



Marina Wayman/WUTC

01/30/2004 10:22 AM

To thomas.finch@rspa.dot.gov

Kim West/WUTC@WUTC, Alan Rathbun/WUTC@WUTC,
cc Lindsay Walker/WUTC@WUTC, Scott
Rukke/WUTC@WUTC, Samuel Hicks/WUTC@WUTC

bcc

Subject St of WA - Peer Review of Williams Gas Pipeline
West-Plymouth (LNG) Plant (WUTC docket: PG-032009)

Hi Tom,

We have attached the following documents for your review of the Williams Gas Pipeline West - Plymouth Liquefied Natural Gas (LNG) Plant inspection (PG-032009) conducted by WUTC inspector Scott Rukke.

- Post Inspection Memo
- IOCS Data Form
- Standard Inspection Report for an LNG Facility

There were no violation during the inspection.

Please do not hesitate to contact me or Lindsay if you have any questions or concerns. Thanks!



PIM.doc IOCS .doc Form 4 - Standard_Lng_Insp 9-30-2003.doc

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Pipeline Safety Division
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POST INSPECTION MEMORANDUM

Director Approval: Chris Hoidal CH #5/04

Peer Review: Tom Finch TF on Feb. 3, 2004

Inspector Review: Scott Rukke for SR by TF

Senior Engineer Review: Kim West for KW by TF

Tracking Number: PG-032009

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RECORDS MANAGEMENT
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STATE OF WASH.
UTIL. AND TRANSP.
COMMISSION

Date: January 26, 2004

Operator Inspected:

Williams Gas Pipeline West
295 Chipeta Way
Salt Lake City, UT 84108

Opid: 3845

Region: Western

Unit Inspected: Plymouth Liquefied Natural Gas (LNG) Plant
Plymouth District
PO Box 550
Umatilla, OR 97882

Unit ID: 1155

Unit Type: Natural Gas Peak Shaving LNG Storage Facility

Inspection Type: Standard

Record Location: Plymouth, Washington

Inspection Dates: December 15 through December 19, 2003

AFOD: Eight (Scott Rukke – 5 days, Sam Hicks – 3 days)

Operator Contact: Larry Olson, Compliance Officer

Phone: (801) 584-6117 **Fax:** (801) 584-6768 **Emergency:** (800) 453-3810

Inspector(s): Scott Rukke, Sam Hicks

Unit Description: Peak Shaving LNG Storage Facility

Facilities Inspected:

The LNG facility consists of two storage tanks with a capacity of 348,000 bbl each 90 feet tall. The liquefaction process consists of two, 6MMCFD cold towers, each operated as an integrated cascade loop system. The facility includes four vaporizers rated at 75MMCFD. LNG 1 was placed in operation in 1975 and LNG 2 was placed in operation in 1979. Both LNG system 1 and LNG system 2 share use of the four vaporizers. The facility is located approximately 45 minutes southwest of Pasco, Washington, west of Interstate 395 and south of Highway 82, in Plymouth, Washington. The Plymouth LNG facility uses an integrated cascade loop liquefaction process to produce and store LNG gas during the summer months as a peak shaving operation. The LNG can then be vaporized and injected into the pipeline during times of higher than normal demand. LNG boil off is re-injected into the pipeline.

The entire facility, including both tanks and facility grounds were inspected. A complete review of the Operations and Maintenance (O&M) Manual and records was conducted. Emphasis was placed on the

inspection of the control room equipment and operations. Tank instrumentation data was reviewed through the control room SCADA system for verification of compliance with the requirements of Part 193.2209. Fire detectors in the LNG 1 compressor building, the refrigerant storage area, propane storage area and the loading facilities were physically tested with an ultraviolet light source. The following fire detectors were tested and monitored in the control room for activation: F-1, F-2, F-3, F-4, F-5, F-6, F-7, F-8, F-20, F-21, F-22, F-23, F-24, and F-29. All detectors operated and locked out as designed. Fire detector F-7 tripped F-8 on the control room panel and F-8 tripped F-7 on the control room panel. This was corrected at the time of the inspection. Fire detector F-3 is slightly out of alignment for the area to be monitored and will be realigned ASAP. The Emergency Shut Down (ESD) switch was activated on the LNG 1 building to verify proper function and alarm. The ESD functioned as designed when tested.

The following gas detectors were tested in the LNG 1 compressor building and monitored in the control room for activation: G-9 was tested, alarmed as designed both visually and audibly and the ventilation fan system activated. G-12 was tested, alarmed both audibly and visually as designed and the ventilation fan system activated. Gas heads G-42 and G-43 in the refrigerant storage area were tested and activated as designed. All gas head calibrations were within specifications. The auxiliary power supply room heat detectors were tested for radiant heat detection with a heat gun and monitored in the control room. The heat detectors functioned as designed and alarmed the control panel.

Cathodic protection test readings were taken for the following facilities: Auxiliary power fuel supply - 1.134v, Storage tank vent gas pipeline -0.951v, Fuel gas to liquefaction unit -0.912v, send out gas -0.980v, 22 inch mainline -1.461v. All cathodic protection test readings meet or exceed Williams adopted criteria of -0.85v and or the 100mv shift. Various components and exposed piping were visually inspected for any signs of coating damage or atmospheric corrosion.

Backup power supplies were visually inspected and the auxiliary power supply generator was started and monitored from the control room. Backup power supply functioned as designed. The back up battery power supply was visually inspected but not brought on-line.

Two relief valves were tested with nitrogen to ensure they relieved and reseated at the proper set points. Records indicate that the set points were required to be set at 700 psig for both valves. The valves opened at 702 psig, which is within tolerances allowed.

All fire extinguishers were checked for maintenance and on-site instructions for use. Permanent fire control nozzles and foam generators were visually inspected. The foam storage building and tanks were visually inspected. Personnel fire protection clothing was visually inspected. Plymouth has two areas designated as smoking areas. Both areas were marked as required and were outside areas designated as prohibited by Part 193.2805(a) (2).

A physical inspection was conducted of the tank foundations and various tank equipment and piping. Tank foundation and frost heave records were reviewed. The foundations were surveyed by a contracted survey service. Records indicate that minimal settling of the tank foundations has occurred since the original installations. Support systems for components and the pipe rack were visually inspected for settling and any other detrimental changes that could impair support. Heavy ice formations were observed around the LNG 2 tank pump but did not appear to be detrimental to the equipment. Diking, impound and runway systems were visually inspected on LNG 1 and LNG 2. The liquefaction refrigerant storage system and impound facilities were visually inspected. Cargo transfer areas and transfer hoses were visually inspected.

The perimeter enclosure was walked from the outside and inspected for any potential unauthorized entry

points and required signage.

Persons Interviewed:

Von Studor, District Manager
Larry Olson, Compliance, Williams Gas PL

Comments: This year's field inspection placed emphasis on LNG 1.

Recommendations: Continue to inspect the facility on a normal inspection cycle. During the 2004 inspection, place emphasis on the field inspection of LNG 2.

Attachments:

1. IOCS Form.
2. Standard Inspection Report for an LNG Facility.

Operator Information Needed for IOCS Database

Date of Inspection: Start Date 12/15/2003 End Date 12/19/2003

Number of Inspection Days: 8 **Name of Inspector(s):** Scott Rukke, Sam Hicks

Activity Type: 101

Activity Types: I01 Unit Inspection, I02 Construction Inspection, I03 Failure Investigation, I04 Public Complaint Investigation, I05 Specialized Inspection (See Guidance Attached).

Operator ID: 3845

Operator Name: Williams Gas Pipeline-West

Unit ID: 1155

Unit Name: Plymouth LNG Peak Shaving Plant

Unit Address: PO Box 550

City: Umatilla **State:** OR **Zip Code:** 97882

Line Segment(s) Inspected: N/A

Contact Name: Larry Olson

Contact Title: Compliance Officer

Contact Phone: (801) 584-6117 **Contact Fax:** (801) 584-6768

Comments: _____

Probable Violations: YES _____ NO X _____

If Probable Violations were found provide the following information regarding the compliance correspondence to be sent:

Name of Company Executive: _____

Executive Title: _____

Executive Address: _____

City: _____ **State:** _____ **Zip Code:** _____

Executive Phone: _____ **Executive Fax:** _____

STANDARD INSPECTION REPORT FOR AN LNG FACILITY

Name of Operator: Williams Pipeline West		
H.Q. Address: Williams Gas Pipeline West 295 Chipeta Way Salt Lake City, UT 84108	System/Unit Name and Address: Williams Gas pipeline West Plymouth District PO Box 550 Umatilla, OR 97882	
Co. Official: Randy Bernard, VP Operations Phone No.: (801) 584-6786 Fax No.: (801) 584-7919 Emergency Phone No.: Operator ID#:	Phone No.: (509) 783-2421 Fax No.: (509) 783-4717 Emergency Phone No.: (800) 453-3810 Unit Record ID#: #115 Activity Record ID#:	
Persons Interviewed	Titles	Phone No.
Von Studor	District Manager	(509) 783-2421
Larry Olson	Compliance, Williams Gas PL	(801) 548-6117
Jeff Pollack	Tech Specialist	
OPS Representative(s): Scott Rukke, Sam Hicks Date(s): Dec 15 – 19, 2003		
Company System Maps (copies for Region Files):		
Type of facility: <input type="checkbox"/> Base Load <input type="checkbox"/> Satellite <input type="checkbox"/> Peak Shaving <input checked="" type="checkbox"/> Mobile/Temporary <input type="checkbox"/>		
<small>Note: Mobile and temporary LNG facilities may meet the requirements of Section 2-3.4 of NFPA 59A (1996 edition) in lieu of the requirements of Part 193 per 193.2019.</small>		
Year Facility Was Placed In Operation:	LNG 1 in 1975 and LNG 2 in 1979	
Liquefaction Rate, MMCFD:	2 @ 6MMCFD	
Type Of Liquefaction Cycle:	Integrated Cascade Loop (MRL)	
Number Of Vaporizers & Capacities:	4 Vaporizers @ 75 MMCFD	
Storage Take Statistics	2 tanks @ 348,000 bbl (1.2BCF), Each tank is 90' tall, tank 1 Ni alloy inner tank,	
- (Fabricator, Volumes, Materials, etc.):	tank 2 Al alloy inner tank, both tanks mfd by PDM. No tank CP.	
Comments:		

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B	A	Paragraph	Description	S	U	N/A	N/C
		§193.2017	193.2011 REPORTING PROCEDURES				
✓	✓	191.5/191.3	Incident reporting.				
✓	✓		<ul style="list-style-type: none"> • Telephonically reporting incidents to NRC (800) 424-8802. 	X			
✓	✓		<ul style="list-style-type: none"> • Event that involves a release of gas or liquefied gas from an LNG facility. 	X			
✓	✓		<ul style="list-style-type: none"> • Event that involves an emergency shutdown. 	X			
✓	✓		<ul style="list-style-type: none"> • Death or personal injury requiring hospitalization. 	X			
✓	✓		<ul style="list-style-type: none"> • Property damage (includes cost of lost gas) of \$50,000 or more. 	X			
✓	✓		<ul style="list-style-type: none"> • Significant event (operator's judgment). 	X			
✓	✓	191.25(a)	Filing safety-related condition reports.				
✓	✓		<ul style="list-style-type: none"> • Within five (5) working days of determination? 	X			
✓	✓		<ul style="list-style-type: none"> • Within ten (10) working days of discovery? 	X			
<p><i>Comments (If any of the above are Unsatisfactory, please indicate why):</i></p>							
		§193.2017	193.2503 NORMAL OPERATING PROCEDURES				
✓	✓	.2503	Written operating procedures that cover the topics in (a) through (h) must be provided.				
✓	✓	.2503(a)	(*) Monitoring operating components and buildings for leaks, fires, and malfunctions that could cause a hazardous condition (see §193.2507).	X			
✓	✓	.2503(b)	Startup and shutdown, including initial startup and performance testing.	X			
✓	✓	.2503(c)	Recognizing abnormal operating conditions.	X			
✓	✓	.2503(d)	Purging and inerting (see §193.2517).	X			
✓	✓	.2503(e)	Maintaining the operation of vaporizers within design limits.	X			
✓	✓	.2503(f)	Maintaining the operation of liquefaction units within design limits.	X			
✓	✓	.2503(g)	Cooldown of components (see §193.2505).	X			
✓	✓	.2503(h)	(*) Complying with the fire protection plan.	X			
<p><i>Comments (If any of the above are Unsatisfactory, please indicate why):</i></p>							

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B	A	Paragraph	Description	S	U	N/A	N/C
		§193.2017	193.2509 EMERGENCY PROCEDURES				
✓	✓	.2509(a)	The operator must determine the types and locations of non-fire emergencies that could occur as a result of equipment malfunctions, structural collapse, personnel error, forces of nature, and activities adjacent to the plant.	X			
✓	✓	.2509(b)	Written emergency procedures that cover topics (b)(1) through (b)(4) must be provided.				
✓	✓	.2509(b)(1)	Responding to controllable emergencies.	X			
✓	✓	.2509(b)(2)	Recognizing and acting on uncontrollable emergencies.	X			
✓	✓	.2509(b)(3)	Coordinating evacuation plans with local authorities.	X			
✓	✓	.2509(b)(4)	Cooperating with local officials when mutual assistance is required, and keeping them informed of (i) - (iv).				
✓	✓	.2509(b)(4)(i)	Types, quantities, and locations of fire control equipment.	X			
✓	✓	.2509(b)(4)(ii)	Potential hazards at the plant, including fires.	X			
✓	✓	.2509(b)(4)(iii)	Communication and emergency control capabilities at the plant.	X			
✓	✓	.2509(b)(4)(iv)	The status of each emergency.	X			
Comments (If any of the above are Unsatisfactory, please indicate why): 							
		§193.2017	193.2511 PERSONNEL SAFETY PROCEDURES				
✓	✓	.2511(a)	Appropriate protective clothing and equipment must be provided for personnel who are performing emergency response duties.	X			
✓	✓	.2511(b)	Personnel at fixed locations must either be protected from the heat of fires or have a means of escape.	X			
✓	✓	.2511(c)	First aid materials must be available at a clearly marked location.	X			
Comments (If any of the above are Unsatisfactory, please indicate why): 							
		§193.2017	193.2513 TRANSFER PROCEDURES				
✓	✓	.2513(a)	Written procedures for transferring LNG and other hazardous fluids must be provided.	X			
✓	✓	.2513(b)	The procedures must include provisions for personnel to perform the tasks in (b)(1) through (b)(7).				
✓	✓	.2513(b)(1)	Before transfer, verify that the transfer system is ready for use and that the system has been purged (if necessary).	X			
✓	✓	.2513(b)(2)	Before transfer, verify that the receiving vessel does not contain an incompatible substance, and that it has enough available capacity to receive the amount of fluid to be transferred.	X			

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B	A	Paragraph	Description	S	U	N/A	N/C
✓	✓	.2513(b)(3)	Before transfer, verify the maximum filling volume of the receiving vessel to ensure that expansion of the incoming fluid (due to warming) will not result in overflowing or overpressure.	X			
✓	✓	.2513(b)(4)	When transferring LNG into a partially filled vessel, take whatever steps are necessary to prevent stratification.	X			
✓	✓	.2513(b)(5)	During transfer, keep an eye on transfer rates, liquid levels, and vapor returns in order to prevent overflowing or overpressuring.	X			
✓	✓	.2513(b)(6)	Manually terminate flow before overflowing or overpressuring occurs.	X			
✓	✓	.2513(b)(7)	After transfer, deactivate the cargo transfer system in a safe manner (depressuring, venting, disconnecting, etc.).	X			
✓	✓	.2513	Written procedures for cargo transfer must be located at the transfer area, and they must include provisions for personnel to perform the tasks in (c)(1) through (c)(7).				
✓	✓	.2513(c)(1)	Be in constant attendance during all cargo transfer operations.	X			
✓	✓	.2513(c)(2)	Whenever a truck is being driven in reverse in the transfer area, ensure that someone is positioned at the back of the truck to aid the driver.	X			
✓	✓	.2513(c)(3)	Before transfer, verify (c)(3)(i) through (c)(3)(iv).				
✓	✓	.2513(c)(3)(i)	Tank cars and tank trucks comply with applicable regulations.	X			
✓	✓	.2513(c)(3)(ii)	All transfer hoses have been visually inspected for damage and defects.	X			
✓	✓	.2513(c)(3)(iii)	Tank truck is electrically grounded and the wheels are chocked.	X			
✓	✓	.2513(c)(3)(iv)	Tank truck engine is off, unless it is needed for the transfer.	X			
✓	✓	.2513(c)(4)	If the truck engine is off during transfer, it is not to be restarted until the transfer lines are disconnected and any released vapors have dissipated.	X			
✓	✓	.2513(c)(5)	Prevent loading of LNG into a tank car or tank truck that is not in exclusive LNG service, unless specific tests have been performed.			X	
✓	✓	.2513(c)(6)	Verify that all transfer lines have been disconnected and equipment cleared before allowing the tank car or tank truck to move from the transfer position.			X	
✓	✓	.2513(c)(7)	Verify that transfers into a pipeline system will not exceed the pressure or temperature limits of the pipeline.			X	
	✓	NFPA 59A 8-7.2.1	Prohibit vehicular traffic within 25 ft of cargo transfer facilities when loading/unloading an LNG truck.			X	
	✓		Prohibit vehicular traffic within 50 ft of cargo transfer facilities when loading/unloading a refrigerant truck.	X			
Comments (If any of the above are Unsatisfactory, please indicate why): No transfer of LNG is conducted at the Plymouth facility.							

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B	A	Paragraph	Description	S	U	N/A	N/C
§193.2017		193.2515 INVESTIGATION OF FAILURE PROCEDURES					
✓	✓	.2515	Each operator shall investigate the cause of each explosion, fire, or LNG spill or leak which results in:				
✓	✓	.2515(a)	The operator must investigate the cause of each explosion, fire, or LNG spill that results in (1) death or an injury that requires hospitalization, or (2) property damage in excess of \$10,000.	X			
✓	✓	.2515(b)	After an investigation, appropriate action must be taken to minimize a recurrence.	X			
✓	✓	.2515(c)	Operator must cooperate during post-accident investigations and should maintain the scene in its post-accident state (to the extent practical).	X			
Comments (If any of the above are Unsatisfactory, please indicate why): 							
§193.2017		193.2519 COMMUNICATION SYSTEM PROCEDURES					
✓	✓	.2519(a)	Primary communications system (verbal) for all employees and their assigned work stations.	X			
✓	✓	.2519(b)	Plants over 70,000 gallons storage capacity, must provide an emergency communication system separate from the primary and security communication systems in 193.2909.	X			
✓	✓	.2519(c)	Each communication system must have a backup power supply.	X			
Comments (If any of the above are Unsatisfactory, please indicate why): 							
§193.2017		193.2521 OPERATING RECORD PROCEDURES					
✓	✓	.2521	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.	X			
Comments (If any of the above are Unsatisfactory, please indicate why): 							
§193.2017		193.2605 MAINTENANCE PROCEDURES					
✓	✓	.2605(a)	The operator must establish a schedule for conducting the periodic inspections and tests required by Subpart G, and must perform those inspections and tests.	X			

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B	A	Paragraph	Description	S	U	N/A	N/C
§193.2017		193.2605 MAINTENANCE PROCEDURES (cont.)					
✓	✓	.2605(b)	Written procedures for maintenance and corrosion control (if applicable) of each component must be provided. These procedures must include the information called for in (b)(1) and (b)(2).				
✓	✓	.2605(b)(1)	Details of the inspections and tests (§193.2605(a)) and their frequencies.	X			
✓	✓	.2605(b)(2)	Descriptions of other actions needed to minimize the occurrence of leaks or spills, and to minimize the possibility of flammable fluids being ignited.	X			
✓	✓	.2605(c)	The maintenance manual must include instructions on how to recognize conditions that could be safety-related conditions that would need to be reported (191.23).	X			
<p><i>Comments (If any of the above are Unsatisfactory, please indicate why):</i></p>							
§193.2017		193.2609 SUPPORT SYSTEM PROCEDURES					
✓	✓	.2609	Foundations and support systems (e.g., pipe rack supports) must be inspected for changes that could impair their support.	X			
	✓	NFPA 59A 4-1.7.3	Each heating system beneath an LNG tank must be monitored at least weekly.			X	
	✓	NFPA 59A 4-1.7.5	A tank bottom temperature survey must be conducted on each LNG tank that employs a tank foundation heating system:				
	✓		• 6 months after the tank is placed in service.			X	
	✓		• annually after the first survey.			X	
	✓		• after an operating basis earthquake (OBE)			X	
	✓		• if there is any indication of an abnormally cool area.			X	
<p><i>Comments (If any of the above are Unsatisfactory, please indicate why):</i></p>							
§193.2017		193.2611 FIRE PROTECTION PROCEDURES					
✓	✓	.2611(a)	The maintenance schedule for fire control equipment must minimize the amount of equipment that is out of service at any one time.	X			
<p><i>Comments (If any of the above are Unsatisfactory, please indicate why):</i></p>							

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B	A	Paragraph	Description	S	U	N/A	N/C
		§193.2017	193.2613 AUXILIARY POWER SOURCE PROCEDURES				
✓	✓	.2613	Each auxiliary power source must be tested monthly to check its operational capability and tested annually for capacity. The capacity test must take into account the power needed to start up and simultaneously operate equipment that would have to be served by that power source in an emergency.	X			
Comments (If any of the above are Unsatisfactory, please indicate why): 							
		§193.2017	193.2615 ISOLATING AND PURGING PROCEDURES				
✓	✓	.2615(a)	Before personnel begin maintenance activities on components handling flammable fluids which are isolated for maintenance, the component must be purged in accordance with a procedure which meets the requirements of AGA "Purging Principles and Practice," unless the maintenance procedures under §193.2605 provide that the activity can be safely performed without purging.	X			
✓	✓	.2615(b)	If the component or maintenance activity provides an ignition source, a technique in addition to isolation valves (such as removing spool pieces or valves and blank flanging the piping, or double block and bleed valving) must be used to ensure that the work area is free of flammable fluids.	X			
Comments (If any of the above are Unsatisfactory, please indicate why): 							
		§193.2017	193.2617 REPAIR PROCEDURES				
✓	✓	.2617(b)	The maintenance procedures must include precautions to be taken when repairing a component while it is operating.	X			
Comments (If any of the above are Unsatisfactory, please indicate why): 							
		§193.2017	193.2619 CONTROL SYSTEM PROCEDURES				
✓	✓	.2619(a)	Each control system must be properly adjusted to operate within design limits.	X			
✓	✓	.2619(b)	If a control system is out of service for 30 days or more, it must be inspected and tested for operational capability before returning it to service.	X			
✓	✓	.2619(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 calendar year, not exceeding 15 months, with the following exceptions: (1) Control systems used seasonally, such as for liquefaction or vaporization, must be inspected and tested before use each season. (2) Control systems that are intended for fire protection must be inspected and tested at regular intervals not to exceed 6 months.	X			

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B	A	Paragraph	Description	S	U	N/A	N/C
§193.2017		193.2619 CONTROL SYSTEM PROCEDURES (cont)					
✓	✓	.2619(d)	Control systems that are normally in operation, such as required by a base load system, must be inspected and tested once each calendar year but with intervals not exceeding 15 months.	X			
✓	✓	.2619(e)	Relief valves must be inspected and tested for verification of the valve seat lifting pressure and reseating.	X			
<p>Comments (If any of the above are Unsatisfactory, please indicate why):</p>							
§193.2017		193.2621 TESTING TRANSFER HOSE PROCEDURES					
✓	✓	.2621(a)	Hoses used for transferring LNG or flammable refrigerant must be tested to the maximum pump pressure or the relief valve setting (whichever is less) once each calendar year, with intervals not to exceed 15 months.	X			
✓	✓	.2621(b)	Hoses used for transferring LNG or flammable refrigerant must be inspected for damage or defect before each use.	X			
<p>Comments (If any of the above are Unsatisfactory, please indicate why):</p>							
§193.2017		193.2623 INSPECTING LNG STORAGE TANKS					
✓	✓	.2623	Storage tanks and their foundations must be inspected or tested to verify that the structural integrity or safety has not been impaired by conditions (a) through (d).				
✓	✓	.2623(a)	Foundation and tank movement during normal operation and after each major meteorological or geophysical disturbance.	X			
✓	✓	.2623(b)	Inner tank leakage.	X			
✓	✓	.2623(c)	Effectiveness of insulation.	X			
✓	✓	.2623(d)	Frost heave.	X			
<p>Comments (If any of the above are Unsatisfactory, please indicate why):</p>							

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B	A	Paragraph	Description	S	U	N/A	N/C
		§193.2017	193.2625 CORROSION PROTECTION PROCEDURES				
✓	✓	.2625(a)	Components that might have their integrity or reliability adversely affected by corrosion (internal, external, or atmospheric) must be identified.	X			
✓	✓	.2625(b)	Components identified in §193.2625(a) must either be (1) protected from corrosion, or (2) inspected and replaced on a regular basis.	X			
	✓	NFPA 59A 6-9.2	Special precautions to be taken with aluminum alloys and austenitic stainless steels.	X			
<p><i>Comments (If any of the above are Unsatisfactory, please indicate why):</i></p>							
		§193.2017	193.2627 ATMOSPHERIC CORROSION PROCEDURES				
✓	✓	.2627	Components subject to atmospheric corrosion must either be;				
✓	✓	.2627(a)	<ul style="list-style-type: none"> • made of a material that resists such corrosion, or 	X			
✓	✓	.2627(b)	<ul style="list-style-type: none"> • be protected by a suitable coating or jacketing. 	X			
<p><i>Comments (If any of the above are Unsatisfactory, please indicate why):</i></p>							
		§193.2017	193.2629 EXTERNAL CORROSION CONTROL PROCEDURES, BURIED OR SUBMERGED COMPONENTS				
✓	✓	.2629(a)	Buried or submerged components that are subject to external corrosion must be:				
✓	✓	.2629(a)(1)	<ul style="list-style-type: none"> • made of a material that resists such corrosion, or 	X			
✓	✓	.2629(a)(2)(i)	<ul style="list-style-type: none"> • protected by an external protective coating that meets 192.461, or 	X			
✓	✓	.2629(a)(2)(ii)	<ul style="list-style-type: none"> • protected by a cathodic protection system that meets 192.463 (within one year of construction or installation). 	X			
	✓	NFPA 59A 6-9.1	Buried or submerged piping must be protected and maintained in accordance with NACE RP 0169.			X	
✓	✓	.2629(b)	Where cathodic protection is applied, electrically interconnected components must be protected as a unit.	X			
<p><i>Comments (If any of the above are Unsatisfactory, please indicate why):</i></p>							

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B	A	Paragraph	Description	S	U	N/A	N/C
		§193.2017	193.2631 INTERNAL CORROSION CONTROL PROCEDURES				
✓	✓	.2631	Components subject to internal corrosion must either be:				
✓	✓	.2631(a)	• made of a material that resists such corrosion, or	X			
✓	✓	.2631(b)	• protected by a suitable coating, inhibitor, or other means.	X			
	✓	NFPA 59A 4-1.7.3	If electric heating elements within conduits are used beneath LNG tanks, provisions must be made to protect against galvanic corrosion of the conduits and heaters.	X			
<p>Comments (If any of the above are Unsatisfactory, please indicate why):</p>							
		§193.2017	193.2633 INTERFERENCE CURRENT PROCEDURES				
✓	✓	.2633(a)	Components subject to electrical current interference must be protected by a continuing program to minimize the detrimental effects of such currents.	X			
✓	✓	.2633(b)	Each cathodic protection system must be designed and installed such that the detrimental effects it might have on adjacent metal components are minimized.	X			
✓	✓	.2633(c)	Each impressed current power source must be installed and maintained in a manner that prevents adverse interference with communication and control systems.	X			
<p>Comments (If any of the above are Unsatisfactory, please indicate why):</p>							
		§193.2017	193.2635 MONITORING CORROSION CONTROL PROCEDURES				
✓	✓	.2635(a)	Each buried or submerged component must be tested at least once each calendar year, with intervals not to exceed 15 months.	X			
✓	✓	.2635(b)	Each cathodic protection rectifier or other impressed current power source must be inspected at least 6 times per year, with intervals not to exceed 2½ months.	X			
✓	✓	.2635(c)	Each reverse current switch and diode must be checked at least 6 times per year, with intervals not to exceed 2½ months.	X			
✓	✓		Each interference bond whose failure would jeopardize component protection must be checked at least 6 times per year, with intervals not to exceed 2½ months.	X			
✓	✓		All other interference bonds must be checked at least once each calendar year, with intervals not to exceed 15 months.	X			
✓	✓	.2635(d)	Each component that is protected from atmospheric corrosion must be inspected at intervals not exceeding 3 years.	X			
✓	✓	.2635(e)	If corrosion coupons or probes are used to monitor internal corrosion, they must be checked at least twice each calendar year, with intervals not to exceed 7½ months.	X			
<p>Comments (If any of the above are Unsatisfactory, please indicate why):</p>							

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B	A	Paragraph	Description	S	U	N/A	N/C
		§193.2017 193.2637 REMEDIAL MEASURE PROCEDURES					
✓	✓	.2637	Prompt remedial action must be taken whenever corrosion control deficiencies are found.	X			
Comments (If any of the above are Unsatisfactory, please indicate why):							
		§193.2017 193.2711 PERSONNEL HEALTH					
✓	✓	.2711	Must have a written plan for evaluating the health and physical condition of personnel assigned operations, maintenance, security, or fire protection duties.	X			
Comments (If any of the above are Unsatisfactory, please indicate why):							
		§193.2017 193.2713 TRAINING PROCEDURES: OPERATIONS AND MAINTENANCE					
✓	✓	.2713(a)(1)	New permanent maintenance, operating, and supervisory personnel must receive initial training in the following subjects. The training must be based on a written plan.	X			
✓	✓	.2713(a)(1)(i)	Characteristics and hazards of LNG and other flammable fluids handled at the plant.				
✓	✓		• Low boiling point and storage temperature (-260°F).	X			
✓	✓		• Flammable limits of natural gas (5% to 15% in air).	X			
✓	✓		• LNG and its vapor are odorless.	X			
✓	✓		• LNG boiloff characteristics	X			
✓	✓		• LNG reaction to water and water spray.	X			
✓	✓	.2713(a)(1)(ii)	Potential hazards involved in operations and maintenance.	X			
✓	✓	.2713(a)(1)(iii)	How to carry out operations and maintenance procedures that relate to their assigned functions.	X			
✓	✓	.2713(a)(2)	All new personnel must receive initial training in the following subjects. The training must be based on a written plan.	X			
✓	✓	.2713(a)(2)(i)	How to carry out the emergency procedures that relate to their assigned functions (see §193.2509).	X			
✓	✓	.2713(a)(2)(ii)	How to administer first aid.	X			
✓	✓	.2713(a)(3)	All operating personnel and appropriate supervisory personnel must receive initial training in the following subjects. The training must be based on a written plan.	X			
✓	✓	.2713(a)(3)(i)	Detailed instructions on facility operations, including:				
✓	✓		• Controls.	X			
✓	✓		• Functions.	X			

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B	A	Paragraph	Description	S	U	N/A	N/C
		§193.2017	193.2713 TRAINING PROCEDURES, OPERATIONS AND MAINTENANCE (cont)				
✓	✓		• Operating procedures.	X			
✓	✓	.2713(a)(3)(ii)	LNG transfer procedures (see §193.2513).	X			
✓	✓	.2713(b)	At intervals not to exceed two years, all personnel must receive refresher training in the subjects in which they received initial training. Refresher training must be based on a written plan.	X			
Comments (If any of the above are Unsatisfactory, please indicate why):							
		§193.2017	193.2715 TRAINING, SECURITY				
✓	✓	.2715(a)	Personnel responsible for security at an LNG plant must receive initial training in the following subjects. The training must be based on a written plan.	X			
✓	✓	.2715(a)(1)	How to recognize breaches of security.	X			
✓	✓	.2715(a)(2)	How to carry out security procedures that relate to their assigned duties (see §193.2903).	X			
✓	✓	.2715(a)(3)	Whatever plant operations and emergency procedures they need to know to effectively perform their assigned duties.	X			
✓	✓	.2715(a)(4)	How to recognize conditions that call for security assistance.	X			
✓	✓	.2715(b)	At intervals not to exceed two years, all personnel having security duties must receive refresher (current) plant security training.	X			
Comments (If any of the above are Unsatisfactory, please indicate why):							
		§193.2017	193.2717 TRAINING, FIRE PROTECTION PROCEDURES				
✓	✓	.2717(a)	(*) All operations and maintenance personnel, and their immediate supervisors, must receive initial training in the following subjects. The training must be based on a written plan.	X			
✓	✓	.2717(a)(1)	(*) Fire prevention procedures under §193.2805(b). (With respect to areas determined under paragraph (a)(2) of this section, each operator shall include in the operating and maintenance procedures under paragraphs 193.2503 and 193.2505, as appropriate, steps necessary to minimize - (1) The leakage or release of flammable fluids; and (2) The possibility of flammable fluids being ignited by sources identified under paragraph (a)(1) of this section.)	X			

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B	A	Paragraph	Description	S	U	N/A	N/C
		§193.2017	193.2717 TRAINING; FIRE PROTECTION PROCEDURES (cont)				
✓	✓	.2717(a)(2)	(*) Potential causes and areas of fires identified in §193.2805(a). <i>(Each operator shall determine -</i> <i>(1) Those potential sources of ignition located inside and adjacent to the LNG plant which could cause fires that effect safety of the plant; and</i> <i>(2) Those areas, as described in section 500-5 of ANSI/NFPA 70, where the potential exists for the presents of flammable fluids in an LNG plant.</i> <i>Determinations made under this paragraph must be kept current.)</i>	X			
✓	✓	.2717(a)(3)	(*) Potential hazards of the fires identified in §193.2817(a). <i>(See next page)</i>	X			
✓	✓	.2717(a)(4)	(*) Their assigned fire control duties, established in §193.2509, and the proper use of fire control equipment provided under §193.2817. <i>(See next page)</i>	X			
✓	✓	.2717(b)	(*) At intervals not to exceed two years, all operations and maintenance personnel, and their immediate supervisors, must receive refresher fire protection training. This training must include fire drills and must be based on a written plan.	X			
<p>Comments <i>(If any of the above are Unsatisfactory, please indicate why):</i></p>							
		§193.2017	193.2807 SMOKING PROCEDURES				
✓		.2807(a)(1)	(*) Smoking is prohibited in areas in which there is a potential for the release of flammable fluid.	X			
	✓	NFPA 59A	Smoking is prohibited within protective enclosures.			X	
✓		.2807(a)(2)	(*) Smoking is allowed only in areas designated as smoking areas.	X			
	✓	NFPA 59A	Smoking is allowed only in areas designated as smoking areas.			X	
✓		.2807(b)	(*) Smoking areas must be marked with SMOKING PERMITTED signs.	X			
	✓	NFPA 59A 9-2.1	Smoking areas must be signposted.			X	
✓		.2807(c)	(*) Nonsmoking areas must be marked with NO SMOKING signs.	X			
	✓	NFPA 59A	Loading and unloading areas must be marked with NO SMOKING signs.			X	
<p>Comments <i>(If any of the above are Unsatisfactory, please indicate why):</i></p>							
		§193.2017	193.2807 OPEN FIRES PROCEDURES				
✓		.2809(a)	(*) Open fires are prohibited, except for flare stacks and at times and places designated by the operator.	X			
✓		.2809(b)(1)	(*) Trained fire fighting personnel must be present at each designated open fire.	X			
✓		.2809(b)(2)	(*) Adequate fire control equipment must be located at the site of each designated open fire.	X			

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B	A	Paragraph	Description	S	U	N/A	N/C
§193.2017		193.2807 OPEN FIRES PROCEDURES (cont)					
✓		.2809(c)	(*) Fire fighting personnel and equipment must remain at the fire site until the fire is extinguished and there is no possibility of reignition.	X			
Comments (If any of the above are Unsatisfactory, please indicate why):							
§193.2017		193.2811 HOT WORK PROCEDURES					
✓		.2811	(*) Welding, flame cutting, etc., are permitted only when authorized by the operator in writing (hot work permit) and when constantly supervised in accordance with NFPA 51B.	X			
	✓	NFPA 59A 9-2.1	Welding, flame cutting, etc., are permitted only at times and places authorized, and must be done in accordance with NFPA 51B.			X	
Comments (If any of the above are Unsatisfactory, please indicate why):							
§193.2017		193.2813 STORAGE OF FLAMMABLE FLUID PROCEDURES					
✓		.2813	(*) Flammable fluids may not be stored in areas where ignition sources are present, unless they are stored in accordance with Chapter 4 of ANSI/NFPA 30.	X			
Comments (If any of the above are Unsatisfactory, please indicate why):							
§193.2017		193.2815 MOTORIZED EQUIPMENT PROCEDURES					
✓		.2815	(*) Any motorized equipment or vehicle that is a potential ignition source is prohibited within an impounding space, or within 50 ft of plant equipment that contains a flammable fluid, except when written permission is given by the operator and the equipment is constantly attended.	X			
	✓	NFPA 59A 9-2.2	Any motorized equipment or vehicle that is a potential ignition source is prohibited within an impounding space, or within 50 ft of plant equipment that contains LNG, flammable liquids, or flammable refrigerants, except when authorized and constantly attended.			X	
Comments (If any of the above are Unsatisfactory, please indicate why):							
§193.2017		193.2817 FIRE EQUIPMENT PROCEDURES					
✓		.2817(a)	(*) The operator must determine the types and sizes of fires that have a reasonable chance of occurring, and the foreseeable consequences of those "credible" fires.	X			
	✓	NFPA 59A 9-1.2	The operator must conduct a fire protection evaluation. (This would be expected to include the types and sizes of fires that might occur, and their consequences.)			X	

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B	A	Paragraph	Description	S	U	N/A	N/C
§193.2017		193.2817 FIRE EQUIPMENT PROCEDURES (cont)					
✓		.2817(b)	(*) Fire control equipment needed to protect or cool components that could fail due to heat from "credible" fires must be provided and maintained in accordance with ANSI/NFPA 59A.	X			
	✓	NFPA 59A 9-1.2(c)	The operator must provide methods for protecting equipment and structures from the effects of fire exposure.			X	
✓		.2817(b)(1)	(*) Fire control equipment must include suitable type(s) of portable fire extinguishers.	X			
	✓	NFPA 59A 9-6.1	Portable or wheeled fire extinguishers must be provided.			X	
✓		.2817(b)(2)	(*) A fire water supply and delivery system must be provided if the total inventory of LNG exceeds 70,000 gal.	X			
	✓	NFPA 59A 9-5.1	A fire water supply and delivery system must be provided, unless the fire protection evaluation (9-1.2) indicates that fire water is unnecessary or impractical.			X	
✓		.2817(c)	(*) The size, quantity, and location of fire control equipment and supplies required by §193.2817(b) must be determined.	X			
	✓	NFPA 59A 9-1.2(a)	The size, quantity, and location of fire control equipment must be determined.			X	
✓		.2817(d)	(*) Each facility worker who might be endangered by exposure to fire or smoke while performing fire control duties must be supplied with appropriate protective clothing and equipment (including SCBA, if necessary).	X			
	✓	NFPA 59A 9-9.2/9-9.3	Each facility worker who might be endangered by exposure to fire or smoke while performing fire control duties must be supplied with appropriate protective clothing and equipment (including SCBA, if necessary).			X	
✓		.2817(e)	(*) Fire control equipment and supplies, personal protective clothing and equipment, and controls for fixed fire control equipment must be clearly marked and readily accessible.	X			
	✓	NFPA 59A 9-3.5	Operating instructions identifying the location and operation of emergency controls must be posted conspicuously in the facility area.			X	
✓		.2817(f)	(*) Operating instructions must be attached to portable fire control equipment and placed at the controls of fixed fire control equipment.	X			
Comments (If any of the above are Unsatisfactory, please indicate why):							
§193.2017		193.2819 GAS DETECTION PROCEDURES					
✓		.2819(a)	(*) Areas identified as potential locations for releases of flammable fluids must be monitored by fixed gas detectors, if the release could pose a hazard to persons or property.	X			
	✓	NFPA 59A 9-4.1	Areas that have a potential for flammable gas concentration or spills of LNG or flammable refrigerant must be monitored for the presence of gas or spilled liquid.			X	

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B	A	Paragraph	Description	S	U	N/A	N/C
§193.2017		193.2819 GAS DETECTION PROCEDURES (con't)					
✓		.2819(b)	(*) Each fixed gas detector must have an audible and a visible alarm at an attended location, and an audible alarm in the area near the gas detector.	X			
	✓	NFPA 59A 9-4.2	Flammable gas detectors must activate visual and audible alarms at the plant site, and at an attended location if the facility is not constantly attended.			X	
✓		.2819(c)	(*) The alarm point of flammable gas detectors must be no higher than 25% of the LFL of the gas being monitored.	X			
	✓	NFPA 59A 9-4.2	The alarm point of flammable gas detectors must be no higher than 25% of the LFL of the gas being monitored.			X	
✓		.2819(d)	(*) Gas detection systems must be installed so that they can be readily tested as required by ANSI/NFPA 59A.	X			
	✓	NFPA 59A 9-4.4	Gas detector and low temperature detector tests and maintenance records.			X	
✓		.2819(e)	(*) At least two portable flammable gas detectors must be available for use at all times.	X			
	✓	NFPA 59A 9-9.4	At least one portable gas detector shall be readily available.			X	
✓		.2819(f)	(*) Each building that houses a flammable fluid or is connected to a source of flammable fluid by piping or uninterrupted conduit must be monitored by fixed gas detectors that have a visible or audible alarm outside the building.	X			
	✓	NFPA 59A 9-4.1	Each enclosed building that has a potential for flammable gas concentration or spills of LNG or flammable refrigerant must be monitored for the presence of gas.			X	
Comments (If any of the above are Unsatisfactory, please indicate why):							
§193.2017		193.2821 FIRE DETECTION PROCEDURES					
✓		.2821(a)	(*) Areas identified as potential locations for releases of flammable fluids, and areas used for storing flammable or combustible materials, must be monitored by fire detectors, if a fire in the area could pose a hazard to persons or property.	X			
	✓	NFPA 59A 9-4.1	Areas that have a potential for flammable gas concentration or spills of LNG or flammable refrigerant must be monitored for fires.			X	
✓		.2821(b)	(*) Each fire detection system must have an audible and a visible alarm at an attended location, and an audible alarm in the area in which the fire is detected.	X			
	✓	NFPA 59A 9-4.3	Fire detectors must sound an alarm at the plant site, and at an attended location if the facility is not constantly attended.			X	

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Comments (If any of the above are Unsatisfactory, please indicate why):

B	A	Paragraph	Description	S	U	N/A	N/C
§193.2017		193.2903 SECURITY PROCEDURES					
✓	✓	.2903	Written security procedures must be available at the plant. The procedures must discuss topics (a) through (g).				
✓	✓	.2903(a)	Description and schedule of security inspections and patrols.	X			
✓	✓	.2903(b)	A list of security personnel positions or responsibilities.	X			
✓	✓	.2903(c)	Brief description of the security duties of security personnel.	X			
✓	✓	.2903(d)	Description of actions to be taken when there is an actual or attempted breach of security.	X			
✓	✓	.2903(e)	Method(s) for determining which persons are allowed access to the LNG plant.	X			
✓	✓	.2903(f)	Positive identification of all persons who enter the plant, using a method at least as effective as picture badges.	X			
✓	✓	.2903(g)	Liaison with local law enforcement officials.	X			
<i>Comments (If any of the above are Unsatisfactory, please indicate why):</i>							
§193.2017		193.2907 PROTECTIVE ENCLOSURE CONSTRUCTION PROCEDURES					
✓	✓	.2907(a)	Each protective enclosure must have a combination of strength and configuration that is sufficient to obstruct unauthorized access to the enclosed facilities.	X			
✓	✓	.2907(b)	Openings in or under the enclosure must be secured by grates, doors, or covers that provide at least the same level of protection as the enclosure.	X			
<i>Comments (If any of the above are Unsatisfactory, please indicate why):</i>							
§193.2017		193.2909 SECURITY COMMUNICATIONS PROCEDURES					
✓	✓	.2909(a)	There must be a means for prompt communications between personnel with supervisory security duties and law enforcement personnel.	X			
✓	✓	.2909(b)	There must be a means for communications between all on-duty personnel who have security duties and all control rooms/control stations.	X			
<i>Comments (If any of the above are Unsatisfactory, please indicate why):</i>							
§193.2017		193.2911 SECURITY LIGHTING PROCEDURES					

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✓	✓	.2911	If security warning systems are not provided for security monitoring, security lighting must be provided for protective enclosures and the areas they enclose (minimum of 2.2 lux from sunset to sunrise).	x			
Comments <i>(If any of the above are Unsatisfactory, please indicate why):</i>							

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B	A	Paragraph	Description	S	U	N/A	N/C
		§193.2017	193.2913 SECURITY MONITORING PROCEDURES				
✓	✓	.2913	If the plant has 250,000 bbls or more storage capacity, each protective enclosure, and the area around the facilities listed in 193.2905(a), must be monitored for the presence of unauthorized persons, using one of the following methods. (If less than 250,000 bbls of storage capacity, only the protective enclosures need to be monitored.)	X			
			<ul style="list-style-type: none"> • security warning systems that continuously transmit information to an attended location. 	X			
			<ul style="list-style-type: none"> • visual observation in accordance with a schedule (193.2903(a)). 	X			
<p>Comments (If any of the above are Unsatisfactory, please indicate why):</p>							
		§193.2017	193.2915 ALTERNATIVE POWER SOURCE PROCEDURES				
✓	✓	.2915	An alternative source of power that meets §193.2445 must be provided for security lighting and for security monitoring and warning systems.	X			
<p>Comments (If any of the above are Unsatisfactory, please indicate why):</p>							
		§193.2017	193.2917 WARNING SIGN PROCEDURES				
✓	✓	.2917(a)	Warning signs, readable at night from a distance of 100 ft, must be placed conspicuously along each protective enclosure.	X			
✓	✓	.2917(b)	The signs must be marked with the words "NO TRESPASSING," or words of comparable meaning, on a background of sharply contrasting color.	X			
<p>Comments (If any of the above are Unsatisfactory, please indicate why):</p>							

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RECORDS							
B	A	Paragraph	Description	S	U	N/A	N/C
191.5 and 191.25 REPORT RECORDS (5-year minimum retention)							
✓	✓	191.5	Incident reports (telephonic notification) (corrective action?).			X	
✓	✓	191.25	Safety-related condition reports (corrective action?).			X	
§193.2521 193.2521 OPERATING RECORDS (5-year minimum retention)							
✓	✓	.2503(c)	Investigation of Abnormal Operating Conditions			X	
✓	✓	.2503(e)	Vaporization Records	X			
✓	✓	.2503(f)	Liquefaction Records	X			
✓	✓	.2505	Cooldown Records	X			
✓	✓	.2507	Records associated with Monitoring Operations	X			
✓	✓	.2509(b)(3)&(4)	Public Liaison with Fire, Police, emergency responders, and local officials.	X			
✓	✓	.2513	Records associated with transferring LNG or other hazardous fluids.	X			
✓	✓	.2515	Investigation of Failures.	X			
<p>Comments (If any of the above are Unsatisfactory, please indicate why):</p>							

§193.2639 193.2639(a) MAINTENANCE RECORDS (5-year minimum retention)							
✓	✓	.2603(c) and (d)	Components taken out of service.	X			
✓	✓	.2609	Support systems (foundations and pipe rack supports).	X			
	✓	NFPA 59A 4-1.7.3	Heating systems beneath LNG tanks (weekly).			X	
✓	✓		Auxiliary power sources.				
✓	✓		• Operational tests (starting, fuel supply, etc.) (monthly).	X			
✓	✓	.2613	• Capacity tests (under load) (annually).	X			
✓	✓	.2621	Transfer hose inspection records (once per year; not to exceed 15 months).	X			
✓	✓		LNG storage tank inspection records.				
✓	✓		• Foundation and tank movement.	X			
✓	✓		• Inner tank leakage.	X			
✓	✓		• Effectiveness of insulation.	X			
✓	✓	.2623	• Frost heave.	X			
<p>Comments (If any of the above are Unsatisfactory, please indicate why):</p>							

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B	A	Paragraph	Description	S	U	N/A	N/C
		§193.2639	193.2639(a) MAINTENANCE RECORDS - CONTROL SYSTEMS - (5-year minimum retention)				
✓	✓	.2619(b)	Control systems out of service for 30 days or more must be inspected and tested for operational capability before returning to service.	X			
✓	✓	.2619(c)	Automatic shutdown devices (once per year; not to exceed 15 months).	X			
✓	✓	.2619(c)(1)	Seasonal control systems (liquefaction/vaporization) (prior to use).	X			
✓	✓	.2619(c)(2)	Fire protection control systems, including fire and gas detection (not to exceed 6 months).	X			
✓	✓	.2619(d)	Control systems normally in use (once per year; not to exceed 15 months).	X			
✓	✓	.2619(e)	Relief valves (once per year; not to exceed 15 months).	X			
<p>Comments (If any of the above are Unsatisfactory, please indicate why):</p>							
		§193.2639	193.2639(b) MAINTENANCE RECORDS - CORROSION CONTROL - (retain for life of facility)				
✓	✓	.2635(a)	Cathodic protection records (once per year; not to exceed 15 months).	X			
✓	✓	.2635(b)	Rectifier inspection records (6 per year; not to exceed 2 ½ months).	X			
✓	✓	.2635(c)	Critical interference bonds (6 per year; not to exceed 2 ½ months); noncritical interference bonds (15 months).			X	
✓	✓	.2635(d)	Atmospheric corrosion records (once every 3 years).	X			
✓	✓	.2635(e)	Internal corrosion monitoring records (twice per year; not to exceed 7 ½ months).			X	
✓	✓	.2639(b)	Records or maps showing CP components, bonded structures.	X			
<p>Comments (If any of the above are Unsatisfactory, please indicate why):</p>							
		§193.2719(a)	193.2719 TRAINING RECORDS - (retain for duration of employment plus one year)				
✓	✓	.2713(a)	Initial training - operations and maintenance.				
✓	✓		• Characteristics and hazards of LNG.	X			
✓	✓		• Emergency procedures related to assigned duties.	X			
✓	✓		• First-aid.	X			
✓	✓		• Facility operations, controls, functions.	X			
✓	✓		• LNG transfer operations.	X			
✓	✓	.2713(b)	Follow-up operations and maintenance training (intervals < or = 2 years).	X			

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B	A	Paragraph	Description	S	U	N/A	N/C
		§193.2719(a)	193.2719 TRAINING RECORDS (cont) (retain for duration of employment, plus one year)				
✓	✓	.2715(a)	Initial training - security.				
✓	✓		• Recognize breaches of security.	X			
✓	✓		• Carry out security procedures related to assigned function.	X			
✓	✓		• Recognize conditions where security assistance is needed.	X			
✓	✓	.2715(b)	Follow-up security training (intervals < or = 2 years).	X			
✓	✓	.2717(a)	Initial training - fire protection (including fire drills).				
✓	✓		(*) • Review fire prevention plan.	X			
✓	✓		(*) • Review potential causes and potential fire prone areas.	X			
✓	✓		(*) • Review types, sizes, and predicable consequences of a fire.	X			
✓	✓		(*) • Review assigned fire control duties and use of equipment.	X			
✓	✓	.2717(b)	(*) Follow-up fire protection training (intervals < or = 2 years).	X			
Comments (If any of the above are Unsatisfactory, please indicate why):							
		§193.2719(a)	193.2711 PERSONNEL HEALTH				
✓	✓	.2711	Personnel health records (testing per requirement of operator's written health plan).	X			
Comments (If any of the above are Unsatisfactory, please indicate why):							

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FIELD REVIEW							
B	A	Paragraph	Description	S	U	N/A	N/C
✓	✓	.2511(c)	First aid materials.	X			
✓	✓	.2519(a)	Verbal communication system for all operating personnel.	X			
✓	✓	.2519(b)	Verbal emergency communication system (if >70,000 gal).	X			
✓	✓	.2519(c)	Backup power supply for communication systems.	X			
✓	✓	.2607(a)	Excessive external icing.	X			
✓	✓	.2607(b)	LNG plant grounds maintenance and upkeep (grass, trash, ... etc.).	X			
✓	✓	.2609	Support systems (foundations, pipe rack supports, etc.).	X			
✓	✓	.2611(b)	Access routes for fire control equipment kept clear of snow, etc.	X			
✓	✓	.2613	Auxiliary power supply.	X			
✓	✓	.2619(a)	Control systems calibration.	X			
✓	✓	.2621(b)	Transfer hose(s).	X			
✓	✓	.2623	Storage tanks.	X			
✓	✓	.2627	Atmospheric corrosion.	X			
✓	✓	.2635	Cathodic protection (CP levels).	X			
✓		.2807	(*) Smoking and no smoking signs.	X			
	✓	NFPA 59A 9-2.1/8-7.1.4	Smoking and no smoking signs.			X	
✓		.2811	(*) Hot work (look at permits).	X			
	✓	NFPA 59A 9-2.1	Hot work (look at permits).			X	
✓			Fire fighting equipment.				
✓		.2817	(*) <ul style="list-style-type: none"> • Portable fire extinguishers. 	X			
	✓	NFPA 59A 9-6.1	<ul style="list-style-type: none"> • Portable fire extinguishers. 			X	
✓		.2817	(*) <ul style="list-style-type: none"> • Protective clothing, equipment, clearly marked. 	X			
	✓	NFPA 59A 9-9.2/9-9.3	<ul style="list-style-type: none"> • Protective clothing, equipment, clearly marked. 			X	
✓		.2817	(*) <ul style="list-style-type: none"> • Operating instructions attached to portable fire control equipment and placed at the location of controls of fixed equipment. 	X			
	✓	NFPA 59A 9-3.5	<ul style="list-style-type: none"> • Emergency control operating instructions posted conspicuously in the facility area. 			X	
✓		.2819	(*) Gas detection system, including visible or audible alarms outside enclosed buildings.	X			

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B	A	Paragraph	Description	S	U	N/A	N/C
	✓	NFPA 59A 0.4.1	Gas detection system.			X	
✓		.2821	(*) Fire detection system.	X			
	✓	NFPA 59A 9-4.1	Fire detection system.			X	
✓	✓	.2905	Protective enclosures.	X			
✓	✓	.2911	Lighting.	X			
✓	✓	.2915	Alternative power sources.	X			
✓	✓	.2917	Warning signs along fence or boundary, visible at 100 ft at night.	X			

Comments (If any of the above are Unsatisfactory, please indicate why):