



United States Department of the Interior  
BUREAU OF SAFETY AND ENVIRONMENTAL ENFORCEMENT  
WASHINGTON, DC 20240-0001

DATE: July 28, 2014

TO: Director Salerno

FROM: Douglas Morris, Chief, Office of Offshore Regulatory Programs

SUBJECT: Report on Connector and Bolt Failures

I have attached the report entitled: *Evaluation of Connector and Bolt Failures* that has been completed by the Quality Control-Failure Incident Team (QC-FIT) within OORP. The objective of this technical assessment is to document and evaluate failures of the connectors, studs, and other components used in critical equipment and determine if there are industry wide issues that need to be addressed by the industry or BSEE.

The findings in the report are based on information obtained from drilling contractors, equipment manufacturers, classification societies, operators and other regulators. This information was supplemented by a detailed analysis of existing technical standards and industry specifications by BSEE staff. The report includes a variety of recommendations that should help to reduce the risk of future failures. The key recommendations include:

- The industry should revise existing standards on connectors to address inconsistent requirements and gaps involving material hardness, coatings, and cathodic protection.
- The industry should revise existing standards to ensure that quality assurance and mechanical integrity programs address issues related to the use of multi-layers of subcontractors in the fabrication process for critical safety equipment.
- The industry should develop a more comprehensive database for equipment failures to assist in the identification of design or manufacturing issues.

These recommendations are consistent with BSEE's goal of increasing the reliability of critical safety equipment through (1) more oversight over the design, fabrication, testing, maintenance, and repair of the equipment, (2) increased sharing of data on equipment reliability, and (3) more BSEE engagement with standards developing organizations.

With your concurrence, we will develop a plan to implement the team's recommendations.