

IMO recommends, Port Revel adapts ...

Early March 2012, the International Maritime Organization (IMO) approved new guidelines for the development of a Ship Energy Efficiency Management Plan (SEEMP) and for the calculation of the Energy Efficiency Design Index (EEDI) for new ships, after having published guidelines in July 2011 for use of the Ship Energy Efficiency Operational Indicator (EEOI) for existing ships. The IMO documents are identified with the reference « MEPC.1/Circ.681 » to 684.

Port Revel introduces “Green Shiphandling”

Pending the issue of more stringent measures by international institutions, Port Revel considers that the time has come to help raise the awareness of mariners responsible for manoeuvring large ships in harbour areas by providing them with ways of reducing fuel consumption and consequently CO₂ and dust emissions in sensitive environments.

With this “Clean Shiphandling” principle in mind, Port Revel has equipped two of its eleven ships with sensors for measuring total energy consumption during a given shiphandling operation. Trainees are thus challenged to carry out the operation in question with a target level of consumption (and hence atmospheric emissions) that is fixed in advance by the Centre’s instructors, who have themselves already faced the same challenge.

Tests carried out with these models have shown that Port Revel perfectly masters the modelling techniques involved, and that similitude scales are perfectly maintained. This is yet further proof that nature (in the form of hydraulic conditions) is at work on the models as on real ships, without it being necessary to write out all the equations for the hydraulic phenomena involved. The realism of the scale models is unequalled and for the moment has not been surpassed by any other means of simulation.

It may be recalled that in 2009, Sogreah (now ARTELIA), a firm of consulting engineers working in the fields of water, energy and the environment, launched the "Otello", a 1:25 scale model of 335 metres, 8 500 TEU container carriers. This event was part of the celebrations to mark the extension of its shiphandling training centre: Port Revel. To open the 2010 season, Sogreah launched the latest addition to its fleet, the “Q-Max”, a faithful reproduction of a 345-metre LNG (Liquefied Natural Gas) carrier with a capacity of 266,000 m³. Thanks to this latest model, sailors can now train on a ship that represents the new giants now sailing the seas.

The Port Revel development programme was launched in October 2007 and represents an investment of over one million euros, consolidating the centre's worldwide leadership in training pilots in shiphandling operations. By extending the lake to cover a total of 5 hectares, of which 50% is shallow water, doubling the number of quays and installing additional current-generating equipment, Port Revel can now offer an extremely varied range of situations and host 10 trainees each week as opposed to 8 previously.



Since Port Revel first opened more than 40 years ago, numerous American, Canadian and European pilots have appreciated its facilities. Between 150 and 200 are expected in the coming months, for conventional courses or tailor-made training designed by the centre's highly motivated and experienced instructors to suit their specific needs.

As maritime safety becomes an increasing concern, Port Revel is even more relevant than ever in training ships' captains and pilots to handle emergency situations.

The European and North American maritime pilots who make up 80% of the Centre's students are well aware of this and we hope we will soon have the pleasure of welcoming new captains and pilots...

To meet these needs, the Port Revel Centre proposes a range of different shiphandling training courses using scale model ships with on-board pilots:

Basic pilot & master courses
Refresher course
Escort tug course
Emergency shiphandling course
Offshore course
LNG carrier/car carrier/container vessel course
ULCC course
Pod course

The Port Revel Centre was the first of its kind to be created in the world, and it offers significant advantages:

- over 6000 experienced pilots and captains have been trained there since 1967 (mainly from the USA, Canada and Europe), and many of them are now coming for the second (and even third) time in their career,
- instructors are highly experienced and motivated maritime pilots,
- the fleet of 11 models at 1:25 scale reproduces 20 different vessels,
- 4 escort tugs are operated by a real tug master at the pilot's orders,
- Port Revel has inherited Sogreah's century of experience with scale models, numerical simulation, port planning, design & construction,
- the 5 ha lake is highly versatile with very little interference from wind; it also features extensive shallow water areas, a long canal, the new Panama locks, an SBM and numerous quays; it is also equipped with wind, wave and current generators and a DGPS for accurate debriefing of the exercises performed on the lake.



A few technical details ...

The ships are precisely reproduced to a 1:25 scale and are equipped with indicators giving rudder angle, engine speed, ship speed and heading, wind speed and direction, etc. Most of the ships are equipped with bow and stern thrusters and with perfectly operational anchors. They behave like real ships.

Two of the four tugs are fitted with Voith Schneider propulsion and one is fitted with a Z-peller system. The tugs are controlled by the pilot via a remote-control system.

Over 40 years' experience has shown that trainees quickly learn how to control the models just as they do the real ships that they are used to manoeuvring.

A few words of background history ...

After three years spent with Esso captains at the end of the 1960s, the Centre was taken over by Sogreah in 1970.

During the 1970s, most trainees were captains, while the first pilots came to discover the centre.

During the 80s, the ratio of 9 captains to 1 pilot was reversed.

In the 90s, the first refresher courses were organised for pilots, who returned every 5 years. These courses are less directive and leave more room for customisation, which is a way of optimising port operations to increase port accessibility.

During years 2000, we have seen a change in our relations with seafarers. We are now moving towards a closer partnership in which students use our installations at their convenience. Courses and equipment are specially designed in close collaboration with them, such as the courses on operations using escort tugs.

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