TDW Offshore Services
Fabrikkveien 15
P.O. Box 8011
N-4068 Stavanger
NORWAY
ph: +47 51 44 32 40
fax: +47 51 44 32 41

www.tdwilliamson.com
ISO 9001:2008
ISO 14001:2004
OHSAS 18001:2007

Inline Isolation Provides Safe Decommissioning Benefits at UK Gas Terminal

Use of T.D. Williamson SmartPlug® inline isolation tool alleviates the need for pipeline depressurization during onshore decommissioning activities

#oilandgas #pipelines

STAVANGER, Norway, September 21, 2017 – When a multinational Energy and Services company planned to decommission an onshore gas terminal in northwest England, they required a fast, total solution that would avoid depressurizing and blowing down a 40 km (25 mi), 36-inch gas pipeline. The pipeline runs from an offshore field through north and south sub-terminals prior to feeding into the United Kingdom's gas transmission network. A key concern was to complete the line decommissioning safely and quickly, to minimize potential disruptions to the supply schedule.

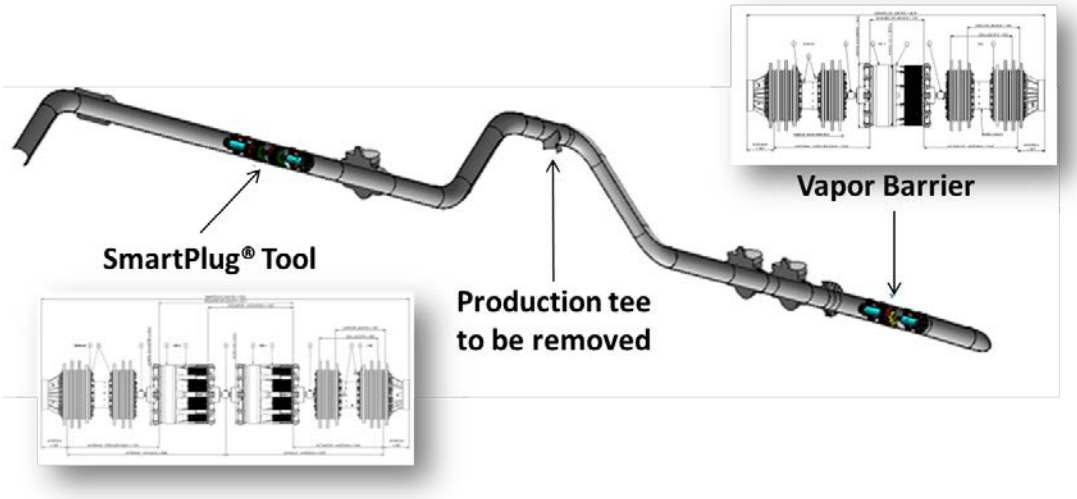
The solution was the proprietary SmartPlug® inline isolation tool from T.D. Williamson (TDW). The SmartPlug tool is a remotely controlled, piggable pipeline pressure isolation device that allows pipeline sections to be isolated at or close to their operating pressure. Not only does this reduce downtime during both planned maintenance and unexpected repairs, it also keeps pipeline inventory in place.

The operator initially contracted TDW to provide isolation services using a 36-inch SmartPlug tool, providing double-block isolation against the gas pressure in the pipeline. This would enable the safe removal of a 36-inch full bore tee as part of the decommissioning process. During operational discussions, however, the operator requested a pipe end barrier. The goal was to provide a safe vapor barrier behind cutting and welding near 1 km (0.62 mi) of open, water-filled pipeline potentially containing a low content of dissolved hydrocarbons.

After considering the options, TDW delivered a second 36-inch SmartPlug tool configured to provide a single block isolation as a risk mitigation measure. The single module SmartPlug tool acted as a pipe end barrier to contain the pipeline contents once the pipeline was cut. As time was of the essence, extreme focus and effort were required to deliver the designed, assembled, and tested second single module SmartPlug tool on site within three days.

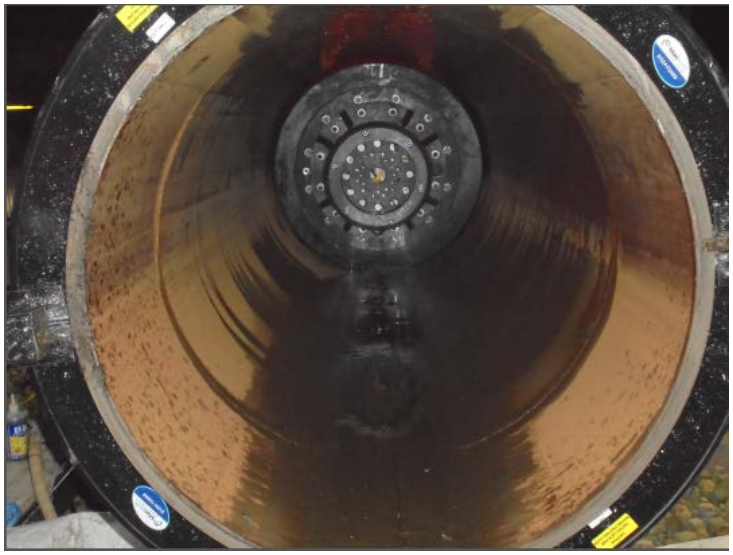
The operation at the south sub-terminal began by launching, pigging, and setting the first SmartPlug tool to create double-block isolation against the 16 bar (232 psi) gas pressure in

the pipeline. Once the first SmartPlug tool was set against full line pressure, the line was depressurized. The second SmartPlug tool was then launched and pigged to the designated location approximately 40 m (131.23 ft.) upstream of the primary isolation tool. This tool acted as a vapor barrier to the pipeline from the north terminal. Both SmartPlug tools were tracked and remotely activated by the proprietary TDW SmartTrack™ system, which uses extremely low-frequency signals from the built-in SmartPlug transponder. After both tools were set, TDW monitored the integrity of each isolation during the full decommissioning work activity. Upon completion of the decommissioning activities, the SmartPlug tools were pigged back to the receiver using residual gas pressure from the pipeline.



According to Thomas Idland, TDW Senior Manager, Operations Offshore, the nature of the operation required careful design, attention to detail, and risk mitigation during tool launch, set, and retrieval.

“TDW engineers were available on site at all times during the operation to provide any additional support to the client and TDW operating crew,” Idland said. “The out-of-box solution engineered by TDW and the high quality of execution in the field were recognized and well-appreciated by the client.”



SmartPlug™ tool isolating pipeline section at 16 bar (232 psi)

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About T.D. Williamson

Drawing upon a 96-year history of industry leadership, TDW delivers a comprehensive portfolio of safe pipeline system solutions for onshore and offshore applications, including advanced isolation and repair, integrated pigging, and integrity assessment solutions.

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For further information or imagery, contact:

Corporate Communications

T.D. Williamson

Tulsa, Oklahoma, U.S.A

Phone: 918-447-5000

Email: corporate-communications@tdwilliamson.com

Web: www.tdwilliamson.com