



DIAMOND
OFFSHORE



DIAMOND OFFSHORE PROPOSAL TO BSEE BOP PANEL #3

G♦E♦M♦S
GLOBAL EXCELLENCE
MANAGEMENT SYSTEM



BOP TEST, MAINTENANCE, & CERTIFICATION REQUIREMENTS

- TESTING:
 - Pre-deployment.
 - During well drilling operation.
- INSPECTION - MAINTERNANCE:
 - Pre-deployment.
 - One to five years.
- CERTIFICATION REQUIREMENTS.





TESTING

■ Pre-deployment:

- Unless restricted by height, the entire stack (LMRP mated upon the lower BOP) should be pressure tested as a unit.
- The annular(s) and Ram(s) will be tested with the smallest and largest OD drill pipe to be utilized in well drilling program to a predetermined specified test pressure.
- The capability of the shear ram and ram operator shall be verified with the manufacturer for the planned drill pipe.
- All ram-type BOPs with ram locks shall be pressure tested with the locks in the closed position and the closing and locking pressure vented.





TESTING - continue

- During drilling operation with BOP installed:
 - Function test all BOPs weekly.
 - Pressure test all BOPs every 21 days, allow exception with MOC.
 - Blind and/or casing shear rams shall not be tested when pipe is in the BOP.
 - For all subsea pressure tests, the annular BOP(s) and Ram(s) shall be pressure tested on the smallest O.D. drill pipe to be utilized in the hole section.





INSPECTION - MAINTENANCE

- **PRE-DEPLOYMENT:**
 - Prior to deployment, the well control equipment should be cleaned, visually inspected, and preventative maintenance performed.
 - The equipment owner's PM program shall address inspection (internal/external visual, dimensional, NDE, etc.) and pressure integrity testing.
 - Inspections shall be performed in accordance with documented equipment owner's reliability data.





INSPECTION - MAINTENANCE

- **ONE TO FIVE YEARS:**
- At least every five years, the BOP system shall be inspected for repair or remanufacturing, in accordance with equipment owner's PM program. Individual components can be inspected on a staggered schedule.
- As an alternative, a rig specific inspection frequency can vary from this five year interval if the equipment owner collects and analyzes condition based data (including performance data) to justify a different frequency. This alternative may include dynamic vs. static seals, corrosion resistant alloy inlays in sealing surfaces, resilient vs. metal to metal seals, replaceable wear plates, etc.
- Certain equipment should undergo a critical inspection (internal/external visual, dimensional, NDE, etc.) annually, or upon recovery if exceeding one year: e.g., shear blades, bonnet bolts (or other bonnet/door locking devices), ram shaft/button/foot, welded hubs, ram cavities, and ram blocks.



INSPECTION - MAINTENACE

- **ONE TO FIVE YEARS - Continue:**
- Recommended wear tolerances (ram blocks and ram cavities) shall be provided by the manufacturer and the equipment owner's PM program shall be provided by or verified against the manufacturer's allowable wear limits.
- Inspections shall be performed by a competent person(s).





CERTIFICATION REQUIREMENTS

- **DRILLING PERMIT FOR GOM:** an independent third party conduct a detailed physical inspection and components review of the BOP. The components review must be conducted in accordance with the Original Equipment Manufacturer (OEM) specifications and other applicable standards. The Certificate must certify that:
 - The BOP will operate as originally designed
 - Any modifications or upgrades to the BOP stack conducted after delivery have not compromised the design or operation of the BOP.
 - This certification is required one time only.
- **BEGINNING OF A NEW WELL:** Requires an independent third party verification that shows the following:
 - The BOP stack is designed for the specific equipment on the rig and for the specific well design (well location and well execution plan) including certification that the shear rams are appropriate for the project.



CERTIFICATION REQUIREMENTS

- BEGINNING OF A NEW WELL - Continue:
 - The BOP stack has not been compromised or damaged from previous service.
 - The BOP stack will operate in the conditions in which it will be used.





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