



# United States Department of the Interior

BUREAU OF SAFETY AND ENVIRONMENTAL ENFORCEMENT  
WASHINGTON, DC 20240-0001

## Memorandum

To: Chief, Office of Offshore Regulatory Programs

From: Scott A. Angelle  
Director

Subject: Evaluation of Pressure Rating Methods Recommended by API 17TR8

*[Handwritten signature and date 6/30/18]*

Thank you for updating me on the status of the contract with Argonne National Laboratory (ANL) to conduct an "Evaluation of Pressure Rating Methods Recommended by API RP 17TR8," as well as the corresponding peer review of this evaluation.

As you are aware, applications for permit to drill in the Gulf of Mexico Outer Continental Shelf Region increasingly involve High Pressure High Temperature<sup>1</sup> (HPHT) environments. Accordingly, BSEE awarded a contract to Argonne National Laboratory (ANL) in 2014 to evaluate the American Petroleum Institute's (API) "Technical Report 17TR8 High-pressure High-temperature Design Guidelines."

ANL presented their draft "Evaluation of Pressure Rating Methods Recommended by API RP 17TR8" at an API Standards 17 Workshop in January of 2017. At the same time, BSEE initiated a peer review of the draft evaluation. BSEE also made a copy of ANL's draft evaluation and presentation available on BSEE's website and received correspondence from the American Petroleum Institute and other members of industry in response to the draft evaluation. On behalf of BSEE, the contractor EnDyna conducted a peer review of ANL's evaluation in May of 2017. ANL responded to the peer reviewer's comments and provided their final evaluation and "Post-Test Characterization Following Pressure Burst Testing" to BSEE on May 24, 2018.

ANL's evaluation identifies uncertainty around the design of HPHT equipment and questions the assumptions that are currently used by the industry. ANL notes the need for additional data to support the design criteria used in API 17TR8. Based on this uncertainty, BSEE requires operators to do an additional load case for Global Plastic Collapse analysis at the site-specific pressure (which are lower than 20,000 psi, 17,500 psi maximum) and determine the resulting design load factor. This demonstrates an additional layer of safety until further information is available.

I ask that you and your staff continue to take into consideration, as we seek to clarify the policy implications, if any, from this research, the ANL evaluation and post-test, the peer review and ANL's responses, and the comments submitted by industry. I request that we continue to share

<sup>1</sup> High Pressure High Temperature environments are defined in 30 C.F.R. § 250.804

additional information on this topic on BSEE's official website as information becomes available.

cc: Lars Herbst, Regional Director, GOMR  
Mark Fesmire, Regional Director, Alaska and Acting Regional Director Pacific.