Sustained Casing Pressure

Identification and Remediation
May 8, 2015

“To promote safety, protect the environment and conserve resources offshore through vigorous regulatory oversight and enforcement.”
Overview

- Monitoring
- Casing Pressure Categories
- Guidelines to Granting a Departure
- Considerations for Well Type
Monitoring

- Fixed wells: Monthly, one data point
- Subsea wells: Continuously, one data point per day
- Hybrid wells: Continuously, one data point for each riser/production casing
## Monitoring

<table>
<thead>
<tr>
<th>Condition</th>
<th>Testing Repeated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressure request denied</td>
<td>Immediately</td>
</tr>
<tr>
<td>Well previously on gas lift</td>
<td>Immediately on A annulus*</td>
</tr>
<tr>
<td>Pressure request invalid</td>
<td>Within 30 days</td>
</tr>
<tr>
<td>Increase in 200 psi over previous test</td>
<td>Within 30 days</td>
</tr>
<tr>
<td>If A annulus has pressure exceeding 10% of MIYP</td>
<td>Once per year*</td>
</tr>
<tr>
<td>After any corrective action</td>
<td>Within 30 days</td>
</tr>
<tr>
<td>Outer annuli have pressure exceeding 20% of MIYP</td>
<td>Once every five years</td>
</tr>
</tbody>
</table>

* Exclude wells on gas lift
Casing Pressure Categories

“Self Approval” granted unless:

- Fixed platform
  - Casing pressure above MAWOP
  - Does not bleed to through ½ needle valve in 24 hours, assuming SCP is greater than 100 psig

- All wells:
  - Demonstrated communication between annuli/tubing, annuli/annuli, casing/riser, etc.

- Subsea:
  - Above 100 psig + external hydrostatic pressure

- Hybrid:
  - Above 100 psig
Casing Pressure Categories

Departure Granted

- ALL requests are granted on a well by well basis.
- Presents no hazard to personnel, platform, formation, or environment
- Allows for continued production
- Lasts from six months to three years
- Check daily on manned platforms
- Check weekly on unmanned
Casing Pressure Categories

Departure Terminates If:

- End of granted period
- Intermediate/production casing pressure increases more than 200 psi
- Surface casing increases more than 200 psi
- If worked over, side tracked, recompleted, or acidized
- If a different casing or riser on same well requires a casing pressure departure
Casing Pressure Categories

- Departure Denial, when?
  - Communication departure requests do not bleed to zero, almost always

- Determined, again, on a well by well basis
Casing Pressure Categories

Departure Denial
- Operator has 30 days from the date of denial to respond and submit plan of action.
- Operator has 90 days from the date of denial to commence work.
- Regardless of SCP status (Self Approved, Departure Request) upon completion of work, operator must submit new test.
Subsea wells:
- Only production casing can be monitored
- Monitored continuously via umbilical, etc.
  - Equipment failure will require departure
- NOT required to bleed to zero.
  - BSEE takes into account thermal expansion
    - Must be demonstrated
- Should limit bleed off due to unknown annular pressures
Special Considerations

Subsea Well Thermal Test

Bleed 15-20% of pressure off once the well is thermally stable.

If well remains stable for 24 hours, pressure is determined to be thermal.
Special Considerations

Dry Tree Tie-back Systems

- Zero Tolerance for SCP on inner or outer risers together at same time
  - No “Self Approved” Category
  - Monitor Continuously

- Thermal or imposed pressure can be on inner or outer riser

- Diagnostic must be conducted every six months or if pressure increases more than 100 psi on inner/outer riser
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