



## A North Sea tradition that is growing stronger

An E&P operator drilling in Norway becomes the latest to endorse the use of Dopeless® connections in the North Sea, where the technology debuted in 2003.

### Summary

#### Scandinavian partners

Located just north of the boundary with the Danish continental shelf, Trym is the first Norwegian offshore field to be operated by a Danish company. DONG Energy's development plans for the field consist of two horizontal wells tied back to a subsea installation, from where oil, gas and condensate will be transported to the nearby Harald platform.

The first of the two wells (3/7-A-1-H) came on stream in February 2011. Dopeless® technology – which was originally developed by Tenaris following a request by another operator working in the Norwegian North Sea – was chosen because of its ability to significantly reduce the environmental impact of running pipe, as well as its health and safety benefits.

The nearly flawless performance exhibited by the dope-free connections (used in three of the well strings) has led DONG Energy to confirm their use not only in the second Trym well but also in Oselvar, the company's next project in Norwegian waters.

### Challenges

#### Meeting local environmental regulations

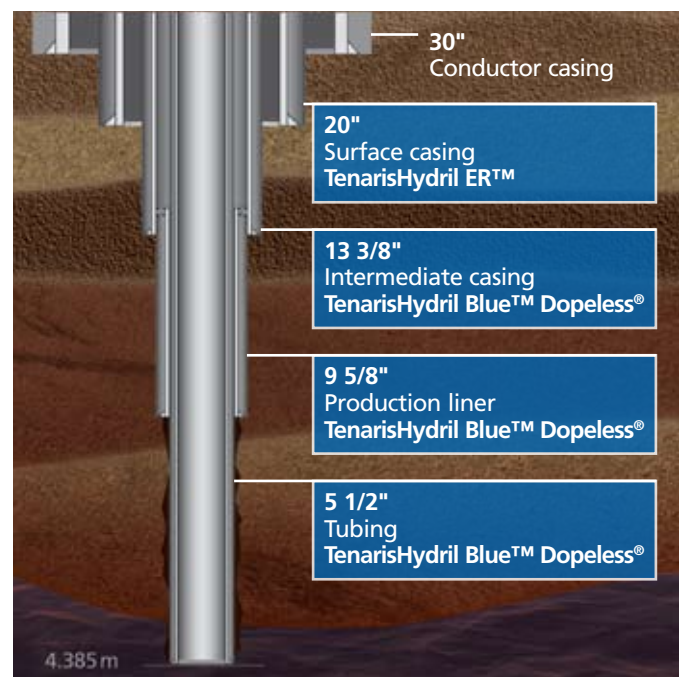
Norway has some of the strictest environmental policies in the world. Local regulations place severe restrictions on the release of chemicals by E&P companies working offshore, a measure designed to protect both natural marine ecosystems and the local fishing industry.

This has a direct impact on pipe running operations. The typical thread compound used in oil and gas fields worldwide (API Modified) is effective in preventing galling or seizing, but due to its heavy metal content, its offshore discharge has been banned in the region.

The use of new, environmentally-friendly compounds is a less than optimal solution, given that their performance in terms of resistance to galling and/or torque consistency is less than that of API Modified thread compounds. There was a need for a real alternative to attain good performance while complying with local legislation.

### PROJECT PROFILE

<b>Operator</b> DONG Energy	<b>Well purpose</b> Development
<b>Location</b> North Sea (Norwegian Shelf)	<b>Products highlighted</b> <ul style="list-style-type: none"> <li>• 13 3/8" casing, 9 5/8" liner and 5 1/2" tubing with TenarisHydril Blue™ Dopeless® connections</li> <li>• 20" casing with TenarisHydril ER™</li> </ul>
<b>Field</b> Trym (oil & gas, offshore)	<b>Services provided</b> <ul style="list-style-type: none"> <li>• Field inspection</li> <li>• Running assistance</li> <li>• Threading assistance</li> </ul>
<b>Well</b> 3/7-A-1-H (horizontal)	



▲ The offshore well schematic used by DONG Energy in Norway.

## Reducing risk on automated rigs

Automated rigs constitute the vast majority of offshore platforms in Norway and the Trym project is no exception.

The utilization of automatic equipment to handle and run pipes subjects connections to demanding conditions, as human intervention is minimized in critical stages such as pipe alignment, stabbing and thread spin-in.

### Solution

## No wet lubricants, no cleaning, no accidents

The use of Dopeless® technology at the Trym field in Norway spared the operator from performing a number of connection doping and cleaning tasks during the running preparation phase for all three strings. Dopeless® products require less people on the rig floor, thus reducing the chances of potential accidents and making pipe running operations safer.

Dope-free connections also introduce a number of operational advantages. Since Dopeless® connections are rig-ready, much simpler and significantly faster running jobs are attained. Additionally, the uniformly applied dry coating generates very stable make-ups with easy-to-interpret torque-turn charts, while a superior metal surface protection leads to a reduced risk of connection damage during handling, make-ups and break-outs. The ruggedness of TenarisHydril Blue™ connection combined with the increased galling resistance provided by the Dopeless® technology ensures a smooth running operation, significantly reducing the risk of connection damage.

## As green as it gets

Three of the strings run into the well (the 13 3/8" casing to approximately 1900 m TVD RT, the 9 5/8" liner to 3375 m TVD RT and the 5 1/2" tubing run to TD) were fitted with Blue™ Dopeless® connections.

Unlike standard connections, Dopeless® premium tubular products arrive at the rig site with the right amount of lubricant. Both storage and running compounds are replaced by a dry, multifunctional coating that is uniformly applied to the pin and box members in a controlled industrial process carried out after pipe threading.

By completely taking away the use of wet chemicals from pipe running operations, worries about compliance with local environmental regulations instantly become a thing of the past.

## Full service support

DONG had requested that local Field Services specialists from Tenaris, who are familiar not only with Dopeless® operational issues



- ▲ For the North Sea, Blue™ Dopeless® connections reduce the environmental impact of running pipe.

but also with the particularities of the North Sea's E&P industry, be present at the site. A team was sent in to inspect all joints on the deck prior to installation, review recommended technical guidelines together with the casing running crew and provide on-site technical support throughout the process.

### Results

## The way to go

Of a total of 864 Blue™ Dopeless® connections that were run into the well, 852 (over 98.6%) were successfully made up at the first attempt, and none were rejected. The use of Dopeless® technology allowed DONG to contribute to environmental preservation.

## Next step: Oselvar

The positive experience in Norway has led DONG Denmark to request that all future TenarisHydril premium tubular products come equipped with the revolutionary dry coating. The operator has already confirmed the use of the technology on the second Trym well and at the Oselvar field, the company's next project in the Norwegian North Sea.

Oselvar will be developed through three horizontal production wells. In them, even the 20" surface casing section will incorporate Dopeless® connections – consolidating a strong tradition of excellence in the North Sea.



For contact information, please visit our site:  
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