Fieldwood Energy

Gulf of Mexico Pipeline Abandonment
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Marine Technology Society
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PRESENTATION OVERVIEW

Pipeline Statistics  Pipeline Abandonment Requirements  Significant Sediment Resources  Field Execution  Case Study
Status and Location of Oil and Gas Pipelines in the Gulf of Mexico
<table>
<thead>
<tr>
<th>Pipeline Status</th>
<th>Miles</th>
<th>Number of Pipelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active</td>
<td>21,245</td>
<td>3,788</td>
</tr>
<tr>
<td>Out of Service</td>
<td>2,273</td>
<td>767</td>
</tr>
<tr>
<td>Abandoned</td>
<td>19,244</td>
<td>8,782</td>
</tr>
<tr>
<td>Removed</td>
<td>519</td>
<td>961</td>
</tr>
<tr>
<td>Permitted for Abandonment</td>
<td>1,533</td>
<td>367</td>
</tr>
<tr>
<td>Permitted for Removal</td>
<td>53</td>
<td>73</td>
</tr>
<tr>
<td>Total</td>
<td>45,056</td>
<td>14,927</td>
</tr>
<tr>
<td>Water Depth (ft.)</td>
<td>Active</td>
<td>Out of Service</td>
</tr>
<tr>
<td>------------------</td>
<td>--------</td>
<td>----------------</td>
</tr>
<tr>
<td>0-100</td>
<td>1,487</td>
<td>416</td>
</tr>
<tr>
<td>101-200</td>
<td>364</td>
<td>90</td>
</tr>
<tr>
<td>201-300</td>
<td>242</td>
<td>40</td>
</tr>
<tr>
<td>301-400</td>
<td>123</td>
<td>10</td>
</tr>
<tr>
<td>401-500</td>
<td>35</td>
<td>8</td>
</tr>
<tr>
<td>501-1,000</td>
<td>77</td>
<td>7</td>
</tr>
<tr>
<td>&gt;1,000</td>
<td>1,388</td>
<td>187</td>
</tr>
</tbody>
</table>
BSEE Pipeline Data
Pipeline Abandonment Requirements

- **30CFR250.1750** - When may I decommission a pipeline in place?
- **30CFR250.1751** - How do I decommission a pipeline in Place?
- **30CFR250.1754** - When Must I remove a pipeline decommissioned in place?
- **30CFR250.1752** - How do I remove a pipeline?
- **30CFR250.1753** - After I decommission a pipeline what information must I submit?
Sand Sediment Resource Areas
Sand Sediment

- NTL No. 2009-G04
- OCS sediment resources refer to the sediment deposit(s), including clay, silt, sand and gravel size particles and shell, found on or below the surface of the seabed on the OCS.
- Coastal Restoration, beach nourishment, and levee reconstruction are crucial to mitigate future coastal erosion, land loss, flooding and storm damage in the GoM, especially along coastal Louisiana.
Sand Sediment Resource Areas

- Request for in-place decommissioning of pipeline in these designated areas are discouraged. If it is deemed necessary, BSEE may require pipelines previously decommissioned in place to be removed to minimize conflict with other uses of the OCS
- Reviewed by BSEE on case by case basis
- Coastal Zone Management review
- Longer approval time
- Some have been allowed to be abandoned in-place
Project Execution
- Field Inspection
- Prepare Pipeline
- Flush Pipeline
- Abandon Pipeline
Field Inspection

- Company Rep
- Fly out to each platform
- Identify
  - Pig Launcher/Receiver
  - Tie-in Points
  - Isolation
  - Flange Size and Rating
Prepare Pipeline

- Personnel & Equipment
  - Company Rep
  - Construction Crew
  - 175-ft M/V
- Scope of Work
  - Bleed down the pipeline
  - Drop valve(s)
  - Install Isolation Flange
  - Install Flushing Flange
Flush Pipeline

- Personnel & Equipment
  - 2 Company Reps
  - M/V Flushing Spread
  - M/V Filtration Spread
- Scope of Work
  - Set up on opposite ends
  - Pig or flush pipeline with Seawater
  - Confirm PL is cleared of hydrocarbons by observing clean sheen test
Abandon Pipeline

- Personnel & Equipment
  - 2 Company Rep
  - DSV & Dive Crew*
- Scope of Work
  - Remove Tube Turn
  - Remove 20-ft of PL
  - Plumber’s plug in PL
  - Bury 3-ft BML
  - Cover w/ sand/cement bags
  - Cut 3-ft section on +10
GC 89 Pipeline Abandonment

- 8-in Gas 36,840-ft, 1880 bbl.
- 6-in OIL 36,797-ft, 985 bbl.
- From GC 89 A (670-ft) to GB 128 A (705-ft)
- Loop Pipelines at GB 128 A
- Flush and Filter at GC 89 A
- Abandon @ GC 89 A with ADS Hard Suit
- Abandon @ GB 128 with ROV
GB 128 Pig Trap Loop

1. Remove this valve and blind flange

2. Close

3. Close

4. Close

5. Close

5a. Close

5b. Close

5c. Remove this valve and blind flange

6. Close

6a. Close

6b. Remove this valve and

- Verify flange sizes:
  rating of pipe
- Verify that there is:
  the export pipelines
- Verify that are being
  "close" are operation
GC 89 - Pipeline Abandonment with ADS Hard Suit