

New IHC Merwede training service

Web-based training from TID



IHC Merwede is continuing with its efforts to help clients during the total lifetime of their dredging equipment. So within the next few months, the company's Training Institute for Dredging (TID) will have a new, unique resource for training dredging operators and maintenance personnel. The Web-Based Training will allow them to improve their dredging knowledge, skills and experience at their own computer on location. Cutter suction dredger training will be available in the second half of 2009; the trailing suction hopper dredger programme will follow soon after. A sneak preview.

Dredging contractors have added a lot of new equipment to their fleets in recent years, and they are struggling with the challenge of finding people to operate all this equipment efficiently and safely. Alongside the tried and trusted crews, they have to recruit large numbers of people with a general technical background but no dredging knowledge or experience.

Of course, they can rely on training facilities, either in-house or from TID or elsewhere, with or without simulator support. Current developments in high-speed, broadband Internet have now given IHC Merwede the opportunity to do a lot more to resolve these difficulties for its customers. Web-Based Training makes it possible for people to train themselves from their own home, office or vessel, without travelling and accommodation expenses and without interruptions to the normal work cycle. What they learn can be put straight into practice on the job, and this definitely enhances the solidity of newly acquired knowledge, skills and experience. Trainees from customers who buy the facility can simply log in on an Internet portal, with immediate access to the programme.

The benefits of training are obvious: improved production, less downtime and wear – and more self-confidence, safety and pleasure on the job for the crew in question.

Training, not a reference manual

Web-Based Training will be more than just a voluminous reference manual that people use to check on what they should do and how to do it. Indeed, it is a fully interactive training programme for dredging contractors' technical and operational staff. The building blocks of competence involve knowledge, skills and experience. TID's basic assumption for the programme is that steepening the learning curve reduces risks and production losses. This has been proven in practice and confirmed by grateful TID clients time and again. Operator training generates a huge return on investment: a mere 5% improvement in production on even the smallest dredger easily offsets training costs within just a short time. And a 5% improvement in dredging performance is not the rule: improvements of between 30-70% have been reported after a single course.

TID's Alex Roosendaal developed the programme: "Web-Based Training is a fully interactive modular training programme dealing with the main aspects of dredging. Any module can be accessed from the home page (figure 1) and every module is a complete mix of training resources: objectives, goals, information, tests and so on. In other words, the modules are built around clear educational goals such as: 'after this module the trainee is visibly able to execute the spud carrier cycle' or: 'the trainee has demonstrated the ability to control the dredge pump repair procedure in the right order' and so on. Of course, this e-learning includes the provision of information, facts and concepts. For example: the trainee can be asked to identify the right



1 The home page of Web-Based Training
 2 A virtual exercise combined with a live video presentation to identify the business drivers in world dredging
 3 The 'soft' cutter suction dredger control console and the outside view in Web-Based Training



4 Classroom training at TID's premises
 5 Training on the job
 6 TID's cutter suction dredger training simulator



preparations and procedure for pump maintenance in the electronic manual before executing the procedure virtually in the Web-Based Training program. A lot of emphasis is placed on interactive learning methods intended to rehearse, imprint, stabilise and secure the content of the course. Test results check how well the content has been learnt."

So this is genuine learning, not simply pumping in information or presentation. Films, videos, crosswords, workshops, Internet searches for additional information, orders to compare equipment and virtual exercises (figure 2): these things are all used to ensure that the subject matter

is assimilated in the trainee's mindset and experience.

There are informative equipment-oriented modules about components such as dredge pumps, cutters and suction heads. Other modules are skills-oriented and provide virtual exercises of every kind, such as inspections of wear and tear, the mobilisation of the dredger and so on, or the performance of maintenance jobs. Of course, a glossary is available with a description of every main component, but trainees checking it must be prepared to complete a test before moving on. The dredge plan is very important for the efficient and safe operation of

the dredger so a separate module is devoted to the details of this subject.

The experience-oriented operational module allows the trainee to practice the sequence of basic procedures on a virtual console on the trainee's video screen. The console is operated using the mouse and specified keys, as in a computer game. This 2.5D presentation will also include a stylised outside view of a generic dredger (figure 3).

Again, in accordance with the programme's educational principles, operators cannot quit a session without being forced to summarise what they have learned or without receiving an

electronic report about their performance.

Good start

The Web-Based Training can train operators to a first, basic, level of performance. However, the full-scale TID training usually involves a mix of theory, classroom training (figure 4), training on the job (figure 5) and performance training on advanced IHC Merwede simulators (figure 6), so Web-Based Training will be a really good start in preparation for full-scale training.

Trainees who have completed Web-Based Training will benefit much more from the 'live' full-scale programme,

simply because they have practised with the equipment, the procedures, the jobs and the simulator in virtual reality time and again before their arrival at TID. They have already acquired experience. With this kick start behind them, they will need much less time to acquaint themselves with concepts, equipment, maintenance and operations. They can immediately move to dedicated training and reach a much higher standard by the end of the training in Kinderdijk – or at their employer's premises if required. Both the trainees and the dredging contractors will benefit from the higher standards of knowledge, skills and experience.

Conclusion

With the development of Web-Based Training, TID is making a definite contribution to IHC Merwede's life cycle support programme. Even more importantly: they are providing a clear and innovative resource that has been lacking until now, meeting the day-to-day training needs of the whole dredging world: dredging contractors, operators and maintenance personnel.