced if the waiver is granted?

A waiver can generally be justified if the answer to the question is NO. If the answer is YES, the waiver should probably not be granted unless the operator is willing to use some alternative means to maintain the desired level of public safety.

## **SMALL-SCALE LNG PLANTS**

The Notice of Proposed Rulemaking (NPRM) for Part 193 was published in the Federal Register, Vol. 44, No. 28, Thursday, February 8, 1979. At that time, several large-scale LNG plants were either being built or were in the planning/design stage. Public concerns regarding the safety of large LNG import terminals prompted the DOT's Materials Transportation Bureau (MTB) to propose federal requirements for LNG plants. The code proposed in the NPRM was aimed strictly at large-scale LNG plants and did not even address the possibility of small-scale LNG plants. This oversight was only partially addressed in the Final Rule (Federal Register, Vol. 45, No. 29, Monday, February 11, 1980).

Two of the primary differences between large-scale and small-scale LNG plants are the normal pressure and temperature at which the LNG is stored. In large-scale plants, LNG is stored at approximately its boiling point temperature in low-pressure tanks (typically 2 psig design pressure). The LNG in small-scale plants is stored in pressure vessels (typically 100 to 250 psig design pressure) at a temperature well above its boiling point. As a result, if LNG is released from a small-scale plant, it does not exhibit the same characteristics or behavior as a release from a large-scale plant. Specifically, "warm", high pressure LNG will produce a high momentum aerosol jet when released to the atmosphere and a significant percentage of the released liquid will vaporize before it can accumulate on the ground. Thus, diking requirements and vapor dispersion models that might be appropriate for large-scale plants might be inappropriate for small-scale plants.

## **CODE VIOLATIONS**

- |                 |   |
|-----------------|---|
| <b>193.2057</b> | <b>Thermal radiation protection.</b>              |
| <b>193.2059</b> | <b>Flammable vapor-gas dispersion protection.</b> |

RMNG has not calculated the thermal or vapor cloud exclusion zone distances. Quest has performed preliminary calculations. Based on those calculations, the 10,000 Btu/hr square foot

exclusion zones for the dike fire and the truck spill impounding area fire both extend beyond "the right-of-way line of the facility." In addition, activities in the areas within the thermal and vapor cloud exclusion zones are not under the control of RMNG or a government agency (see the definition of "exclusion zone" in 193.2007).

Based on our preliminary calculations, the current use of land areas near the plant, and the low probability of changes in those land uses during the limited "lifetime" of the plant, we believe a waiver of the exclusion zone requirements could be justified. However, if the plant becomes permanent, then we believe RMNG should establish written land-use agreements with all neighboring property owners.

**193.2063      Flooding.**

RMNG has not investigated the effects a "100-year flood" would have on the LNG plant.

The elevation difference between the site and the nearby river was noted during our site visit. We believe the site is located outside the 100-year flood plane, but recommend that RMNG obtain documents from the appropriate local government agency and verify this belief.

**193.2071      Adjacent activities.**

Due to the temporary nature of the Walden plant and the current use of adjacent properties, we believe RMNG has met this requirement. However, if the plant becomes permanent, RMNG should determine if the owners of neighboring properties have plans to change their land-use patterns.

**193.2171      Sump basins.**

**193.2173      Water removal.**

The impounding system around the LNG tanks and vaporizers does not have a sump for the collection of water or a sump pump for the removal of water.

Due to the nature of the soil, the low annual rainfall, and the limited ability of impounding areas to contain releases of "warm" pressurized LNG, we believe a waiver of these requirements could be justified.

**193.2209      Instrumentation for LNG storage tanks.**

Pressure gauges on the LNG storage tanks do not have recorders.

We see no safety-related justification for this requirement. Under certain conditions, it may be important to know what the pressure currently is in one or more of the LNG storage tanks, but we see little usefulness in knowing what the pressure was sometime in the past. Therefore, we believe a waiver of this requirement could be justified.

**193.2429      Relief devices.**

The LNG storage tanks do not have relief devices to prevent a vacuum from occurring.

Large, fully-refrigerated LNG storage tanks are always equipped with vacuum breakers because large LNG tanks can be seriously damaged by even a small amount of internal vacuum. This is not the case for small, semi-refrigerated, semi-pressurized LNG tanks. Such tanks are considerably more resistant to vacuum-induced damage. In addition, the operating conditions of such tanks make the possibility of internal vacuum very remote. Therefore, we believe a waiver of this requirement could be justified.

**193.2431        Vents.**

Discretionary vents on the LNG storage tanks are not equipped with heat exchangers.

Due to the pressure within the LNG tanks, any vapor vented into the atmosphere will be discharged at high velocity. Field tests conducted by several organizations have shown that denser-than-air gases can be safely vented into the atmosphere if discharged vertically at high velocity. We believe a waiver from 193.2431(c) could easily be justified.

**193.2445        Sources of power.**

The plant does not have two sources of electric power.

If the plant loses power, it undergoes an automatic emergency shutdown (ESD). The ESD valves require nitrogen pressure to keep them open. Nitrogen is routed to the ESD valves through solenoid valves that require electric power to stay open. When electric power is lost, the solenoid valves move to the exhaust position, nitrogen pressure is lost, and the ESD valves automatically close. Thus, a loss of electric power does not cause any major safety problems. We believe a waiver of this requirement could be justified.

**193.2907        Protective enclosure construction.**

The security fence around the LNG plant is less than eight feet high.

RMNG has a similar fence around their propane-air mixing plant and has not reported any security problems with it. The fence, as constructed, is sufficient to keep out the merely curious. Increasing the fence height by one foot would do little to keep out the dedicated vandal, arsonist, or saboteur. Therefore, we believe a waiver of the fence height requirement could be justified.

**CONCLUSIONS**

RMNG's Walden LNG plant currently does not meet several of the requirements of 49 CFR 193. However, we do not believe the safety of the public is significantly reduced as a result of these code violations. If RMNG were to seek waivers from the requirements cited above, we would recommend that Colorado PUC grant the waivers. At the federal level, the DOT has granted waivers from siting requirements for small, temporary LNG facilities that use LNG trucks (typically 10,000 to 11,000 gallon capacity) to feed LNG directly into ambient air vaporizers (like those at Walden). In many ways, these temporary facilities are similar to the Walden plant. Thus, we think the DOT would grant similar waivers to the RMNG Walden LNG plant.

There are a few other points that we think you, and RMNG, should watch for, particularly if the Walden plant becomes more permanent.

193.2621 requires annual testing of all hoses used for transferring LNG. This applies not only to the hoses used to transfer LNG from trucks to the storage tanks, but also to hoses used to transfer LNG from one tank to another. Since the Walden plant uses several transfer hoses, this requirement should be enforced.

Part 193, in general, says the operator of an LNG facility is responsible for maintaining plans and procedures, manuals, testing and inspection records, training records, etc. It is our understanding that RMNG is the operator of the Walden LNG plant, although they are renting the equipment. Therefore, RMNG is responsible for having and maintaining the documents and records referred to in the code. We believe RMNG currently does not have in its possession certain records related to the design, construction, and testing of storage tanks; records of transfer hose tests; and possibly other pertinent data. RMNG would be well advised to obtain those records from the owners or manufacturers of the equipment they are using at Walden.

If you have any questions, please feel free to contact me or Bill Martinsen at (405) 329-7475.

Best regards,

(signed)

William F. Terrell  
Senior Engineer  
bws

April 10, 1995

Mr. Anthony Karahalios  
Colorado Public Utilities Commission  
1580 Logan Street  
Denver, Colorado 80203

Dear Mr. Karahalios:

Thank you for your facsimiles of February 3 and 27, 1995, regarding use of a temporary satellite Liquefied Natural Gas (LNG) facility to serve the town of Walden, Colorado. You describe the Colorado Public Utilities Commission (PUC) approval of a petition by Rocky Mountain Natural Gas (RMNG) for a waiver of certain requirements in 49 CFR Part 193 for the temporary satellite LNG facility.

Your facsimiles show that a formal review of the compliance of the Walden facility to Part 193 was prepared on behalf of the Colorado PUC by Quest Consultants, Inc. Your evaluation addresses areas in which RMNG Walden LNG plant does not meet specific requirements of Part 193. RMNG is seeking a waiver of 193.2057, 193.2059, 193.2063, 193.2071, 193.2073, 193.2171, 193.2173, 193.2209, 193.2429, 193.2445, and 193.2907. Quest Consultants, Inc., does not believe the safety of the public is significantly reduced as a result of these variations

from the Code. Quest Consultants, Inc., states that Part 193 is aimed strictly at large-scale LNG facilities and is restrictive of the small-scale LNG plant like RMNG is proposing.

The Colorado PUC evaluated the petition and determined that use of Walden LNG facility is necessary for RMNG to maintain continuous and uninterrupted service while the Laramie to Walden pipeline is being built. The Colorado PUC has approved the Walden facility as a temporary satellite LNG send-out facility until April 30, 1995.

Based on the findings of fact and the locating requirements for a temporary LNG facility by RMNG, we believe that the use of a satellite LNG facility at Walden under the conditions specified in the waiver would not be in danger to public safety.

Accordingly, the waiver is not inconsistent with pipeline safety regulations. For this reason, we do not object to the waiver as granted.

Sincerely,

Cesar DeLeon  
Deputy Associate Administrator for Pipeline Safety

cc:  
DPS-1/2/10/11/20; DCC-1; TSI  
DPS-11:MIsrani:366-4571:March 15, 1995  
File: Colorado State Waiver File