

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

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

Alternate Compliance and Departure Requests in Pipeline Applications

Introduction

The purpose of this Notice to Lessees and Operators and Pipeline Right-of-way Holders (NTL) is to provide guidance in submitting certain alternate procedures and equipment (alternate compliance) and departure requests from the regulations contained in 30 CFR 250 Subpart J. The following requests are routinely made to the Minerals Management Service (MMS) Gulf of Mexico OCS Region (GOMR) in pipeline applications, particularly those involving subsea tie-backs:

- (1) alternate compliance from the requirements of 30 CFR 250.1002(a) to use the provisions of API RP 1111 to calculate internal design pressure;
- (2) departure from the requirements of 30 CFR 250.1002(d) to allow the maximum allowable operating pressure (MAOP) of the pipeline to be less than the maximum source pressure (MSP) for Barrier Concept applications;
- (3) alternate compliance from the requirements of 30 CFR 250.1003(b)(1) to pre-test pipelines; and
- (4) alternate compliance or departure from the requirements of 30 CFR 250.1004(b)(9) to use subsea pipeline pumps.

Submit these alternate compliance and departure requests, as necessary, as part of your pipeline application required by 30 CFR 250.1000(b). Submit the application as early as possible to allow for possible delays in the application review process. Make all alternate compliance requests in accordance with 30 CFR 250.141 and all departure requests in accordance with 30 CFR 250.142.

Pipeline Alternate Compliance and Departure Requests

The following provides guidance on preparing alternative compliance or departure requests for the four topics listed above:

(1) Internal design pressure

In accordance with 30 CFR 250.1002(a), you must determine the internal design pressure for steel pipe using the Barlow Equation as modified by regulatory design factors.

The MMS GOMR recognizes that the Barlow Equation can yield internal design pressures that are increasingly conservative as wall thickness increases. Also, the cited regulation does not provide for the consideration of external hydrostatic pressure effects in calculating the internal design pressure of pipelines. API RP 1111 provides design procedures that address these issues. A request to use API RP 1111 to determine the internal design pressure of a pipeline is an alternate compliance from requirements of 30 CFR 250.1002(a).

In submitting such an alternative compliance request to the MMS GOMR, make sure that you:

- (a) demonstrate that the pipeline design pressure (P_d) in equation 1b in API RP 1111, section 4.3.1, is equal to or greater than the MSP for all line pipe and riser pipe;
- (b) ensure that all non-pipe equipment and components (e.g., manifolds, sleds, valves, flanges, connectors, hubs, and fittings) are fully rated for the MSP;
- (c) do not propose to use external hydrostatic pressure to determine the internal design pressure of non-pipe equipment and components and pipe-in-pipe; and
- (d) do not propose to use external hydrostatic pressure to offset or reduce the minimum pipeline test pressure required by 30 CFR 250.1003(b)(1).

(2) Maximum anticipated surface pressure

In accordance with 30 CFR 250.1002(d), you must install and maintain redundant safety devices that meet the requirements of section A9 of API RP 14C if the MSP exceeds the MAOP of the pipeline.

A maximum anticipated surface pressure (MASP) is calculated based on the fluid weight in the pipeline and riser, the MSP, and the difference in elevation of the pressure source and the point of reference. In Barrier Concept applications, the MASP point of reference is the boarding shut down valve (BSDV). The MASP can be used as a basis for allowing the MAOP of the pipeline to be less than the MSP to accommodate a lower rated BSDV. In these cases, the MAOP of the pipeline is determined at the elevation of the BSDV. A request to use the MASP as a basis to allow the MSP to be higher than the MAOP of the pipeline and to forego the use of redundant safety devices that meet the requirements of section A9 of API RP 14C in Barrier Concept applications is a departure from 30 CFR 250.1002(d).

In such a departure request to the MMS GOMR, make sure that you:

- (a) calculate the MASP using dry natural gas as the fluid in the pipeline and riser, use a maximum fluid specific gravity (SG) of 0.65 (reference $SG_{air}=1.0$), and determine the fluid specific density based on the MSP and the appropriate gas compressibility factor;
- (b) demonstrate that the internal design pressure of all line pipe and riser pipe is equal to or greater than the MSP;
- (c) ensure that all subsea non-pipe equipment and components are fully rated for the MSP; and
- (d) ensure that the BSDV is an API Spec 6A valve and has a pressure rating that is equal to or greater than the MASP.

(3) Pipeline pre-testing

In accordance with 30 CFR 250.1003(b)(1), you must pressure test a pipeline with water at a stabilized pressure of at least 1.25 times the MAOP for at least 8 hours when installed, relocated, up-rated, or reactivated after being out of service for more than 1 year.

A pre-test is a pressure test on a pipeline or section of pipeline you conduct before its installation. A request to pre-test a pipeline is an alternate compliance from the requirements of 30 CFR 250.1003(b)(1).

In such an alternative compliance request to the MMS GOMR, make sure that you include provisions to:

- (a) conduct the pre-test with water at a stabilized pressure of at least 1.25 times the MAOP of the pipeline for at least four hours;
- (b) keep all sides of the pipe clear and accessible at all times during the pre-test to accommodate visual inspection;
- (c) inspect the pipe visually during the pre-test to verify that no leaks occur in the system during the test period; and
- (d) conduct a leak test of the pipeline upon installation for at least two hours at a stabilized pressure that is capable of detecting leaks, and only during daylight hours if the leak test medium is either product or chemicals.

(4) Subsea pipeline pumps

In accordance with 30 CFR 250.1004(b)(9), a pipeline pump must comply with section A7 of API RP 14C.

A request to use a subsea pipeline pump is considered an alternate compliance or departure from the requirements of 30 CFR 250.1004(b)(9) when you cannot comply with the provisions of A7 of API RP 14C.

In such an alternative compliance or departure request to the MMS GOMR, make sure that you:

- (a) include a detailed description of the functionality of the pump safety system including pump permissive signals, safety sensor quantity and type, safety sensor voting logic, system redundancy, and spares; and
- (b) recognize that final approval of the subsea pump safety system is subject to production safety system review and a pre-production inspection by the appropriate MMS GOMR District Office.

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 Statement

The information collection provisions of this notice are intended to provide clarification, description, or interpretation of requirements contained in 30 CFR 250, Subparts A and J. The Office of Management and Budget (OMB) has approved the information collection requirements for these regulations and assigned OMB Control Numbers 1010-0114 and 1010-0050,

respectively. This NTL does not impose additional information collection requirements subject to the Paperwork Reduction Act of 1995.

Contact

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