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, VAE-ORP
Sterling, VA 20166

Title: Evaluation of Technology Collaboration Program (TCP) 5001 – Best Practices for Real-Time Monitoring (RTM) of Offshore Well Construction

Subject and Purpose: This subject of this study is PEER REVIEW REPORT "BEST PRACTICES FOR REAL-TIME MONITORING (RTM) OF OFFSHORE WELL CONSTRUCTION." This peer review aims to verify the scientific and technical merit of the assumptions, inputs, methodologies, technologies, processes, results, evaluations, and analyses of the research performed. BSEE funded a study to examine real-time data monitoring technologies and provide guidance around a real-time monitoring (RTM) plan that can utilize RTM as an effective monitoring plan framework or methodology. The framework intends to leverage RTM capabilities and technologies to aid in the prevention or serve to mitigate potential or actual life endangerment, health, property, or the environment for critical offshore operations. The OESI completed this RTM study on behalf of BSEE.

In April 2016, the Secretary of the Interior and the BSEE Director announced the publication of the final Well Control Rule. In 2022, the Secretary of Interior through the BSEE proposed revisions to the Final 2019 Well Control Rule. The new BSEE rules focused on mitigating risks associated with offshore energy operations, specifically, the loss of well control that may potentially result in the loss of life, injuries, or substantially impact the environment on the OCS. Some significant additions to BSEE regulations include requiring operators to utilize RTM processes and technologies for their offshore energy operations. RTM requirements are outlined in 30CFR §§250.724. These are applied to high-risk deep-water drilling operations utilizing subsea blow-out preventers (BOPs), surface BOPs on floating platforms, and operations conducted in high-pressure, high-temperature (HPHT) operating environments (>15,000 psi, >350^{o}F).

The use of RTM data in combination with wellbore modeling and analysis has been successfully used to manage narrow drilling margins and effectively manage challenging events such as kicks, lost circulation, wellbore breathing, and wellbore instability. Furthermore, the review and analysis of completed RTM operations saved data can help improve well barrier(s) and well integrity, help with the loss of well-control detection and efficiency, personnel training, and incident investigations. This peer review will evaluate and assess the TCP 5001 report which consists of recommendations to satisfy the new rule RTM requirements.

Impact of Dissemination: This study is considered by BSEE to be influential scientific information because the report is comprised of influential technology and analyses. This study's findings may suggest the need to update BSEE permitting processes and regulations as they may potentially directly impact BSEE's reviews of the industry's submitted permits (e.g., application for permit to drill,

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application for permit to modify) and requests for alternate compliance or departure from BSEE's regulations applications which include required real-time data monitoring technologies, processes, analyses, and corresponding data.

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: October 2023 – September 2024 (The total peer review process of not more than twelve (12) months is desired for this project.

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:

- Oil and gas operations,
- Real-time monitoring, data assessment and analysis, and oil and gas-based research and studies,
- Process safety (e.g., well control, critical barrier evaluation, loss of containment, spill prevention, well integrity,
- Energy-related expertise,
- Risk identification, assessment communication, and mitigation,
- Evaluation of best practices, industry standards, and applications

Reviewers may be selected from academia, industry, and the 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.

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- 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: "5001 – Best Practices for Real-Time Monitoring (RTM) of Offshore Well Construction" + 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: Yasser Fahmy, Ph.D.

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