

SAFETY ALERT



Safety Alert No. 423

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BSEE Inspector Nearly Falls Through Unsecure Grating

In early 2021, a BSEE inspector was performing the regulatory-required annual inspection of a production facility on the Gulf of Mexico Outer Continental Shelf when he nearly fell through unsecure grating. While witnessing a field operator perform a downhole safety valve test, the BSEE inspector proceeded to access the well bay deck to document the shut-in tubing pressure on a well. When he stepped onto the grating of the well access platform, the grating below him gave way, resulting in the inspector falling to knee-level before catching himself on nearby equipment. The inspector was able to raise himself to safety and sustained minor abrasions.



View of the loose grating from below the well bay deck.



View of the loose grating from the well bay deck.

As a result of the event, BSEE requested the lessee to provide an engineering assessment of the wellhead access platform. Based on the review of that assessment, BSEE concluded that the deck was not suitable for service due to the following factors (including, but not limited to):

- Pre-punched galvanized angle with bolted and/or clipped connectors were used for the construction of the permanent deck and support columns, which is not typical and not recommended.
- Due to vibration and movement, some of the connecting bolts became loose and some had completely backed out of the connections leaving framing members loose and/or unconnected.

Additionally, based on the review of the assessment, BSEE concluded that the structural engineering analysis was ineffective due to the following factors (including, but not limited to):

- No lateral loads were applied in the analysis. Due to the size and location of this deck, coupled with the field observations of damage caused by “vibration and movement,” the analysis should have included wind loading in accordance with API RP 2A-WSD.
- A 50 pounds per square foot (psf) live load was applied across the entire elevated area in the analysis. The typical design load for walkways and areas that are intended for personnel access is 100 psf – refer to ASCE 7.

Furthermore, deficiencies like the items previously listed were identified on the 2019 Level I Survey and were not addressed.

Therefore, BSEE recommends that operators and contractors consider the following:

- Verify proper construction materials and design parameters are utilized when fabricating and installing access platforms, walkways, ladders, handrails, etc.
- Install barricades to prevent personnel from entering an unsafe area if deficiencies are identified.
- Remove all wellhead access platforms erected with pre-punched galvanized angle iron from the platform in lieu of attempting salvage repairs.
- Ensure all wellhead access platforms as well as any structural decks constructed for offshore platforms are designed by licensed civil or structural engineers and meet the following OSHA and API standards for safety:
 - 29 CFR 1910.29(f)(7)
 - 29 CFR 1910.29(g)(1)
 - 29 CFR 1910.29(f)(3)
 - API RP 2A-WSD
 - 29 CFR 1910 Subpart D – Walking-Working Surfaces
- Review this Safety Alert in conjunction with [Safety Alert No. 413: Hazards Identified in Level I Surveys not Communicated to Affected Personnel](#).

A **Safety Alert** is a tool used by BSEE to inform the offshore oil and gas industry of the circumstances surrounding a potential safety issue. It also contains recommendations that could assist avoiding potential incidents on the Outer Continental Shelf.