



Peer Review Plan

Date: October 31, 2023

BSEE Funding Source or Author's Division: Office of Offshore Regulatory Programs
Emerging Technologies Branch 45600
Woodland Road
Sterling, VA 20166

Title: Evaluation of Technology Collaboration Program (TCP) 5010 - Examination of Blowout Preventer Pressure Test Frequency

Subject and Purpose: BSEE funded research with the goal of the examining the potential impact of extending the time-based BOP pressure test interval beyond the current 14-day regulatory requirement. Currently, this requirement conflicts with the industry standard (API 53), which has a 21-day requirement. This peer review focuses on three (3) main objectives related to the overall goal: 1) Determining whether the overall BOP system's reliability is enhanced or degraded by increasing the time interval between the mandatory in-situ pressure tests. 2) Establishing and moderating an ongoing dialogue with industry representatives, who shall inform BSEE of their experiences and results from BOP testing, and their justifications for or against extending testing interval. 3) Conducting cost benefit analysis of tentative extension of BOP testing intervals; conducting regulatory gap analysis with respect to BOP testing procedures, frequency, and reporting.

This study examined how an extension of the time-based BOP pressure test interval may impact operational economics, operational safety, and component reliability. In terms of operational economics, there is a significant benefit due to a gross reduction in the amount of rig downtime necessary for BOP pressure tests. Operational safety experiences a similar benefit, as there is a reduction of risks associated with downhole operations, high-pressure rig operations, and the potential for operational errors. An extension of the time-based BOP pressure testing interval appears to have minimal impact on component reliability as the main component failure mechanisms are event- and condition-dependent rather than time-dependent. This conclusion is based on a qualitative and quantitative assessment of elastomer reliability. The overall conclusion of the analysis is that an extension of the time-based BOP pressure testing interval offers a significant net benefit.

Impact of Dissemination: BSEE considers this study influential scientific information, which requires a robust evaluation that the scientific community and stakeholders will accept. This study's findings may directly impact the production methods, industry specifications, best practices, and selection for equipment utilized for high-pressure and high temperature offshore oil and gas operations. The results from this study are essential for reviewing new projects in deeper waters for offshore operations.

Upon conclusion of the peer review, BSEE will post all possible contracted deliverables, tasks, data, analyses, and information, including the peer-review reporting, reports, and comments on BSEE's research records website: <https://www.bsee.gov/research-record>.

Timing of Review: June 3, 2022- January 30, 2024 (Total peer review process of not more than 20 months is desired for this project.)

Disclaimer: The content of this peer review plan has been verified in compliance with the peer review handbook. For peer review contracts executed prior to peer review plan release, there may be differences in language used between the peer review plan and the executed contract.



Manner of Review, Selection of Reviewers, and Nomination Process:

This peer review shall be conducted through the contract BSEE BPA Process. This process will provide for a panel of qualified subject matter experts (SMEs) selected by the agency in order to achieve an optimum level of expertise across the spectrum of issues. The SMEs will be required to maintain both balance and independence while minimizing any potential conflicts of interest. The public will not be consulted in the nomination of potential peer reviewers.

Primary criteria for peer reviewers include the following:

- Mechanical Engineering, Electrical Engineering, Fire Protection Expertise.
- Practical experience and knowledge specific to Industrial Safety, Utility Grade Power Generation, Wind Energy Generation, Offshore Energy Production.

The secondary tier of criteria should include the following:

- At least one from inside of the wind industry
- At least one from outside of the wind industry

Reviewers may be selected from academia, industry, and federal government. The group of reviewers shall not include multiple reviewers from the same affiliation and shall strive to include various perspectives on the issue considered.

Expected Number of Reviewers:

Three reviewers, plus contractor oversight, and writing personnel.

Requisite Expertise:

- Subject Matter Experts with five years of experience in a relevant field and should also have some other strong credentials, e.g., a Ph.D. with a substantial publication or patent record specific to the evaluated technology, a young investigator award, or a strong pedigree (e.g., a Ph.D. from a high caliber institution or under a recognized leader in the field).
- Publications and Patents. Qualified experts often have many peer-reviewed journals and/or patents on the evaluated technology.
- Other evidence is that the person is a recognized expert in the field. Qualified experts have often managed a public policy program that has had a national impact, has a record of bringing innovations to the market or holds vital patents.
- In a relevant field, an advanced degree - Ph.D., Sc.D., D.Eng., MS, or MBA. Experts with only a bachelor's degree should have other experience and or a record of significant accomplishments indicating their expertise.
- Relevant awards. Qualified experts may have received a prestigious award such as the National Medal of Science, American Chemical Society National Award, Young Investigator Award, R&D 100 Award, or other awards specific to technology (e.g., Fuel Cell Seminar Award).
- Key Society Membership. Qualified experts may be members of a society like the National Academy of Sciences (NAS), the National Academy of Engineering (NAE), the American Physics Society, a National Laboratory Fellow, etc.



Opportunity for Public Comment:

At the time of this peer review plan's posting, the research report will be available on BSEE's Peer Review Public Posting website located here: <https://www.bsee.gov/what-we-do/research/peer-review>. BSEE welcomes public comment, especially from those with experience with tension leg platforms. BSEE invites the public to comment within the 30-day window indicated on the website through the process described below, which is consistent with the guidance on the website:

- For comments pertaining to this peer review plan, send emails to:
bsee_peerreviewplancomments@bsee.gov
- For comments pertaining to the research, send emails to:
bsee_researchpubliccomment@bsee.gov

In the subject line list of a public comment email, please state: "TAP 5010 - Examination of Blowout Preventer Pressure Test Frequency" + the words "peer review plan" or "research" + the words "public comment."

- List out any comments, questions, feedback by number (ex. 1, 2, 3, etc.)
- If referencing any sources of published information, please list the complete source information in a recognized reference format (such as APA)
- Please include your name, contact information, and affiliation

The agency will provide public comments deemed significant and relevant to the peer reviewers to address during their review.

Agency Contact: John Ajak