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By Electronic Filing

May 23, 2008

Ms. Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, DC 20426

Re: Supplement to Application (Resource Report 2)
Floridian Natural Gas Storage Company, LLC
FERC Docket No. CP08-13-000

Dear Ms. Bose:

In connection with the Application of Floridian Natural Gas Storage Company, LLC ("FGS") for a certificate of public convenience and necessity to construct, own and operate a new natural gas storage facility filed on October 31, 2007 (the "Application") in the above-referenced docket, FGS hereby submits the following supplemental material:

- (1) May 21, 2008 letter from Florida Department of Environmental Protection (FDEP) deeming complete as of April 21, 2008 FGS's Application for an Environmental Resource Permit for the pipelines (No. EI 43-0280459-002) and indicating that final action will be taken by July 20, 2008. That Environmental Resource Permit Application for the pipelines was included in Appendix 2-E to Resource Report 2 (in Volume II-B of the Application).
- (2) May 13, 2008 Response of FGS to the March 12, 2008 Request for Additional Information of the FDEP (File No. FL0613479-001-IW3S-NP) relating to January 4, 2008 Industrial Wastewater Permit Application filed by FGS with the FDEP in connection with the discharge of hydrostatic test water to the St. Lucie Canal. A copy of that Industrial Wastewater Permit Application was filed on January 24, 2008 by FGS with FERC as a supplement to the Appendices to Resource Report 2 (in Volume II-A of the Application).

Ms. Kimberly D. Bose
May 23, 2008
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FGS's submission contains only Public material and FGS is making this filing electronically. Electronic copies of this filing are being sent by email to all parties to this proceeding, as well as to the persons identified below.

If you have any questions about any of these submissions, please do not hesitate to contact me at (202) 420-2745 or Beth Webb at (202) 420-4782.

Sincerely,

/s/ Joan M. Darby
Joan M. Darby
(202) 420-2745
darbyj@dicksteinshapiro.com

Enclosures

cc: All Parties
Sheila Hernandez, FERC
Charles Brown, FERC
David Blaha, ERM
Tim Gray, Florida Department of Environmental Protection
John Wrublik, US Fish and Wildlife Service
Ted Walden, US Environmental Protection Agency, Region 4
Eric Reusch, U.S. Army Corps of Engineers
Tom Colios, South Florida Water Management District
Joseph Walsh, Florida Fish and Wildlife Conservation Commission

1. Letter dated May 21, 2008 from FDEP re
Environmental Resource Permit Application for the pipelines



Florida Department of Environmental Protection

Southeast District Office
400 North Congress Avenue, Suite 200
West Palm Beach, Florida 33401-2913

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

MAY 21 2008

Golder Associates, Ins.
c/o Kerem Esin
6241 NW 23rd Street, Suite 500
Gainesville, Florida 32653
Kerem_Esin@golder.com

File No.: 43-0280459-002
Applicant: FNGS Land Company, LLC

Dear Mr. Esin:

We have reviewed the information received on April 21, 2008, for an Individual Permit. All of the information previously requested has been satisfactorily submitted.

Your application has been deemed complete as of April 21, 2008. Final action on your application for an Individual Permit will be taken by July 20, 2008. You may choose to extend this timeclock by waiving this 90-day deadline.

If you have any questions, please contact me at 561/681-6633 or via email at Benny.Luedike@dep.state.fl.us.

Sincerely,

Benny Luedike
Environmental Specialist II
Submerged Lands & Environmental
Resources Program

cc: Karl Bullock, Golder Associates, inc., Karl_Bullock@golder.com
David LaRocca, Golder Associates, Inc., DLaRocca@golder.com

2. May 13, 2008 Response of FGS to FDEP RAI re:
Industrial Wastewater Permit Application for discharge of hydrostatic test water

Golder Associates Inc.
5100 West Lemon Street
Suite 114
Tampa, FL USA 33609
Telephone: (813) 287-1717
Fax: (813) 287-1716



May 13, 2008

Our Ref.: 063-9587

Florida Department of Environmental Protection
Southeast District – Industrial Waste Permitting
400 North Congress Avenue, Suite 200
West Palm Beach, Florida 33401

Attention: Mr. Tim Powell, P.E.

**RE: RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
IW - FLORIDA NATURAL GAS STORAGE COMPANY – PROPOSED
INDIANTOWN PROJECT HYDROSTATIC TANK AND PIPELINES TEST WATER
DISCHARGES FACILITY DEP FILE NO.: FL0613479-001-IW3S/NP**

Dear Mr. Powell:

Golder Associates Inc. (Golder) is pleased to provide the additional information requested by the Florida Department of Environmental Protection (Department) concerning the industrial waste water discharge permit application for the Floridian Natural Gas Storage Project. The additional information that is presented in this letter addresses the seven comments included as requested in the Department's letter dated March 12, 2008, with a restatement of the comment (in bold) followed by our response.

Comment 1: Comment with respect to other source for test water - Complete, no additional information is requested. (Please provide us a copy of SFWMD's Water Use Permit once it is issued.)

A copy of the Water Use Permit is included in Attachment A.

Comment 2: Incomplete - It appears the permittee is still in negotiation with FP&L, Tesoro Groves, and Martin County Engineering Department for various easement arrangement in relation to the proposed 2-mile pipeline route. As a result, we could conceivably issue a "conceptual" type permit now, contingent on satisfactory completion of the below tasks or milestones later:

- (i) Complete negotiation with the above entities, and finalize the proposed pipeline route.**
- (ii) Department staff to conduct a walk-through of the pipeline route after it is finalized.**
- (iii) Submit the final engineering plans for the pipeline and related pumping appurtenance, canal intake and discharge structures, erosion and sediment control devices, etc.**
- (iv) Submit the initial canal water (test water source) sampling results, and identify any chemical and/or physical water treatment steps that may be deemed necessary.**

Please suggest a reasonable time frame to be included in the permit, for the permittee to complete, and allow our review, the above tasks in advance of the canal water withdrawal. We request the time frame proposed should not be under a 120 to 180 day period.

The applicant requests that the Department issue a conceptual-type permit with conditions to satisfy these tasks or milestones in advance of the canal water withdrawal for the hydrotest. The applicant agrees 120 to 180 days prior to beginning withdrawals at the canal is a reasonable timeframe for these permit conditions. The Department's Wastewater Program personnel should be aware that permit and approval for this temporary pipelines alignment is currently being considered by the Department under the application for an Environmental Resource Permit File No. 43-0280459-002 and by the FERC under their Docket No. CP08-13-000.

Comment 3: Comment with respect to pipeline information other potential discharge location - Complete, no additional information is requested.

The applicant agrees.

Comment 4: Incomplete - The information provided to account for water "losses" during the tank and pipeline hydrotest is deemed adequate. To assist us to better understand the hydrostatic procedures, please provide a copy of the API 620 and DOT Part 192 test specifications referenced in your previous letter. Please also provide a synopsis or the main criteria of the proposed tests, in terms of test duration and water loss/pressure drop allowance. Will any specialty chemical dye be involved in the hydrostatic tests for leak detection purpose?

Copies of the relevant sections of the API 620 code and DOT Part 192 test specifications are included in Attachments B and C, respectively. The main criteria of the proposed tests, in terms of test duration and water loss/pressure drop allowance, are addressed in attachments.

The test duration for the LNG storage tank will be four to five weeks from the start of filling to completely empty. Tank testing will require approximately 31.5 million gallons of water, including an allowance of one million gallons for losses due to spillage that may occur within the transfer piping system.

The test duration for the pipeline will be two to three weeks from the start of filling to completely empty. Pipeline testing will require 500,000 gallons of water, with an allowance of an additional 500,000 gallons for losses.

No specialty chemical dye will be involved in the hydrostatic tests for leak detection purposes.

Comments 5 & 6: Incomplete - Please provide a list of parameters that are intended to be included in your initial canal water quality analysis, to determine the necessity of biocides or other water conditioners. Our permit would likely require that the Primary and Secondary Drinking Water Standards parameters be included in the initial analysis. Please examine if any other pollutants outside of the PDWS/SDWS list could be present in the test water drawdown.

The source of the water to be used for hydrotesting the tanks and pipelines must be analyzed for chemical and bacteria composition/content before use. The objective of the testing is to determine if the water contains harmful chemicals or bacteria that would adversely impact the integrity of the structure (i.e., produce structural damage) during the hydrostatic test duration. The API-620 Code provides the basis for the acceptable composition/content of the water to

be used for the hydrostatic test, and the relevant portions of this code are included in Attachment B. Samples of canal water will be collected and tested for the following parameters:

- Total hardness
- Total alkalinity
- pH
- Microbiologically influenced corrosion (MIC) causing bacteria.

Sample collection and analysis will be completed according to the following schedule:

- 6-months before expected withdrawal;
- 3-months before expected withdrawal; and
- 2 weeks before expected withdrawal.

No chemicals will be added to the water during the hydrotest, and the canal water will be filtered before pumping into the structures. Therefore, no pollutants are expected to be found in the water at concentrations exceeding those in the water before withdrawal.

The only possible water quality issues associated with the hydrotesting are the growth of bacteria and oxygen depletion during the hydrotesting period. Samples of the water in the tank will be collected and analyzed for MIC and oxygen content during the 2nd and 4th week of the hydrostatic test operation. In the unlikely event the water must be oxygenated before discharge to the source, the hydrostatic water can be routed through a multi-level cascade apparatus that will expose the water to air similar to water over a natural falls.

Should testing indicate that microbiologically influenced corrosion is a possibility, various treatment methods could be employed. Potential treatment products include chlorine, hydrogen peroxide, and other chemicals or biocides. The designer reports successful results with chlorination in the range of one to two parts per million on past similar projects. At this level of treatment, dechlorination has not been necessary. Dechlorination, if required, could be accomplished using sodium thiosulfate or other compounds.

Comment 7: Comment with respect to the tanks' basic dimensions - Complete, no additional information is requested.

The applicant agrees.

Comment 8: New comment - Please provide the project's application or reference number under FERC.

The FERC's Docket Number for this application is CP08-13-000.

Sincerely,

GOLDER ASSOCIATES INC.

Florida Certification of Authorization No. 1670

Kerem H. Esin, P.E
Senior Engineer
Florida Registration No. 54014

David T. Larocca.
Senior Engineer

Attachments:

Copy of Water Use Permit

Copy of Relevant Portions of API-620 Code

Copy of Relevant Portions of DOT Part 192 Test Specifications

cc: Brad Williams, Floridian Natural Gas Storage
David Sharp, Floridian Natural Gas Storage
Matt Stobart, CB&I
Earl Grine, CB&I

DL/KHE/rlm

H:\PROJECTS\2006proj\063-9587 Floridian Natural Gas Storage\0600 Civil\250 Final Reports\IWW Hydrostatic Test Water discharge\RAI_2\RAI_Response_05132008 to DEP discharge hydro.doc

ATTACHMENT A
Copy of Water Use Permit



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Permit No. 43-02186-W
Application No. 070731-11

April 21, 2008

FLORIDIAN NATURAL GAS STORAGE COMPANY LLC
(FLORIDIAN NATURAL GAS STORAGE)
1000 LOUISIANA STREET
HOUSTON, TX 77002

Dear Permittee:

Enclosed is your Permit as authorized by the Governing Board of the South Florida Water Management District at its meeting on April 10, 2008.

Special Conditions to your Permit require reports to be filed with this District. Please read these Conditions and use the enclosed form(s), as applicable, for your submittal of these required reports.

If you have any questions, please do not hesitate to contact this office.

Sincerely,

A handwritten signature in cursive script that reads "Elizabeth Veguilla".

Elizabeth Veguilla
Deputy Clerk
Environmental Resource Regulation Department

Enclosures

LIMITING CONDITIONS

1. This permit shall expire on December 31, 2012.
2. Application for a permit modification may be made at any time.
3. Water use classification:

Industrial water supply

4. Source classification is:

Surface Water from:
SFWMD Canal (C-44)

5. Annual allocation shall not exceed 32 MG.

Maximum monthly allocation shall not exceed 32.0112 MG.

6. Pursuant to Rule 40E-1.6105, F.A.C., Notification of Transfer of Interest in Real Property, within 30 days of any transfer of interest or control of the real property at which any permitted facility, system, consumptive use, or activity is located, the permittee must notify the District, in writing, of the transfer giving the name and address of the new owner or person in control and providing a copy of the instrument effectuating the transfer, as set forth in Rule 40E-1.6107, F.A.C.

Pursuant to Rule 40E-1.6107 (4), until transfer is approved by the District, the permittee shall be liable for compliance with the permit. The permittee transferring the permit shall remain liable for all actions that are required as well as all violations of the permit which occurred prior to the transfer of the permit.

Failure to comply with this or any other condition of this permit constitutes a violation and pursuant to Rule 40E-1.609, Suspension, Revocation and Modification of Permits, the District may suspend or revoke the permit.

This Permit is issued to:

Floridian Natural Gas Storage Company, Inc.
1000 Louisiana Street, Suite 4361
Houston, Texas 77002
713-614-7159

7. Withdrawal facilities:

Surface Water - Proposed:

1 - 8" x 50 HP X 1800 GPM1 centrifugal Pump

8. Permittee shall mitigate interference with existing legal uses that was caused in whole or in part by the permittee's withdrawals, consistent with the approved mitigation plan. As necessary to offset the interference, mitigation will include pumpage reduction, replacement of the impacted individual's equipment, relocation of wells, change in withdrawal source, or other means.

Interference to an existing legal use is defined as an impact that occurs under hydrologic conditions equal to or less severe than a 1 in 10 year drought event that results in the:

(1) Inability to withdraw water consistent with provisions of the permit, such as when remedial structural or operational actions not materially authorized by existing permits must be taken to address the

interference; or

(2) Change in the quality of water pursuant to primary State Drinking Water Standards to the extent that the water can no longer be used for its authorized purpose, or such change is imminent.

9. Permittee shall mitigate harm to existing off-site land uses caused by the permittee's withdrawals, as determined through reference to the conditions for permit issuance. When harm occurs, or is imminent, the District will require the permittee to modify withdrawal rates or mitigate the harm. Harm caused by withdrawals, as determined through reference to the conditions for permit issuance, includes:

(1) Significant reduction in water levels on the property to the extent that the designed function of the water body and related surface water management improvements are damaged, not including aesthetic values. The designed function of a water body is identified in the original permit or other governmental authorization issued for the construction of the water body. In cases where a permit was not required, the designed function shall be determined based on the purpose for the original construction of the water body (e.g. fill for construction, mining, drainage canal, etc.)

(2) Damage to agriculture, including damage resulting from reduction in soil moisture resulting from consumptive use; or

(3) Land collapse or subsidence caused by reduction in water levels associated with consumptive use.

10. Permittee shall mitigate harm to the natural resources caused by the permittee's withdrawals, as determined through reference to the conditions for permit issuance. When harm occurs, or is imminent, the District will require the permittee to modify withdrawal rates or mitigate the harm. Harm, as determined through reference to the conditions for permit issuance includes:

(1) Reduction in ground or surface water levels that results in harmful lateral movement of the fresh water/salt water interface,

(2) Reduction in water levels that harm the hydroperiod of wetlands,

(3) Significant reduction in water levels or hydroperiod in a naturally occurring water body such as a lake or pond,

(4) Harmful movement of contaminants in violation of state water quality standards, or

(5) Harm to the natural system including damage to habitat for rare or endangered species.

11. If any condition of the permit is violated, the permit shall be subject to review and possible modification, enforcement action, or revocation.
12. Authorized representatives of the District shall be permitted to enter, inspect, and observe the permitted system to determine compliance with special conditions.
13. The Permittee is advised that this permit does not relieve any person from the requirement to obtain all necessary federal, state, local and special district authorizations.
14. The permit does not convey any property right to the Permittee, nor any rights and privileges other than those specified in the Permit and Chapter 40E-2, Florida Administrative Code.
15. Permittee shall submit all data as required by the implementation schedule for each of the limiting conditions to: S.F.W.M.D., Supervising Hydrogeologist - Post-Permit Compliance, Water Use Regulation Dept. (4320), P.O. Box 24680, West Palm Beach, FL 33416-4680.
16. In the event of a declared water shortage, water withdrawal reductions will be ordered by the District in accordance with the Water Shortage Plan, Chapter 40E-21, F.A.C. The Permittee is advised that during a

water shortage, pumpage reports shall be submitted as required by Chapter 40E-21, F.A.C.

17. Prior to the use of any proposed water withdrawal facility authorized under this permit, unless otherwise specified, the Permittee shall equip each facility with a District-approved operating water use accounting system and submit a report of calibration to the District, pursuant to Section 4.1, Basis of Review for Water Use Permit Applications.

In addition, the Permittee shall submit a report of recalibration for the water use accounting system for each water withdrawal facility (existing and proposed) authorized under this permit every five years from each previous calibration, continuing at five-year increments.

18. Monthly withdrawals for each withdrawal facility shall be submitted to the District quarterly. The water accounting method and means of calibration shall be stated on each report.
19. No less than 30 days prior to initiating the withdrawals from the C-44 Canal, the permittee shall contact the Director of the South Florida Water Management District Operations and Maintenance Department to coordinate the withdrawals.
20. The Permittee shall submit to the District an updated Description of Surface Water Pumps (Table B) within one month of installation of the proposed pumps identifying the surface water source, local drainage district (if applicable), pump type, diameter, capacity and horsepower, intake elevation (feet, NGVD), and water use accounting method.

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Water Use Limiting Condition Compliance Report

Quarterly Report of Withdrawals From Wells and Surface Water Pumps

This Report must be completed and submitted to the District at the address shown as required by your Permit

Permit Number 43-02186-W

Project Name FLORIDIAN NATURAL GAS STORAGE

Issued to FLORIDIAN NATURAL GAS STORAGE COMPANY LLC

Address 1000 LOUISIANA STREET

City, State, Zip HOUSTON TX 77002

Phone / Fax No 7136147159 / 8665844065

E-mail BWilliams@floridiangasstorage.com

Return To:

South Florida Water Management District
Attn: Water Use Regulation Division (4320)
PO Box 24680
West Palm Beach, FL - 33416 - 4680

Water Withdrawals, Million Gallons

Requirement Name	District Identification Number	Month: _____ Year: _____	Month: _____ Year: _____	Month: _____ Year: _____	Accounting Method	Date Last Calibrated
Monthly withdrawal for Pump 1	220670					

Name of Person Completing Form _____

Signature: _____ Date: _____

Form 0188-QMON (08/03)

Printed: 04/10/2008

ATTACHMENT B

Copy of Relevant Portions of API-620 Code

Q.8 Testing the Tank in Contact with the Refrigerated Product

The provisions stated in this section are testing requirements for the tank refrigerated by the liquid contents. Provisions noted in Q.9 cover the outer tank, which is not in contact with the refrigerated liquid and is subject to a higher temperature that approaches atmospheric.

Q.8.1 General Procedure

Q.8.1.1 A thorough check for tightness and structural adequacy is essential for a single-wall tank or for the inner tank of a double-wall tank. Except as permitted by Q.8.6, the test shall be conducted after the entire tank is complete, before the insulation is applied. Except as limited by foundation or stress conditions, the test shall consist of filling the tank with water to the design liquid level and applying an overload air pressure of 1.25 times the pressure for which the vapor space is designed. Where foundation or stress conditions do not permit a test with water to the design liquid level, the height of water shall be limited as stated in Q.8.1.2 and Q.8.1.3.

Q.8.1.2 The load on the supporting foundation shall preferably not exceed the established allowable bearing value for the tank site. Where a thorough evaluation of the foundation justifies a temporary increase, the established allowable bearing may be increased for the test condition, but the increase shall be not more than 25%.

Q.8.1.3 The maximum fill shall not produce a stress in any part of the tank greater than 85% (may be 90% for stainless steel and aluminum materials) of the specified minimum yield strength of the material or 55% of the specified minimum tensile strength of the material.

Q.8.2 Test Preliminaries

Before the tank is filled with water, the procedures described in Q.8.2.1 through Q.8.2.5 shall be completed.

Q.8.2.1 All welded joints in the bottom and complete penetration and complete fusion sidewall-to-bottom welds shall be inspected by applying a solution film to the welds and pulling a partial vacuum of at least 3 lbf/in.² gauge above the welds by means of a vacuum box with a transparent top.

Q.8.2.2 When the sidewall-to-bottom weld in Q.8.2.1 does not have complete penetration and complete fusion, the initial weld passes, inside and outside of the shell, shall have all slag and nonmetals removed from the surface of the welds and the welds examined visually. After completion of the inside and outside fillet or partial penetration welds, the welds shall be tested by pressurizing the volume between the inside and outside welds with air pressure to 15 lbf/in.² gauge and applying a solution film to both welds. To assure that the air pressure reaches all parts of the welds, a sealed blockage in the annular passage between the inside and outside welds must be provided by welding at one or more points. Additionally, a small pipe coupling on the outside weld and communicating with the volume between the welds must be welded on each side of and adjacent to the blockages. The air supply must be connected at one end and a pressure gauge connected to a coupling on the other end of the segment under test.

Q.8.2.3 For 9% nickel tanks, all testing surfaces of bottom lap-welds and shell-to-bottom welds shall be cleaned by sandblasting or other adequate means before the vacuum box test to prevent slag or dirt from masking leaks.

Q.8.2.4 Where the pneumatic pressure to be applied in Q.8.4 will be equalized on both sides of the inner tank, all welded joints above the test water level shall be checked with a solution film and by a vacuum box inspection.

Q.8.2.5 The attachment fillet welds around bottom openings, which do not permit the application of air pressure behind their reinforcing plates, shall be inspected by applying a solution film and by a vacuum box inspection.

Q.8.3 Quality of Test Water

Q.8.3.1 The materials used in the construction of Appendix Q tanks may be subject to severe pitting, cracking, or rusting if they are exposed to contaminated test water for extended periods of time. The Purchaser shall specify a minimum quality of test water that conforms to Q.8.3.2 through Q.8.3.8. After the water test is completed, the tank shall be promptly drained, cleaned, and dried.

Q.8.3.2 Water shall be substantially clean and clear.

Q.8.3.3 Water shall have no objectionable odor (that is, no hydrogen sulfide).

Q.8.3.4 Water pH shall be between 6 and 8.3.

Q.8.3.5 Water temperature shall be below 120°F.

Q.8.3.6 For austenitic stainless steel tanks, the chloride content of the water shall be below 50 parts per million.

Q.8.3.7 For aluminum tanks, the mercury content of the water shall be less than 0.005 parts per million, and the copper content shall be less than 0.02 parts per million.

Q.8.3.8 If the water quality outlined in Q.8.3.1 through Q.8.3.7 cannot be achieved, alternative test methods that utilize suitable inhibitors (for example, Na_2CO_3 and/or NaO_3) may be used if agreed to by the Purchaser and the Manufacturer.

Q.8.4 Hydrostatic Test

Q.8.4.1 The tank shall be vented to the atmosphere when it is filled with or emptied of water.

Q.8.4.2 During water filling, the elevations of at least four equidistant points at the bottom of the tank shell and on top of the ringwall or slab shall be checked. Differential settlement, or uniform settlement of substantial magnitude, requires an immediate stop to water filling. Any further filling with water will depend on an evaluation of the measured settlement.

Q.8.4.3 The tank shall be filled with water to the design liquid level unless height is limited as noted in Q.8.1.

Q.8.4.4 After the tank is filled with water and before the pneumatic pressure is applied, anchorage, if provided, shall be tightened against the hold-down brackets.

Q.8.4.5 All welds in the shell, including the corner weld between the shell and the bottom, shall be visually checked for tightness.

Q.8.5 Pneumatic Pressure

Q.8.5.1 An air pressure equal to 1.25 times the pressure for which the vapor space is designed shall be applied to the enclosed space above the water level. In the case of a double-wall tank with an open-top inner tank, where the air pressure acts against the outer tank and the inner tank is thus not stressed by the air pressure, the inner tank may be emptied of water before the pneumatic pressure test begins.

Q.8.5.2 The test pressure shall be held for 1 hour.

Q.8.5.3 The air pressure shall be reduced until the design pressure is reached.

Q.8.5.4 Above the water level, all welded joints, all welds around openings, and all piping joints against which the pneumatic pressure is acting shall be checked with a solution film. A visual inspection may be substituted for the solution-film inspection if the welded joint has previously been checked with a vacuum box. The solution-film inspection shall still be made, above the water level, on all welds around openings, all piping joints, and the compression ring welds, including the attachment to the roof and shell.

Q.8.5.5 The opening pressure or vacuum of the pressure relief and vacuum relief valves shall be checked by pumping air above the water level and releasing the pressure and then partially withdrawing water from the tank.

Q.8.5.6 After the tank has been emptied of water and is at atmospheric pressure, the anchorage, if provided, shall be rechecked for tightness against the hold-down brackets.

Q.8.5.7 Air pressure, equal to the design pressure, shall be applied to the empty tank, and the anchorage, if provided, and the foundation shall be checked for uplift.

Q.8.5.8 All welded seams in the bottom, and complete penetration and complete fusion sidewall-to-bottom welds, shall be inspected by means of a vacuum box test as described in Q.8.2.1. Sidewall-to-bottom welds not having complete penetration and complete fusion shall be inspected by means of either a vacuum box test of the inside weld as described in Q.8.2.1, or where approved by the Purchaser, a direct pressure solution film test as described in Q.8.2.2. When direct pressure solution film testing is performed, temporary fittings placed in the corner weld shall be removed and the location repair welded after the hydrostatic, pneumatic, and direct pressure solution film tests are all complete.

Q.8.6 Temporary Openings after Hydrostatic Test

When approved by the Purchaser in writing, and only in the case of tanks which when complete have no shell penetrations, it is permitted to restore by welding up to four temporary shell openings after the hydrostatic test in accordance with the provisions of this section.

Q.8.6.1 Each temporary opening shall be restored by the insertion of a shell plate that matches the thickness and specification of adjacent shell material, and is welded into place with full fusion butt-welds. The insert plate shall be round with diameter no less than 24 in. and no greater than 42 in.

Q.8.6.2 The insert plate weld shall not cross any shell seams and shall be at least the greater of 10 times the shell thickness or 12 in. from any other weld in the shell including shell seams, shell-to-bottom weld or attachment welds.

Q.8.6.3 The butt weld around the periphery of the plate shall be examined over 100% of its length by both liquid penetrant method and radiographic method. The liquid penetrant examination is required on the root pass, on the back-gouged surface, and on the inside and outside finished weld surfaces. Additionally, the weld shall be vacuum box leak tested.

Q.9 Testing the Outer Tank of a Double-wall Refrigerated Tank

Q.9.1 General

The tightness test shall be made before insulation is installed. Where the pneumatic pressure described in Q.8.5 acts against the outer tank, the testing requirements of Q.8.5 will result in a check of the outer tank, and the procedure outlined in Q.9.2.1 through Q.9.2.5 may be omitted.

Q.9.2 Test Procedure

Q.9.2.1 The inner tank shall be opened to the atmosphere, and a sufficient amount of water shall be added to the inner tank to balance the upward pressure against the inner tank bottom produced by the pneumatic test of the outer tank; as an alternative, the pressure between the inner and outer tanks can be equalized.

ATTACHMENT C

Copy of Relevant Portions of DOT Part 192 Test Specifications

§ 192.491

[Amdt. 192-101, 70 FR 61575, Oct. 25, 2005]

§ 192.491 Corrosion control records.

(a) Each operator shall maintain records or maps to show the location of cathodically protected piping, cathodic protection facilities, galvanic anodes, and neighboring structures bonded to the cathodic protection system. Records or maps showing a stated number of anodes, installed in a stated manner or spacing, need not show specific distances to each buried anode.

(b) Each record or map required by paragraph (a) of this section must be retained for as long as the pipeline remains in service.

(c) Each operator shall maintain a record of each test, survey, or inspection required by this subpart in sufficient detail to demonstrate the adequacy of corrosion control measures or that a corrosive condition does not exist. These records must be retained for at least 5 years, except that records related to §§192.465 (a) and (e) and 192.475(b) must be retained for as long as the pipeline remains in service.

[Amdt. 192-78, 61 FR 28785, June 6, 1996]

Subpart J—Test Requirements

§ 192.501 Scope.

This subpart prescribes minimum leak-test and strength-test requirements for pipelines.

§ 192.503 General requirements.

(a) No person may operate a new segment of pipeline, or return to service a segment of pipeline that has been relocated or replaced, until—

(1) It has been tested in accordance with this subpart and §192.619 to substantiate the maximum allowable operating pressure; and

(2) Each potentially hazardous leak has been located and eliminated.

(b) The test medium must be liquid, air, natural gas, or inert gas that is—

(1) Compatible with the material of which the pipeline is constructed;

(2) Relatively free of sedimentary materials; and

(3) Except for natural gas, nonflammable.

(c) Except as provided in §192.505(a), if air, natural gas, or inert gas is used

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as the test medium, the following maximum hoop stress limitations apply:

Class location	Maximum hoop stress allowed as percentage of SMYS	
	Natural gas	Air or inert gas
1	80	80
2	30	75
3	30	50
4	30	40

(d) Each joint used to tie in a test segment of pipeline is excepted from the specific test requirements of this subpart, but each non-welded joint must be leak tested at not less than its operating pressure.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-58, 53 FR 1635, Jan. 21, 1988; Amdt. 192-60, 53 FR 36029, Sept. 16, 1988; Amdt. 192-60A, 54 FR 5485, Feb. 3, 1989]

§ 192.505 Strength test requirements for steel pipeline to operate at a hoop stress of 30 percent or more of SMYS.

(a) Except for service lines, each segment of a steel pipeline that is to operate at a hoop stress of 30 percent or more of SMYS must be strength tested in accordance with this section to substantiate the proposed maximum allowable operating pressure. In addition, in a Class 1 or Class 2 location, if there is a building intended for human occupancy within 300 feet (91 meters) of a pipeline, a hydrostatic test must be conducted to a test pressure of at least 125 percent of maximum operating pressure on that segment of the pipeline within 300 feet (91 meters) of such a building, but in no event may the test section be less than 600 feet (183 meters) unless the length of the newly installed or relocated pipe is less than 600 feet (183 meters). However, if the buildings are evacuated while the hoop stress exceeds 50 percent of SMYS, air or inert gas may be used as the test medium.

(b) In a Class 1 or Class 2 location, each compressor station regulator station, and measuring station, must be tested to at least Class 3 location test requirements.

(c) Except as provided in paragraph (e) of this section, the strength test must be conducted by maintaining the pressure at or above the test pressure for at least 8 hours.

(d) If a component other than pipe is the only item being replaced or added to a pipeline, a strength test after installation is not required, if the manufacturer of the component certifies that—

(1) The component was tested to at least the pressure required for the pipeline to which it is being added;

(2) The component was manufactured under a quality control system that ensures that each item manufactured is at least equal in strength to a prototype and that the prototype was tested to at least the pressure required for the pipeline to which it is being added; or

(3) The component carries a pressure rating established through applicable ASME/ANSI, MSS specifications, or by unit strength calculations as described in § 192.143.

(e) For fabricated units and short sections of pipe, for which a post installation test is impractical, a pre-installation strength test must be conducted by maintaining the pressure at or above the test pressure for at least 4 hours.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-85, 63 FR 37504, July 13, 1998; Amdt. 192-94, 69 FR 32895, June 14, 2004; Amdt. 195-94, 69 FR 54592, Sept. 9, 2004]

§ 192.507 Test requirements for pipelines to operate at a hoop stress less than 30 percent of SMYS and at or above 100 p.s.i. (689 kPa) gage.

Except for service lines and plastic pipelines, each segment of a pipeline that is to be operated at a hoop stress less than 30 percent of SMYS and at or above 100 p.s.i. (689 kPa) gage must be tested in accordance with the following:

(a) The pipeline operator must use a test procedure that will ensure discovery of all potentially hazardous leaks in the segment being tested.

(b) If, during the test, the segment is to be stressed to 20 percent or more of SMYS and natural gas, inert gas, or air is the test medium—

(1) A leak test must be made at a pressure between 100 p.s.i. (689 kPa) gage and the pressure required to produce a hoop stress of 20 percent of SMYS; or

(2) The line must be walked to check for leaks while the hoop stress is held at approximately 20 percent of SMYS.

(c) The pressure must be maintained at or above the test pressure for at least 1 hour.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-58, 53 FR 1635, Jan. 21, 1988; Amdt. 192-85, 63 FR 37504, July 13, 1998]

§ 192.509 Test requirements for pipelines to operate below 100 p.s.i. (689 kPa) gage.

Except for service lines and plastic pipelines, each segment of a pipeline that is to be operated below 100 p.s.i. (689 kPa) gage must be leak tested in accordance with the following:

(a) The test procedure used must ensure discovery of all potentially hazardous leaks in the segment being tested.

(b) Each main that is to be operated at less than 1 p.s.i. (6.9 kPa) gage must be tested to at least 10 p.s.i. (69 kPa) gage and each main to be operated at or above 1 p.s.i. (6.9 kPa) gage must be tested to at least 90 p.s.i. (621 kPa) gage.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-58, 53 FR 1635, Jan. 21, 1988; Amdt. 192-85, 63 FR 37504, July 13, 1998]

§ 192.511 Test requirements for service lines.

(a) Each segment of a service line (other than plastic) must be leak tested in accordance with this section before being placed in service. If feasible, the service line connection to the main must be included in the test; if not feasible, it must be given a leakage test at the operating pressure when placed in service.

(b) Each segment of a service line (other than plastic) intended to be operated at a pressure of at least 1 p.s.i. (6.9 kPa) gage but not more than 40 p.s.i. (276 kPa) gage must be given a leak test at a pressure of not less than 50 p.s.i. (345 kPa) gage.

(c) Each segment of a service line (other than plastic) intended to be operated at pressures of more than 40 p.s.i. (276 kPa) gage must be tested to at least 90 p.s.i. (621 kPa) gage, except that each segment of a steel service line stressed to 20 percent or more of

§ 192.513

SMYS must be tested in accordance with § 192.507 of this subpart.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-74, 61 FR 18517, Apr. 26, 1996; Amdt 192-85, 63 FR 37504, July 13, 1998]

§ 192.513 Test requirements for plastic pipelines.

(a) Each segment of a plastic pipeline must be tested in accordance with this section.

(b) The test procedure must insure discovery of all potentially hazardous leaks in the segment being tested.

(c) The test pressure must be at least 150 percent of the maximum operating pressure or 50 p.s.i. (345 kPa) gage, whichever is greater. However, the maximum test pressure may not be more than three times the pressure determined under § 192.121, at a temperature not less than the pipe temperature during the test.

(d) During the test, the temperature of thermoplastic material may not be more than 100°F (38°C), or the temperature at which the material's long-term hydrostatic strength has been determined under the listed specification, whichever is greater.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-77, 61 FR 27793, June 3, 1996; 61 FR 45905, Aug. 30, 1996; Amdt. 192-85, 63 FR 37504, July 13, 1998]

§ 192.515 Environmental protection and safety requirements.

(a) In conducting tests under this subpart, each operator shall insure that every reasonable precaution is taken to protect its employees and the general public during the testing. Whenever the hoop stress of the segment of the pipeline being tested will exceed 50 percent of SMYS, the operator shall take all practicable steps to keep persons not working on the testing operation outside of the testing area until the pressure is reduced to or below the proposed maximum allowable operating pressure.

(b) The operator shall insure that the test medium is disposed of in a manner that will minimize damage to the environment.

§ 192.517 Records.

(a) Each operator shall make, and retain for the useful life of the pipeline,

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a record of each test performed under §§ 192.505 and 192.507. The record must contain at least the following information:

(1) The operator's name, the name of the operator's employee responsible for making the test, and the name of any test company used.

(2) Test medium used.

(3) Test pressure.

(4) Test duration.

(5) Pressure recording charts, or other record of pressure readings.

(6) Elevation variations, whenever significant for the particular test.

(7) Leaks and failures noted and their disposition.

(b) Each operator must maintain a record of each test required by §§ 192.509, 192.511, and 192.513 for at least 5 years.

[35 FR 13257, Aug. 19, 1970, as amended by Amdt. 192-93, 68 FR 53901, Sept. 15, 2003]

Subpart K—Up-rating

§ 192.551 Scope.

This subpart prescribes minimum requirements for increasing maximum allowable operating pressures (up-rating) for pipelines.

§ 192.553 General requirements.

(a) *Pressure increases.* Whenever the requirements of this subpart require that an increase in operating pressure be made in increments, the pressure must be increased gradually, at a rate that can be controlled, and in accordance with the following:

(1) At the end of each incremental increase, the pressure must be held constant while the entire segment of pipeline that is affected is checked for leaks.

(2) Each leak detected must be repaired before a further pressure increase is made, except that a leak determined not to be potentially hazardous need not be repaired, if it is monitored during the pressure increase and it does not become potentially hazardous.

(b) *Records.* Each operator who up-rates a segment of pipeline shall retain for the life of the segment a record of each investigation required by this subpart, of all work performed, and of