Subsea Decommissioning

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Overview

- Idle Iron Statistics

- Subsea Well Intervention Units and What BSEE is requiring
Idle Iron
§ 250.1703 What are the general requirements for decommissioning?

When your facilities are no longer useful for operations, you must:
(a) Remove all platforms and other facilities;

§ 250.1711 - When will BSEE order me to permanently plug a well?

BSEE will order you to permanently plug a well if that well:
(a) Poses a hazard to safety or the environment; or
(b) Is not useful for lease operations and is not capable of oil, gas, or sulphur production in paying quantities.
The NTL Defines “No longer useful for operations” which is used in the regulations for:

**Wells**
- No production 5 years
- No plans for future operations

**Platforms**
- Toppled
- Has not been used in past 5 years for operations associated with exploration, development or production of oil/gas
NTL Requirements

Idle Wells must perform one of the following within 3 years:

- PA the well in accordance 250.1712 - .1717; or
- TA the well in accordance 250.1721; or
- Provide the well with downhole isolation. Within 2 years of setting downhole plugs, they must either PA/TA the well

Idle platforms must be removed as soon as possible, but not longer than 5 years after it became no longer useful.
Stats

- BSEE is tracking companies’ compliance with their submitted idle iron abandonment plans

- Inventory of idle iron at time of NTL
  - 3,233 total idle wells
  - 617 total idle platforms

- Current Inventory of idle iron (as of 2/9/2015)
  - 1,010 total idle wells (261 Newly idle since NTL)
  - 270 total idle platforms (82 Newly idle since NTL)
Subsea Well Intervention Units
Subsea Well Intervention

**Well Intervention Units** – any non-rig BOP subsea operation that uses riser or riserless technology to conduct well work.

Three types:
- Intervention Riser System (IRS)
- Subsea Intervention Lubricator (SIL)
- Well Stimulation Tool (WST)
Subsea Well Intervention

**Intervention Riser System (IRS)**
- This type of intervention unit has a surface BOP with a subsea emergency disconnect package (EDP) on top of the tree/wellhead connected via a riser.
- The EDP is a system of valves or rams that will shear and seal the wellbore in case of a well control issue or drive/drift off of the vessel.

**Subsea Intervention Lubricator (SIL)**
- This type of intervention unit contains a workover package and wireline lubricator located on top the subsea tree/wellhead.
- The workover package is a system of valves or rams utilized for well control purposes, but the package will shear and seal the wellbore in case of a well control issue or drive/drift off of the vessel.
Subsea Well Intervention (cont.)

Well Stimulation Tool (WST)

- This type of intervention unit is used for subsea pumping operations (i.e. acid jobs). It is usually connected to the top of the tree or through the choke.
- The well stimulation tool is a system of valves (with at least 2 barriers) used for well control purposes.
- BSEE has slightly different requirements on this system due to no pipe passing through the unit.
Subsea Intervention Units are in retrospect considered BOPs per 250.1706(e).

These units are being reviewed in accordance with the subsea BOP regulations as much as possible.

The following documentations are currently being requested and reviewed by BSEE:
- Control system drawings
- Stump Test Procedures
- On-Bottom Procedures
- Third Party Shearing Verification
- Third Party Compatibility
Control System Drawings

BSEE is requesting the following drawings:
- HPU Hydraulic Drawings
- Intervention Unit Hydraulic Drawings
- Pod Drawings (if applicable)

From these drawings BSEE will review the following:
- Make sure the drawings correctly depict how the intervention system will operate.
- Deadman system circuitry
- Autoshear system circuitry (DP vessels only)
- Valving Types
  - (Gate Valve versus BSR)
  - 2 barrier rule
Third Party Shearing Verification

- Shearing Data that is being requested by BSEE:
  - Actual shearing data showing that the valves or rams located on the intervention unit can shear an equal or more ridged workstring/wire than what will be across the stack during the operation you intend to perform with subsequent pressure tests. This shearing test must be third party verified.
  - Third party verified theoretical calculations for each size pipe/wire that will be across the intervention stack calculated with a pressure equal or greater than the maximum anticipated surface pressure (MASP) must be submitted.

- This is to show that the valving or shear rams installed are capable of shearing any size workstring/wire across the stack under MASP.

- Not required for WSTs.
Third Party Compatibility

- Third Party must certify that the Intervention Unit:
  - is designed for specific equipment on the rig and for the specific well design.
  - has not been compromised or damaged from previous service.
  - will operate in the conditions in which it will be used.

- This must be submitted and approved by BSEE before any well work can begin.

- Not Required for WSTs
Stump Test and On-Bottom Procedures

A stump and on-bottom test must be reviewed and approved by BSEE.

Stump Test Procedures
- A full pressure test is required.
- All ROV hot stab functions must be tested.
- Must function test deadman and autoshear systems.

On-Bottom Test Requirements
- A full pressure test is required.
- Must function test and verify closure at least one valve or set of rams with a ROV hot stab with a subsequent pressure test.
- Must function test the deadman system and verify closure at least one valve or set of rams with a subsequent pressure test.