§ 193.2605 Maintenance procedures.

(a) Each operator shall determine and perform, consistent with generally accepted engineering practice, the periodic inspections or tests needed to meet the applicable requirements of this subpart and to verify that components meet the maintenance standards prescribed by this subpart.

(b) Each operator shall follow one or more manuals of written procedures for the maintenance of each component, including any required corrosion control. The procedures must include:

(1) The details of the inspections or tests determined under paragraph (a) of this section and their frequency of performance; and

(2) A description of other actions necessary to maintain the LNG plant according to the requirements of this subpart.

(c) Each operator shall include in the manual required by paragraph (b) of this section instructions enabling personnel who perform operation and maintenance activities to recognize conditions that potentially may be safety-related conditions that are subject to the reporting requirements of §191.23 of this subchapter.

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.

§ 193.2617 Repairs.
(a) Repair work on components must be performed and tested in a manner which:
(1) As far as practicable, complies with the applicable requirements of Subpart D of this part; and
(2) Assures the integrity and operational safety of the component being repaired.
(b) For repairs made while a component is operating, each operator shall include in the maintenance procedures under §193.2605 appropriate precautions to maintain the safety of personnel and property during repair activities.

§ 193.2619 Control systems.
(a) Each control system must be properly adjusted to operate within design limits.
(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.
(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.
(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.
(e) Relief valves must be inspected and tested for verification of the valve seat lifting pressure and reseating.

§ 193.2621 Testing transfer hoses.
Hoses used in LNG or flammable refrigerant transfer systems must be:
(a) Tested once each calendar year, but with intervals not exceeding 15 months, to the maximum pump pressure or relief valve setting; and
(b) Visually inspected for damage or defects before each use.

§ 193.2623 Inspecting LNG storage tanks.
Each LNG storage tank must be inspected or tested to verify that each of the following conditions does not impair the structural integrity or safety of the tank:
(a) Foundation and tank movement during normal operation and after a major meteorological or geophysical disturbance.
(b) Inner tank leakage.
(c) Effectiveness of insulation.
(d) Frost heave.

§ 193.2625 Corrosion protection.
(a) Each operator shall determine which metallic components could, unless corrosion is controlled, have their integrity or reliability adversely affected by external, internal, or atmospheric corrosion during their intended service life.
(b) Components whose integrity or reliability could be adversely affected by corrosion must be either—
(1) Protected from corrosion in accordance with §§193.2627 through 193.2635, as applicable; or
(2) Inspected and replaced under a program of scheduled maintenance in accordance with procedures established under §193.2605.

§ 193.2627 Atmospheric corrosion control.
Each exposed component that is subject to atmospheric corrosive attack must be protected from atmospheric corrosion by—
(a) Material that has been designed and selected to resist the corrosive atmosphere involved; or
(b) Suitable coating or jacketing.