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NEW SANITARY REGULATIONS IN THE GDR FOR THE CONSTRUCTION OF INLAND VESSELS

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ABSTRACT

In 1965, for the first time, sanitary regulations regarding the construction and reconstruction of inland ships were introduced in the GDR. They were based on the experience gained from the application of the regulations for sea-going vessels already in force in the GDR. Due to new knowledge gained in the field of occupational hygiene, as well as to the new legal regulations on environmental protection, a revision of the old hygienic regulations had become urgently necessary. The new regulations are obligatory both for ship-builders and for ship-owners.

The hygienic regulations to be observed in the construction and reconstruction of inland ships were discussed jointly by representatives of ship-building organizations, shipping companies and state control organs for ships. They were designed to contribute to the improvement of the health of sailors on inland ships, to the prevention of occupational diseases, and to the promotion of environmental protection in the same way as had already been achieved by analogous hygienic regulations for sea-going ships.

The Transport Medical Service of the GDR (German abbreviation MDV) is responsible under the Decree on Sanitary Inspection and the Decree on Industrial Sanitation and Industrial Health Inspection for the implementation of sanitary and industrial health regulations in the field of transport. The same decrees cover sanitary project tests as well which are to ensure sanitarily unabjectionable working and living conditions. Designers of vehicles and transport equipment are obliged to submit plans for new or reconstruction projects to the Transport Sanitary Inspection (TSI) for approval. In this way, requirements of industrial health, sanitation, and environmental protection are already considered during the planning stage.

In addition to control of all project plans, the Transport Sanitary Inspection (German abbreviation VHI) may make further demands concerning the construction of inland vessels. The designer is obliged to submit drafts or programs for the demands to the TSI for preliminary comment.

Construction according to the data approved is controlled by the national register of shipping of the GDR, i.e. the German Register of Shipping Classification (German abbreviation DSRK) in close co-operation with the

Transport Sanitary Inspection. In principle, every completed ship (in serial manufacture, every fifth ship) is tested by the TSI. Dockyards are obliged to announce the date of the trial in advance. During the trial trip, officials of the TSI by means of measurements, check whether the required sanitary standards have been observed. When deviations from sanitary or industrial sanitary standards become economically necessary, the TSI may grant exceptional permissions limited to a certain period if plans for reconstructions in the near future are presented. The TSI will proceed similarly in cases of imported inland vessels when deviations from the industrial sanitary standards which are valid in the GDR are established.

In order to give designers, ship builders, and shipping firms binding data, in 1965, for the first time in the GDR, sanitary standards for new and reconstructed inland ships were established. They were based on the experience gained with the country's existing regulations for sea-going vessels.

During the past 13 years the standards have stood the proof in practice. However, a revision now appears necessary for the following reasons: The standards were established in 1965; until then only a few states (e.g. the USSR) had adopted similar standards; various factors were not considered for want of experience. Since 1965, fast technical development in the construction of inland vessels and a growing transport efficiency have necessitated adaptation and extension of the existing regulations. Since in the early 1970s the country's legislation was further developed and modernized regarding improvement of environmental protection, its provisions have to be inserted into the 1965 sanitary regulations. In addition to this, new knowledge in the field of hygiene and health protection, especially protection against noise and vibration, should be considered.

The improvement of working and living conditions on board inland vessels in the GDR will be presented briefly in the following chapters on the new sanitary regulations.

ERGONOMIC PROBLEM

Of special importance is the working place of the captain, because on its optimum sanitary state often depends safety on the highly frequented inland waterways. Prerequisite for safety on board inland ships is continuous vigilance in the wheel-house and the ability of the ship's master to do his work from a safe and convenient sitting position without premature fatigue. This includes the ability to operate all installations, equipment and steering elements in a standing position as well. The best solution is a U-shaped arrangement of the wheel desk which should be made of well insulating material which can easily be cleaned and which does not dazzle or reflect light. All relevant operating elements must be within easy reach of the helmsman. In other words: the new regulations require consideration of ergonomics and antropometrical knowledge as regards the arrangement of the working place and the operation of individual elements (pressing keys, levers, pedals, etc.), and especially their spatial arrangement in relation to one another.

NOISE

In addition to the harmful effect of noise on the sense of hearing at a noise level of 90 dB(AI) and above, concentration and efficiency are affected even at values below the noise level of 90 dB (AI). This is especially true in the case of activities which demand special vigilance and thinking – as is the case with those of the ship's master.

Standards of permissible noise levels for working places, living rooms, sleeping rooms and mess-rooms on board inland ships are specially regulated (GSRC regulations). For instance, for the ship's master 65 dB (AI) are allowed. When this value is exceeded, the organism is in a permanent sympathicotonous response to a continual noise irritation, which may result in premature fatigue and in diminished concentration and efficiency. Diminished efficiency can prove fatal in the case of the captain of an inland ship. Starting from these facts, the regulations demand strict observation of the limit values.

As shown on the example of noise, the regulations also demand observation of standards regarding whole-body vibration, non-toxic dusts, lighting, chemical stuffs and climate.

FURNITURE AND EQUIPMENT OF FACILITIES

This chapter contains detailed regulations regarding the arrangement and furnishings of rooms: size of room and number of occupants, minimum requirements as regards furniture, safety measures within the living space, sanitary standards regarding the equipment and capacity of the ship's kitchen and the storeroom belonging to it, precise requirements as regards the capacity, size and equipment of washing and dressing rooms and toilets, and sanitary standards regarding the equipment of other rooms on board.

PREVENTION OF INFECTIONS

Due to the limited living space on board, contamination or infection with morbific agents occur more often on ships than on shore. A section of the regulations therefore deals with the elimination of potential sources of infection which includes and lays down rules as regards provision with drinking water (tapholes, pipelines, tanks, mouths of the flow-outs, capacity, duration of storage), and regulations regarding the removal of waste materials, faeces, oil and greasy refuse.

The absolute prohibition of bringing any kind of waste material into surface waters has been introduced by the regulations as a contribution to the protection of environment. The sanitary regulations on the construction of inland vessels were discussed and agreed upon by representatives of ship-building and shipping organizations and of the national supervising authority for ships (DSRK). In the first half of 1978 they were approved by the competent ministers, and are already in force. In their new version, they are expected to contribute essentially to improving the sailors' state of health and to the prevention of occupational diseases, while at the same time promoting the protection of environment.