

**UNITED STATES DEPARTMENT OF THE INTERIOR  
MINERALS MANAGEMENT SERVICE  
GULF OF MEXICO OCS REGION**

NTL No. 2009-G18

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NOTICE TO LESSEES AND OPERATORS OF FEDERAL OIL, GAS, AND SULPHUR  
LEASES AND PIPELINE RIGHT-OF-WAY HOLDERS IN THE OUTER CONTINENTAL  
SHELF, GULF OF MEXICO OCS REGION

**Production Safety Systems**

This Notice to Lessees and Operators (NTL) supersedes Items Nos. 1 through 8 of NTL No. 2000-G13, effective May 25, 2000, on this subject. It excludes Items Nos. 3, 5, and 6 (since the topics addressed therein are covered adequately in API RP 14C); excludes Items Nos. 9 through 12 (which will be addressed in a future NTL regarding subsea production systems); makes minor technical amendments to the remaining items; and adds a guidance document statement.

The Minerals Management Service (MMS) Gulf of Mexico OCS Region (GOMR) hereby provides the following guidance and clarification on certain requirements of 30 CFR 250, Subpart H:

**1. 30 CFR 250.802(b). Exclusion of pressure safety high and pressure safety low sensors on downstream vessels in a production train**

As specified in American Petroleum Institute (API) Recommended Practice (RP) 14C, Section A.4, you must install a pressure safety high (PSH) sensor to provide over-pressure protection for a vessel. If an entire production train operates in the same pressure range, the PSH sensor protecting the initial vessel will detect the highest pressure in the production train, thereby providing primary over-pressure protection to each subsequent vessel in the production train. The intent of API RP 14C is not compromised under this scenario. Therefore, you may use API RP 14C Safety Analysis Checklist (SAC) reference A.4.a.3 to exclude all subsequent PSH sensors other than the PSH sensor protecting the initial vessel in a production train.

Furthermore, as specified in API RP 14C, Section A.4, you must install a pressure safety low (PSL) sensor to provide under-pressure protection for a vessel. If an entire production train operates in the same pressure range, the PSL sensor protecting the initial vessel will detect the lowest pressure in the production train, thereby providing primary under-pressure protection to each subsequent vessel in the production train. The intent of API RP 14C is not compromised under this scenario, since the PSL sensor protecting the initial vessel will detect leaks along the entire production train. Therefore, you may use API RP 14C SAC reference A.4.b.3 to exclude all subsequent PSL sensors other than the PSL sensor protecting the initial vessel in a production train, provided the pressure differential across the production train is not excessive (no more than 10 percent or 50 pounds per square inch (psi), whichever is greater).

For purposes of this section, a *production train* is a system of subsequent pressure vessels that (a) are not separated by specification breaks and possess the same maximum allowable working pressures (MAWP), and (b) are not separated by a pressure control valve (PCV), restrictions, or extensive piping that could cause a pressure drop across the system of more than 10 percent or 50 psi, whichever is greater.

## **2. 30 CFR 250.802(b). Pressure safety valves on flare and vent scrubbers**

As specified in API RP 14C, Section A.4, you must protect all pressure vessels with a pressure safety valve (PSV) with sufficient capacity to discharge maximum vessel input rates. As defined in API RP 14C, any vessel operating at a pressure greater than 5 pounds per square inch gauge (psig) is considered operating in pressure service. Flare and vent scrubber designs are typically based on a minimum of 5 psig back pressure; therefore, they are pressure vessels and not atmospheric vessels. Accordingly, you cannot use API RP 14C SAC reference A.5.b.3 for atmospheric vessels to exclude PSV's on flare and vent scrubbers.

Therefore, you must perform a process component analysis on all flare and vent scrubbers under API RP 14C, Section A.4, and protect each flare and vent scrubber with a PSV unless you can use API RP 14C SAC reference A.4.c.5 to exclude it. You may use a pressure safety element (PSE) in lieu of a PSV only on the above-mentioned components.

## **3. 30 CFR 250.802(b). Exclusion of the PSH sensor on small, low-volume pumps**

As specified in API RP 14C, Section A.7, you must provide all hydrocarbon pumps with a PSH sensor on the discharge line to shut off inflow and shut down the pump. However, API RP 14C SAC reference A.7.b.4 allows you to exclude the PSH sensor on small, low-volume pumps such as chemical injection-type pumps. This SAC reference is acceptable if such a pump is used as a sump pump or transfer pump, has a discharge rating of less than ½ gallon per minute (gpm), discharges into a flowline that is 1 inch or less in diameter, and terminates in a flowline or pipeline that is 2 inches or larger in diameter. If your pump does not meet these conditions, you must perform a process component analysis according to API RP 14C, Section A.7.

## **4. 30 CFR 250.803(b)(1)(iii) and 30 CFR 250.1004(b)(3). Setting the PSH sensor on a process component or departing pipeline less than 5 percent below the setting of the PSV that is protecting the process component or departing pipeline**

The cited regulation (30 CFR 250.803(b)(1)(iii)) requires that the setting of a PSH sensor must be sufficiently below (5 percent or 5 psi, whichever is greater) the setting of the PSV on a process component to ensure that the pressure source is shut in before the PSV activates. On a case-by-case basis, MMS GOMR District Supervisors have granted departures from this requirement by approving PSH sensor settings as close as 2 percent below the component PSV setting. These departures are conditioned upon the PSH sensor responding *before* the PSV. In considering a departure request, the appropriate MMS GOMR District Manager determines whether it satisfies the intent of API RP 14C, giving special attention to the documented repeatability and response time of the PSH sensor.

A PSH sensor that derives its signal from a pressure transmitter has excellent repeatability and should respond prior to the PSV. A pneumatic PSH sensor, on the other hand, may not possess the required sensitivity or repeatability. The test sequencing of these safety devices will be the

minimum difference between the set point of the PSH sensor and the PSV; that is, during monthly PSH sensor testing, should the PSH sensor actuate at a pressure above the PSV set point minus the PSV tolerance (see API RP 14C, Section D.3.1), the PSH sensor would fail the test and need to be reset accordingly.

Maintain a list of all devices that have been granted such a departure and the device test records at your nearest field location.

#### **5. 30 CFR 250.803(b)(3). Automatic (demand) chokes on satellite wells**

The cited regulation requires that all shutdown devices must function in a manual reset mode. The use of an automatic (demand) choke on a satellite well to return the well to production after its host platform has shut in does not comply with this regulatory requirement. A manual reset mode includes a remote manual reset function (through a SCADA system) you initiate at the host platform. Demand chokes are acceptable only when you use them in conjunction with the primary well shut-in device (SSV) and/or as only control devices, not shutdown devices.

#### **Guidance Document Statement**

The MMS issues NTL's as guidance documents in accordance with 30 CFR 250.103 to clarify, supplement, and provide more detail about certain MMS regulatory requirements and to outline the information you provide in your various submittals. Under that authority, this NTL sets forth a policy on and an interpretation of a regulatory requirement that provides a clear and consistent approach to complying with that requirement. However, if you wish to use an alternate approach for compliance, you may do so, after you receive approval from the appropriate MMS office under 30 CFR 250.141.

#### **Paperwork Reduction Act of 1995 Statement**

The information collection referred to in this NTL provides clarification, description, or interpretation of requirements contained in 30 CFR 250, Subpart H. The Office of Management and Budget (OMB) approved the information collection requirements for this regulation and assigned OMB Control Number 1010-0059. This NTL does not impose any additional information collection requirements subject to the Paperwork Reduction Act of 1995.

#### **Contacts**

Please direct any questions you may have regarding this NTL to the Production Engineer in the respective MMS GOMR District Office.

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