

Road to the North – DSME efforts to YAMAL

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ABSTRACT

This key note speech addresses all the involved parties' effort not limited to DSME's initiative since the achievement should not be claimed as a small group's excellence but as a group of passionate frontiers' efforts. Project Overview offers a bird view to the overall picture of YAMAL LNG Carrier Project in order to attract readers' attention to an epic full of exciting stories. The first main story covers engineering activities to overcome challenges from the unexplored areas and to achieve the proclaimed goal as well. The second story presents preparation and experience for the ice trial of the world's first icebreaking LNG carrier at the North, which was performed for the first vessel out of fifteen ships.

KEY WORDS : Arctic class LNG carriers; Ice-Structure interaction; Ice trial; Winterization; D-VACO.

PROJECT OVERVIEW

YAMAL project involves development of fifteen LNG carriers operating from Sabetta on the Yamal peninsula to worldwide major ports to transport LNG cargo. The vessels are to be designed complying with the requirements of Icebreaking ARC7 LNG carrier to be able to operate in the harsh ice field as well as open sea without ice. Optimization and/or compromising were inevitable to meet the two incompatible requirements using one design.

CHALLENGE AND RESPONSE

This section addresses designers' efforts from exploring challenges during the targeted operation to seeking design solutions. The contents cover the following:

- CCS Selection considering Ice-Structure Interaction
- Hull form development
- Hull structure design and construction
- Winterizations
- LNG as fuel gas – D-VACO

BEAUTIFUL BUT CROUCHING WHITE PLANE

The first vessel is launched and sailed away to the North after successful sea trial in an open sea. It still needs ice trial, which eventually proves all the equipped devices, as a whole, will work fine in the ice field. The section covers the following:

- Road to Yamal Peninsula
- Ice Trial that the world has never dared to attempt

A LIGHT ON THE FROZEN FIELD

No one dares to say that human beings live with the Nature but struggle to live in the Nature. This section concludes our story about how to come to this place but leaves awe to the Mother Nature at the same time.

- A small step to the unforgiving harsh land
- Humble Efforts to live in the Nature