

## BELGIUM BRANCH

## Dynamic Positioning on FPV *Simon Stevin*

→ The final MARS debate of the academic year was presented by Stefan Van De Moortele MNI presently chief officer and senior DP operator with Jan De Nul (JDN) Group, one of The Nautical Institute's Generation Y members.

Stefan started off by providing an overview of the various fields in which JDN Group is currently active: dredging, civil engineering, environmental and offshore works. He highlighted some of the key projects in which JDN has been involved over the last years, such as Palm Island II in Dubai (dredging and land reclamation), Panama Canal expansion (excavation and construction of the new locks), construction of Deurganck lock on the Antwerp left bank (largest lock in the world), AMORAS (dredging spoil storage and treatment), Manifa Oil Field in Saudi Arabia (construction of causeway and islands), Pluto LNG terminal in Australia, etc. JDN has a fleet of 75 vessels and 177 auxiliary craft, including five SRI (subsea rock installation) vessels.

The fall pipe vessel (FPV) on which Stefan has been serving received quite some attention. The *Simon Stevin* (named after the famous 16th century Flemish mathematician and hydraulics engineer) is mainly used for SRI operations and is therefore equipped with two hoppers containing the rocks (capacity 31,500 tonnes), feeder conveyor belts and a fall pipe. She has a discharge capacity of 2,000 tonnes/h and can perform rock dumping in waters up to 2,000 m

deep. The purpose of this operation is to protect submarine cables and pipelines against damage which may be caused by anchors, falling objects, fishing nets, etc. and to ballast the foundations of windfarms including scour protection against erosion by currents, waves, etc. The vessel can also be used in seabed preparation for offshore structures (jack-ups) and to provide support for the free-span of pipelines where the seabed floor is uneven.

A Dynamic Positioning Class 2 system allows the vessel to operate the fall pipe safely up to wind force 9, Douglas sea state 5 and in 3 knots current. The vessel is also equipped with a fall pipe ROV which is used for positioning the fall pipe and performing survey operations. A separate ROV is used for subsea maintenance and inspections of offshore installations.

Stefan subsequently gave students a full and clear introduction into the main aspects of Dynamic Positioning (DP) itself. With the number of DP equipped vessels steadily increasing there is a fair chance that they will be serving on such vessels during their future seagoing career. A DP system enables a vessel to maintain position and heading without the need to moor or anchor by using propulsion and thrusters. The type of DP system installed depends on the type of vessel/operations. DP is mainly used in the offshore and dredging industry but is also increasingly common in cruise vessels.

While the DP system controls surging, swaying and yawing of the vessel, it has no influence on heaving, rolling and pitching motions. It is important to bear this in mind in the context of certain operations where the

vessel needs to remain completely stable.

In order to control the ship's position/heading, the DP controllers need to get very accurate information on the vessel's position, heading and motions.

The final part of the presentation, of primary interest to the students, was about how to become a DP operator. There are some 76 DP training centres accredited by The Nautical Institute worldwide, although there are unfortunately none in Belgium (yet).

Once the basic qualification has been obtained, further practical experience will be needed if seafarers wish to develop their career in the DP world further and become Senior DPO (as Stefan did). At this stage, there are no strict rules and the requirements depend on the company. With JDN, for instance, the candidate needs to be a chief officer and get at least 1,000 hours of DP experience in addition to a competency approval by the Master. In total it may take up to three years before one becomes a Senior DPO.

Apart from the specific DPO skills, the officer should obviously also master the general principles of good navigation/seamanship and be able to manoeuvre his/her vessel manually if required.

After a brief Q&A session we turned to the last MARS quiz of the season in which the students had to answer 10 questions. This was followed by a BBQ with drinks offered by JDN and finally the awards for the winners of the quizzes.

**W Justers MNI and W Vervloesem FNI**