

LNG-powered *Turva* in full-scale ice trials

OPV *Turva*, owned by the Finnish Border Guard, is one of the world's first LNG-powered offshore patrol vessels. The official full-scale ice trials were carried out in the Bay of Bothnia in March 2016.

The trials focused on testing basic performance in ice to ensure that targets are fulfilled. She was tested ahead and astern in level ice 60 to 85 centimetres thick, ahead and astern in ice ridges 6 to 8 metres thick, in ice channels as well as in manoeuvring tests. According to the tests, the vessel fulfils all requirements.

Dual-fuel in ice

"It was especially interesting to follow how the dual-fuelled machinery performed in ice conditions," says Kari Laukia. "We now have seen the operation in heavy ice, which can be used for further developing the combination of marine diesel and LNG-fuel."



Aker Arctic was involved in the concept development of the vessel and also performed the ice model tests. She was built by STX Rauma Shipyard and delivered in 2014 to the Finnish Border Guard. *Turva* is mainly intended for border control, but is also a highly capable multipurpose vessel fitted with mechanical oil recovery systems. She has an extensive command and control

outfit including the Cassidian TRS-3D radar and a helideck capable of receiving and refuelling Super Puma helicopters both on deck and while hovering. Despite having a bulbous bow, *Turva* can also operate in ice-covered waters.

You can watch the tests on the Aker Arctic YouTube channel (www.youtube.com/akerarctic)



The ice cores were collected during the day and then tested on Turva's aft deck.



Technical details:

Length	95.9 m
Beam	17.4 m
Draught	5.0 m
Wärtsilä 12V34DF dual fuel engine	
2 x Wärtsilä 6L34DF dual fuel generating sets	
2 x Rolls-Royce Azipull Z-drive thrusters	
Controllable pitch propeller at centerline	