Final Rule – AADE Lunch and Learn

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Agenda

General Comments

Key Dates

Discussion of high Impact changes

- BAVO
- SV / WCV / SOF
- MIA / 5 Year Major
- Summary of Other High Impact Changes
- Topics Pending Clarification

Questions?

General Comments

Focused around BAVO activities

The rule's preamble is a good source for guidance and discussion on intent.

If there is a discrepancy between a reference doc (industry standard) and the CFR, the CFR trumps.

Many of the items discussed within are still being clarified. Today's discussion is the best information at this time. Clarifications can be submitted to bseeQandA@bsee.gov.

LR did not write the rule.

Good news! No major hiccups.

§250.700 - Intervention Equipment

This subpart covers operations and equipment associated with drilling, completion, workover, and decommissioning activities. This subpart includes regulations applicable to drilling, completion, workover, and decommissioning activities in addition to applicable regulations contained in subparts D, E, F, and Q of this part unless explicitly stated otherwise.

Key Dates (1 of 2)

April 29, 2016 – BSEE publishes new Well Control Rule requirements in update to 30 CFR 250. The changes are mostly focused on Subpart G involving BOPs specifically.

July 28, 2016 – Well Control Rule changes went into effect with the exception of the following post-dated requirements.

April 30, 2018 – §250.732(b)(1)(i): BOP will shear drill pipe and any electric, wire, slick line to be used in the well. §250.734(a)(1)(ii): BOP must shear and seal external control lines. §250.734(a)(15): Install a gas bleed valve with two valves for the annular preventer.

Key Dates (2 of 2)

April 30, 2019 – §250.734: Real Time Monitoring required. §250.734(b)(1): Surface BOP's installed after this date must meet requirements of 250.734(a)(1). §250.735(f)(2)(i): Surface BOP's must have remotely-operated locking devices installed.

April 29, 2021 – §250.734(a)(1): BOP's must have dual shear rams. §250.734(a)(3): BOP's must have dedicated accumulator bottles for deadman and autoshear functions.

May 1, 2023 – §250.734(a)(16): Pipe centering mechanism for shear rams required.

BAVO

§250.732(a) BAVO

BSEE Approved Verification Organization (BAVO)

Criteria has not been established to apply to be a BAVO.

From preamble: BSEE expects many existing independent third-parties and verification companies to become BAVOs.

In the meantime, BAVO related services as an independent third party, and expects to be approved as a BAVO pending BSEE review of application.

Verifications for APD/APM

SV / WCV / SOF - Terms

Shear Verification (SV): Verification per 30 CFR 250.732(b) regarding capability of shearing and sealing under maximum anticipated conditions.

Well Compatibility Verification (WCV): Verification of 30 CFR 250.731(c) and (d), regarding the fitness for use of the BOP systems on a per well basis.

Statement of Fact (SoF): Statements attesting to witnessed verification.

Shearing

§250.732(b) - Shear verification Overview

To issue a shear verification, three items are required:

1) Shear test results to prove the shears can shear the pipe.
2) Pressure integrity test results to prove the rams can seal after shearing.
3) Calculations for theoretical shear pressures and sealing pressure corrected for MASP.

§250.732(b)(1) - Shear verification shear test data

(i) Demonstrates that the BOP will shear the drill pipe and any electric-, wire-, and slick-line to be used in the well, no later than April 30, 2018;

(ii) Demonstrates the use of test protocols and analysis that represent recognized engineering practices for ensuring the repeatability and reproducibility of the tests, and that the testing was performed by a facility that meets generally accepted quality assurance standards;

(iii) Provides a reasonable representation of field applications, taking into consideration the physical and mechanical properties of the drill pipe;

(iv) Ensures testing was performed on the outermost edges of the shearing blades of the shear ram positioning mechanism as required in § 250.734(a)(16); (guidance in new 16A)

(v) Demonstrates the shearing capacity of the BOP equipment to the physical and mechanical properties of the drill pipe; and

(vi) Includes relevant testing results.

§250.734(a)(16)(i) - Centering mechanism

When operating with a subsea BOP system, you must: (16) Use a BOP system that has the following mechanisms and capabilities;

Additional requirements:

(i) A mechanism coupled with each shear ram to position the entire pipe, completely within the area of the shearing blade and ensure shearing will occur any time the shear rams are activated. This mechanism cannot be another ram BOP or annular preventer, but you may use those during a planned shear. You must install this mechanism no later than (01 May 2023);

§250.732(b)(2) - Shear Verification pressure test

Two major changes in 732(b)(2):

(i) Shows that testing is conducted immediately after the shearing tests; (no cycling of rams to remove trapped objects)

(ii) Demonstrates that the equipment will seal at the rated working pressures (RWP) of the BOP for 30 minutes; and

(iii) Includes all relevant test results.

BSEE has responded to clarification that all shear data previously submitted to BSEE is acceptable.

§250.732(b)(3) - Shear Verification calculations

Calculations are now required for shearing and sealing pressures for all pipe to be used in the well including corrections for MASP.

To ensure there is enough pressure at end of stroke to achieve a seal.

LR's interpretation of the sealing pressure calculation is the Minimum Operator Pressure For Low Pressure Seal (MOPFLPS) plus correction for MASP and hydrostatic effects. Sealing characteristics may also be used.

§250.734(a)(1)(ii) - Additional shearing ram

Addition of a second shear ram within 5 years.

Both shear rams must be capable of shearing any drill pipe, workstring, and tubing.

Do not have to shear tool joints, bottom-hole tools, and bottom hole assemblies such as heavy-weight pipe or collars

Casing shear rams are recognized. Only one shear ram has to seal.

Well Compatibility Verifications

§250.731(c) – WCV

Certification of Verification that:

(1) Test data demonstrate the shear ram(s) will shear the drill pipe at the water depth as required in § 250.732;

(2) The BOP was designed, tested, and maintained to perform under the maximum environmental and operational conditions anticipated to occur at the well;

(3) The accumulator system has sufficient fluid to operate the BOP system without assistance from the charging system.

Flowing Conditions

§250.730(a) Closing under flowing conditions (1 of 3)

Your BOP system (excluding casing shear) must be capable of closing and sealing the wellbore at all times, including under anticipated flowing conditions for the specific well conditions, without losing ram closure time and sealing integrity due to the corrosiveness, volume, and abrasiveness of any fluids in the wellbore that the BOP system may encounter.

§250.730(a) Closing under flowing conditions

Closing and sealing during flow conditions. Industry interprets this as shutting in on a kick.

From Preamble: BSEE does not anticipate that the industry will need to make any significant changes to its current or planned BOP systems to comply with this rule.

Technology is available to test under flowing conditions (if necessary), but flowing conditions would need to be defined. Erosion condition would need to be defined.

§250.730(a) Closing under flowing conditions

Project Number	**764**
Date of Summary	October 29, 2015
Subject	Subsea BOP Stack Shear/Seal Capability Modeling Tool
Performing Activity	Southwest Research Institute (SWRI)
Contracting Agency	Bureau of Safety and Environmental Enforcement
Cost	$470,816.00
Estimated Completion	September 1, 2016
Description	To address the need for a uniform verification method to assure blind-shear ram functionality, this project is to conduct computational analysis for a set of general cases where the following parameters are varied: tubing/string geometry (size/thickness), flow conditions/well pressure, fluid properties, and ram geometry. Computational analysis will include **finite element analysis (FEA) and well modeling simulations** to analyze shear forces and deformation within the tubing resulting from both ram action and fluid forces(hydrostatic pressure at water depth & wellbore kick)**The results from these simulations will be compiled in such a way as to provide a modeling tool with the ability to interpolate ram**

§250.731(d) – WCV

Verification that:

(1) The BOP stack is designed and suitable for the specific equipment on the rig and for the specific well design;

(2) The BOP stack has not been compromised or damaged from previous service; and

(3) The BOP stack will operate in the conditions in which it will be used.

§250.731(c)(d) – WCV

To issue a WCV, LR:

1) Verifies between well maintenance defined in 250.739 with surveyors on rigs and office support.
2) Verifies testing required by 30 CFR 250.737 with surveyors on rigs and office support.
3) Reviews shear verifications.
4) Performs technical review on daily reports.
5) Performs accumulator calcs and verifies capacity.
6) Reviews fluid compatibilty with BOP equipment.
7) Reviews environmental conditions such as temperature and H2S.
8) Issues a WCV and final report capturing all documentation.

Statements of Fact (SoF)

§250.VARIOUS – SoF (1 of 2)

Statements of Fact (SoF) can be issued for the following reasons:

- Customer request. To document a situation was witnessed.
- Required by 30 CFR §250.734(b) If operations are suspended to make repairs to any part of the subsea BOP system.
- Required by 30 CFR §250.738(b)(4) if you need to repair, replace, or reconfigure a surface or subsea BOP system.

§250.VARIOUS – SoF (2 of 2)

Statements of Fact (SoF) can be issued for the following reasons:

- Required by 30 CFR §250.738(i) if you activate any shear ram and pipe or casing is sheared.
- Required by 30 CFR §250.738(m) if you plan to utilize any other well-control equipment such as Subsea Accumulator module (SAM).
- Required by 30 CFR §250.738(o) if a redundant component such as a shear ram or annular fails a test.

§250.VARIOUS – SoF (2 of 4)

30 CFR §250.738: If you encounter the following situation, then you must:

(b)(4) Need to repair, replace, or reconfigure a surface or subsea BOP system; You must submit a report from a BAVO to the District Manager certifying that the BOP is fit for service.

(i) You activate any shear ram and pipe or casing is sheared; Retrieve, physically inspect, and conduct a full pressure test of the BOP stack after the situation is fully controlled. You must submit to the District Manager a report from a BAVO certifying that the BOP is fit to return to service.

§250.VARIOUS – SoF (3 of 4)

30 CFR §250.738: If you encounter the following situation, then you must:

(m) Plan to utilize any other well-control equipment (e.g., but not limited to, subsea isolation device, subsea accumulator module, or gas handler) that is in addition to the equipment required in this subpart (30 CFR §250, subpart G); Contact the District Manager and request approval in your APD or APM. Your request must include a report from a BAVO on the equipment's design and suitability for its intended use as well as any other information required by the District Manager.

§250.VARIOUS – SoF (4 of 4)

30 CFR §250.738: If you encounter the following situation, then you must:

(o) You install redundant components for well control in your BOP system that are in addition to the required components of this subpart (e.g., pipe/variable bore rams, shear rams, annular preventers, gas bleed lines, and choke/kill side outlets or lines); If any redundant component fails a test, you must submit a report from a BAVO that describes the failure and confirms that there is no impact on the BOP that will make it unfit for well-control purposes.

Mechanical Integrity Assessments (MIA)

5 Year Major Inspections

§250.732(d) – Mechanical Integrity Assessment (1 of 2)

One year after BAVO list is published, every 12 months a Mechanical Integrity Assessment (MIA) report must be submitted by a BAVO to include:

(1) A determination that the BOP stack and system meets or exceeds all requirements.

(2) Documentation of equipment's service life exists.

(3) Review of inspection, repair and maintenance records.

(4) Review of records related to modifications.

(5) A description of the Safety and Environmental Management Systems (SEMS) plans.

(6) Verification, qualification and training of inspection, repair, and maintenance personnel.

(7) Review records covering OEM safety alerts, all failure reports, and correction of issues.

§250.732(d) – Mechanical Integrity Assessment (2 of 2)

(8) A comprehensive assessment of the overall system including electrical and software.

(9) Verify traceability of all critical components.

(10) Verify the of use of a formal maintenance tracking system.

(11) Identify gaps or deficiencies related to inspection or maintenance.

(12) Verify inspection, maintenance, or repair work meets the manufacturer's design and material specifications.

(13) Verify use of written procedures for operation and minimum knowledge requirements for personnel.

(14) Make recommendations

Best strategy is to have your BAVO review these items on an ongoing basis.

§250.732(d) – Mechanical Integrity Assessment (1 of 5)

- Every 12 months a Mechanical Integrity Assessment (MIA) report must be submitted by a BAVO to include:

  (1) A determination that the BOP stack and system meets or exceeds all BSEE regulatory requirements, industry standards incorporated into this subpart, and recognized engineering practices.

  (2) Verification that complete documentation of the equipment's service life exists that demonstrates that the BOP stack has not been compromised or damaged during previous service.

§250.732(d) - MIA Report (2 of 5)

(3) A description of all inspection, repair and maintenance records reviewed, and verification that all repairs, replacement parts, and maintenance meet regulatory requirements, recognized engineering practices, and OEM specifications.

(4) A description of records reviewed related to any modifications to the equipment and verification that any such changes do not adversely affect the equipment's capability to perform as designed or invalidate test results.

(5) A description of the Safety and Environmental Management Systems (SEMS) plans reviewed related to assurance of quality and mechanical integrity of critical equipment and verification that the plans are comprehensive and fully implemented.

§250.732(d) - MIA Report (3 of 5)

(6) Verification that the qualification and training of inspection, repair, and maintenance personnel for the BOP systems meet recognized engineering practices and any applicable OEM requirements

(7) A description of all records reviewed covering OEM safety alerts, all failure reports, and verification that any design or maintenance issues have been completely identified and corrected.

(8) A comprehensive assessment of the overall system and verification that all components (including mechanical, hydraulic, electrical, and software) are compatible.

§250.732(d) - MIA Report (4 of 5)

(9) Verification that documentation exists concerning the traceability of the fabrication, repair, and maintenance of all critical components.

(10) Verification of use of a formal maintenance tracking system to ensure that corrective maintenance and scheduled maintenance is implemented in a timely manner.

(11) Identification of gaps or deficiencies related to inspection and maintenance procedures and documentation, documentation of any deferred maintenance, and verification of the completion of corrective action plans.

(12) Verification that any inspection, maintenance, or repair work meets the manufacturer's design and material specifications.

§250.732(d) - MIA Report (5 of 5)

(13)Verification of written procedures for operating the BOP stack and LMRP (including proper techniques to prevent accidental disconnection of these components) and minimum knowledge requirements for personnel authorized to operate and maintain BOP components.

(14)Recommendations, if any, for how to improve the fabrication, installation, operation, maintenance, inspection, and repair of the equipment.

LR captures much of this information on an ongoing basis and views this requirement as an ongoing process.

§250.731(f) – MIA Existence (1 of 1)

Certification stating that the MIA Report required in §250.732(d) has been submitted within the past 12 months for a subsea BOP, a BOP being used in a HPHT environment as defined in § 250.807, or a surface BOP on a floating facility.

The way the rule is written, this looks like a 90 day requirement. On July 28, an independent 3rd party or BAVO could not make this statement since MIA have not been required previously.

BSEE has clarified that MIA reports are not expected until 1 year after the BAVO list is published.

§250.739(b) 5 Year Inspection (1 of 2)

A complete breakdown and detailed physical inspection of the BOP and every associated system and component must be performed every 5 years. This complete breakdown and inspection may be performed in phased intervals. You must track and document all system and component inspection dates. These records must be available on the rig. A BAVO is required to be present during each inspection and must compile a detailed report documenting the inspection, including descriptions of any problems and how they were corrected. You must make these reports available to BSEE upon request. This complete breakdown and inspection must be performed every 5 years from the following applicable dates, whichever is later

§250.739(b) 5 Year Inspection (2 of 2)

LR's interpretation is that a BAVO is now physically required during all 5 year major inspections for any BOP and every associated system and component whether the inspection is performed on a rig, in a shop or for fleet spares. This only applies to the inspection itself, not any subsequent repairs.

Documentation that a BAVO was present for the 5 year major inspection is also expected for rigs entering the OCS from other parts of the world.

Complete breakdown is expected to be defined by OEM requirements and procedures.

Summary of other High Impact Changes

Summary of high impact changes (1 of 2)

§250.198(h)(63) - References

§250.724 – in 3 years, Real Time Monitoring (RTM)

§250.730(b) – OEM requirements and training

§250.734(a)(3) – in 5 years, Dedicated DMAS accumulators

§250.734(a)(15) – In 2 years, Gas bleed line

§250.730(d) – New BOP's must be manufactured to API Q1

§250.730(c) - Failure reporting - any issue during maintenance and testing when the rig is on location.

§250.734(a)(4) – Dec 28, ROV open functions for shear ram, pipe ram and LMRP disconnect

Maintenance and Training Requirements

§250.730(b) - Maintenance and Training (1 of 2)

Ensure that the design, fabrication, maintenance, and repair of your BOP system is in accordance with the requirements contained in this part, Original Equipment Manufacturers (OEM) recommendations unless otherwise directed by BSEE, and recognized engineering practices. The training and qualification of repair and maintenance personnel must meet or exceed any OEM training recommendations unless otherwise directed by BSEE.

The expectation is that manufacturer's requirements are published in Operations and Maintenance manuals, product bulletins, safety alerts, etc and made available to the industry.

§250.739(a) - OEM Maintenance Requirements (2 of 2)

You must maintain and inspect your BOP system to ensure that the equipment functions as designed. The BOP maintenance and inspections must meet or exceed any OEM recommendations, recognized engineering practices, and industry standards incorporated by reference into the regulations of this subpart, including API Standard 53 (incorporated by reference in § 250.198). You must document how you met or exceeded the provisions of API Standard 53, maintain complete records to ensure the traceability of BOP stack equipment beginning at fabrication, and record the results of your BOP inspections and maintenance actions. You must make all records available to BSEE upon request.

Accumulators

§250.734(a)(3) – Accumulators (1 of 2)

When operating with a subsea BOP system, you must: Have the accumulator capacity located subsea, to provide fast closure of the BOP components and to operate all critical functions in case of a loss of the power fluid connection to the surface;

Additional requirements: The accumulator capacity must:

(i) Operate each required shear ram, ram locks, one pipe ram, and disconnect the LMRP.

(ii) Have the capability of delivering fluid to each ROV function i.e., flying leads.

(iii) No later (29 April 2021) have bottles for the autoshear, and deadman that are dedicated to, but may be shared between, those functions.

(iv) Perform under MASP conditions as defined for the operation

§250.734(a)(3) – Accumulators (2 of 2)

BSEE has clarified that the accumulator volume must exist subsea for any ROV to be able to provide for closing fluid and times, and that a specific ROV capable of meeting the times does not qualify as meeting the requirement. Subsea Accumulator Modules or Stack mounted bottles both are in line with the expectations.

LR notes that BSEE has specifically not included the ability to use the dedicated deadman/autoshear bottles for any other purpose, as IS stated in API standard 53. LR interprets this difference to be on purpose, meaning that after 2 years, these bottles cannot be used for the ROV function purpose.

General / Other

§250.734(a)(4) - ROV intervention capability (1 of 2)

When operating with a subsea BOP system, you must: (4) Have a subsea BOP stack equipped with remotely operated vehicle (ROV) intervention capability; Additional requirements: The ROV must be capable of opening and closing each shear ram, ram locks, one pipe ram, and LMRP disconnect under MASP conditions as defined for the operation. The ROV panels on the BOP and LMRP must be compliant with API RP 17H (as incorporated by reference in § 250.198).

Deadline for plans to install ROV open functions as of July 28, 2016, and a deadline for installation of ROV open functions by Dec 28, 2016.

§250.734(a)(4) - ROV intervention capability (2 of 2)

Opening of rams with an ROV will allow bore access to a capping stack when required.

Does operation include open and close for each of these functions, including shear rams open , pipe rams open, and connector lock. If so, is it intended to be capable of opening a sealing ram under MASP?

§250.734(d)(4)&(5) - ROV intervention test (1 of 1)

(iv) You must test and verify closure of all ROV intervention functions on your subsea BOP stack during the stump test.

(v) You must test and verify closure of at least one set of rams during the initial subsea test through a ROV hot stab.

ALL ROV functions are required to be tested during stump testing. LR interprets that opening functions are not required to be tested subsea.

§250.734(a)(15) - Gas bleed line (1 of 2)

When operating with a subsea BOP system, you must: (15) Install a gas bleed line with two valves for the annular preventer no later than 30 April 2018;

Additional requirements:

(i) The valves must hold pressure from both directions;

(ii) If you have dual annulars, you must install the gas bleed line below the upper annular.

§250.734(a)(15) - Gas bleed line (2 of 2)

Since only one annular is required, if the upper annular fails and is tagged out, the gas bleed line will no longer be below the upper most annular in use.

It is LR's interpretation that the gas bleed requirement is no longer met if the upper annular is lost. One recommendation is to install a gas bleed line below both annulars.

Will BSEE accept a risk assessment and/ or a procedural change is the upper annular is not functioning?

§250.730(c) - Failure reporting (1 of 1)

Failure reporting methods of Standard 53 must be followed. Failure investigation and analysis have to be performed in 120 days.

BOPFailure@BSEE.gov.

BSEE has clarified that the failure reporting requirements for the BOP equipment are triggered when the rig is on site and includes all BOP stacks and any issues discovered during any testing or maintenance.

§250.737(c) – Digital Charts (1 of 1)

(c) Duration of pressure test. Each test must hold the required pressure for 5 minutes, which must be recorded on a chart not exceeding 4 hours. However, for surface BOP systems and surface equipment of a subsea BOP system, a 3-minute test duration is acceptable if recorded on a chart not exceeding 4 hours, or on a digital recorder. The recorded test pressures must be within the middle half of the chart range, i.e., cannot be within the lower or upper one-fourth of the chart range. If the equipment does not hold the required pressure during a test, you must correct the problem and retest the affected component(s).

BSEE has clarified that digital charts are acceptable for stump testing. LR has vetted multiple digital systems and accepts those where non-predictive tests are generated.

§250.730(d) – API Q1 (1 of 1)

If you plan to use a BOP stack manufactured after the effective date of this regulation, you must use one manufactured pursuant to an API Spec. Q1 (as incorporated by reference in §250.198) quality management system. Such quality management system must be certified by an entity that meets the requirements of ISO 17011.

LR does see this requirement as being applied to all newly manufactured or remanufactured equipment after implementation. Could be a challenge for some intervention equipment, but the big 3 are all Q1.

§250.730(a)(3) – VBR's (1 of 1)

LR interprets 250.730(a)(3) to be a pipe and variable bore ram design requirement. Such that between all of the pipe and variable bore rams installed, the BOP stack will be capable of effectively closing and sealing on any drill pipe, work string, and tubing in the hole under MASP.

§250.724 - Real Time Monitoring (RTM) (1 of 1)

(a) No later (29 April 2019), when conducting well operations with a subsea BOP or with a surface BOP on a floating facility, or when operating in an HPHT environment, you must gather and monitor real-time well data using an independent, automatic, and continuous monitoring system capable of recording, storing, and transmitting data regarding the following:

(1) The BOP control system;

(2) The well's fluid handling system on the rig; and

(3) The well's downhole conditions with the bottom hole assembly tools (if any tools are installed).

§250.724 - Real Time Monitoring (RTM) (2 of 5)

(b) You must transmit these data as they are gathered, barring unforeseeable or unpreventable interruptions in transmission, and have the capability to monitor the data onshore, using qualified personnel in accordance with a real-time monitoring plan, as provided in paragraph (c). Onshore personnel who monitor real-time data must have the capability to contact rig personnel during operations. After operations, you must preserve and store these data onshore for recordkeeping purposes as required in §250.740 and §250.741. You must provide BSEE with access to your designated real-time monitoring data onshore upon request. You must include in your APD a certification that you have a real-time monitoring plan that meets the criteria in paragraph (c).

§250.724 - Real Time Monitoring (RTM) (3 of 5)

(c) You must develop and implement a real-time monitoring plan. Your real-time monitoring plan, and all real-time monitoring data, must be made available to BSEE upon request. Your real-time monitoring plan must include the following:

(1) A description of your real-time monitoring capabilities, including the types of the data collected;

(2) A description of how your real-time monitoring data will be transmitted onshore during operations, how the data will be labelled and monitored by qualified onshore personnel, and how it will be stored onshore;

(3) A description of your procedures for providing BSEE access, upon request, to your real-time monitoring data including, if applicable, the location of any onshore data monitoring or data storage facilities;

§250.724 - Real Time Monitoring (RTM) (4 of 5)

(4) The qualifications of the onshore personnel monitoring the data;

(5) Your procedures for, and methods of, communication between rig personnel and the onshore monitoring personnel; and

(6) Actions to be taken if you lose any real-time monitoring capabilities or communications between rig and onshore personnel, and a protocol for how you will respond to any significant and/or prolonged interruption of monitoring or onshore offshore communications, including your protocol for notifying BSEE of any significant and/or prolonged interruptions.

§250.724 - Real Time Monitoring (RTM) (5 of 5)

LR interprets the requirement as being able to have real-time monitoring of data that is already being captured on the rig including data logger and ROV feeds and that additional sensors are not required.

Pending Interpretations

Topics for Clarification

- Casing shear ram placement: There are situations where because of tool joint spacing where Blind – Casing – Blind is optimal. Is this acceptable?
- 5 Year Major Inspection: Is a BAVO required at every 5 yr major inspection regardless of location?
- 737(d)(ii): Remote panels where all BOP functions are not included (e.g., life boat panels) must be function-tested upon the initial BOP tests and monthly thereafter. – Call these emergency stations and function every BWM.
- Intervention equipment and defining as closely as possible to a BOP.

Questions ??

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