

TRAINING INSTITUTE FOR DREDGING TO LET CHAPS RULE THE CHIPS

While dredging equipment becomes ever more precise, 'high tech' and efficient, the specifications for dredging projects evolve as well and require greater precision and exact logging of what has been done. Many governmental clients get sharper on prices, so contractors need to make the most of their machines. Which implies that crews, especially operators, must know all the ins and outs of dredging technology, instrumentation and automation, to make their craft work as efficiently as possible; and that engineers, superintendants, contracting company staff and harbour authorities, must know how best to deploy 'high tech' dredgers.

Dredger crews used to pass their trade's secrets down from father to son as part of their oral tradition. Even today, rich amounts of dredging genes give Dutch contractors a leading edge, but modern instrumentation and automation technology help other nations to catch up. The Training Institute for Dredging (T.I.D.) has in the past 14 years proved instrumental in structuring transfer of dredging knowledge. Their main business, however, is making crews, operators and management familiar with utilising most efficiently state-of-the-art dredging equipment and its automation systems.

cavating process and hydraulic transport are realistically reproduced, lets the trainee closely follow the effect of his actions on production, mixture velocity, power needed for the cutter etc.

TRAININGS PROGRAMME

T.I.D. organises courses and trainings for individuals, groups and companies. Each year a number of standard courses -for instance dredging in general; working with radio-active concentration meters; working with trail-

NUCLEUS OF KNOWLEDGE

A growing number of first time dredging market players and the increasingly complicated technology used in dredgers, created in the early 1980s a significant demand for courses, both in the intricacies of dredging itself as in platform technology. IHC Holland reckoned that clients often needed more than just a set of manuals to fully optimise their new dredger's potential. With the establishment in 1982 of the Training Institute for Dredging, a useful instrument for transfer of knowledge was created, which fits IHC's after sales service wonderfully.

T.I.D. lives in Kinderdijk, in the thick of the Dutch shipbuilding and dredging industry, and surrounded by internationally renowned results of dredging. In the backgarden the famous tourist trap of the Kinderdijk windmills stands, to prove that the Dutch were already reclaiming polders before the 17th century. To the west, and within easy excursion reach, the world's biggest harbour area Europort lies: won on the sea and yearly relieved of millions m³ of silt to keep its basins and canals open for the world's largest ships and the continent's fastest barges. As subsidiary of IHC Holland, T.I.D. has the shipbuilding and research facilities of the world's market leader in dredging equipment at its



disposal, to let the trainees get to grips with every aspect of dredging.

The T.I.D.'s classroom has full audio-visual facilities, for visually plunging students in the real world: videofilms of dredging craft at work and showing dredging processes more clearly than they will ever come across in real life, add spice to theory lessons. A laboratory stand for studying the behaviour of pumps can be set up. The T.I.D.'s own cutter simulator, in which a dredger's movements, ex-

ing-suction hopper-dredgers or working with cutter dredgers, are open for individual enrollment. These 'open' courses are in English or Dutch.

Custom courses can be provided for clients who send groups. T.I.D. courses are based on modules, which can be taught in a variety of combinations. Where appropriate, subjects are approached 'in depth', beyond their module's standard curriculum. Courses are given in English; other languages can often be arranged.

Simulator trainings are often part of a course, but they can also be arranged independently.

Familiarisation trainings are especially meant for the crews of newly ordered craft. They include: visits to dredging craft at work, and excursions to equipment under construction and to deliverers of parts, with extensive information on the working of all relevant systems.

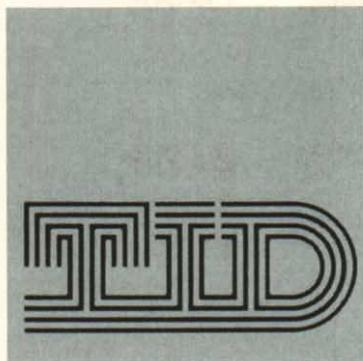
When a new dredger hits the water, its crew must first get to know the ropes. To speed up that process, T.I.D. organises trainings-on-the-job by experienced dredging operators, who can also explain the how and why behind the various processes.



1995'S COURSES

Last year a number of standard courses was given, among which four times working with the radio active concentration meter. This instrument is indispensable for optimising production in modern dredging. The radiation, however, makes the apparatus dangerous if incompetently used. The course aims at reducing this risks to nil; it is composed with help of the Nuclear Physics Service, a government agency, and IHC Systems, deliverer of such meters. The course's certificate is valued as proof of expertise.

For the Shanghai Dredging Company a custom course was organised in Shanghai for improving the operational efficiency of cutter and, especially, hopper-dredgers. The theoretical part of the course, in which about 90 students participated, took four days. Main subjects were: site investigation (especially the soil); soil characteristics and their influence on the dredging process; behaviour of trailing heads; influence of jet water; hopper loading and overflow losses; starting up dredging projects; op-



erational aspects of cutter dredgers; and defining factors in excavating and hydraulic transport of soil. In two days' 'on the job' training 30 trainees took part on board of the new trailing-suction hopper-dredger *Hang Jun 5001*. Lessons and instructions were given in English, but to ensure maximum communication efficiency, two interpreters took part. The enthusiasm of the Shanghai Dredging Corporation's people was confirmed by most intensive and fruitful discussions afterwards.

For the Norwegian Coast Directorate, a group of, mostly, dredging operators was trained in the operational aspects of cutter dredgers. Subjects such as theory and practice of dredging processes; systems, components and instruments; and two days' simulator training in two groups, provided a sound background.

Related to IHC's order for building the giant cutter dredger *Mashhour* for the Suez Canal Authority (S.C.A.), a number of training programmes, which run until June 1996, are being coordinated for engineers and dredging operators of S.C.A. At many delivering

companies, engineers have been instructed in use and maintenance of appliances and systems. As a result S.C.A. will have a staff thoroughly acquainted with their impressively modern dredger.

In 1995 a two weeks' general dredging course was organised, aimed at familiarising trainees with the complexities of dredging and with the operational characteristics of various dredging craft, especially trailing-suction hopper-dredgers and cutter-suction dredgers. Previous courses had been mainly about one particular type of dredger at a time. Fourteen trainees took part, from the UK, France, Brasil, the Gambia and Saudi Arabia. Among the course's subjects were: soil characteristics and their influence on dredging processes, operational characteristics of various dredging craft, hydrographic survey, important systems and components, hydraulic transport and production forecasts, maintenance, instruments and automation.



For 1996 a number of courses are on the agenda. In September a standard dredging course will start.

