

The importance of minimum standards in training of shore-based personnel on environmental protection

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ABSTRACT

The training of seafarers in environmental protection is an old and continuous developed subject. We can consider that present situation of the minimum standards are well stated and each crew member should be in the position to act properly in an emergency situation related to environment pollution. However, that is not enough. When ships are under loading/unloading operations the risk of pollution is related to the shore-based personnel in the same time.

The paper presents the high risks of environmental pollution during the time when the ships are at their berths and the importance of minimum standards in training for shore-based personnel on this subject. It is analysed the particular situation of the Port of Constantza and the possible impact of the lack of training in environmental protection. There are also presented the initiatives of the Constantza Maritime University in order to offer on a regular basis and in the local language appropriate training both for seamen and shore based personnel on environmental protection and anti-pollution procedures.

1. General framework

The environmental protection became one of the most actual issues in the last period, but unfortunately, not often the efforts in eliminating the risk of pollution are correlated with the training of the personnel. Nowadays we are discussing about very precise rules and standards related to prevention of pollution in regard to the ships and to the on board personnel training. The STCW Code requires that the on board personnel must prove the competence in prevention of pollution of the marine environment and anti-pollution procedures. After very short time the International Safety Management Code will become mandatory for all ships.

Under these circumstances, with the appropriate efforts to reach the standards and follow the procedures, the risk of pollution from ships is limited, but the question is: *Is the risk of pollution in maritime transportation related only to the ships?* Certainly not. The risks are also related to the loading/discharging operations. So, in the same time we consider that the port operators should have specific standards for pollution prevention and shore-based personnel should have standards for training in pollution prevention and anti-pollution procedures.

As will be presented in the following sections there are efforts in this field but they are not coordinated, most of them being in the stage of action plan steps. Having in view the risks associated with port operations in the environmental pollution, same importance must be given for the training of shore-based personnel as is for the on board personnel and to be sure that the goal is achieved, standards for training of shore-based personnel must developed.

2. Regional and local issues

The European Sea Ports Organization highlighted in the *Environmental Code of Practice* issued in 1994 the importance of education and training on this subject. It is recognised that in spite of the high degree of automation and computerization in many ports it is still the human element which should be in control. This requires a level of knowledge and training which is sufficiently high to execute the various tasks professionally. Education and training programmes need to be developed which are geared up to the specific activities carried out in the port. An important result of high levels of training is that full knowledge of the tasks being carried out will also enhance motivation. This in itself has a positive effect on the quality of performance and the sense of responsibility. For example, improper handling can not only lead to loss of cargo, but will also create potentially harmful situations for the people involved and those in the vicinity.

All ESPO members are recommended to ensure that education and training receive high priority within their environmental management plan.

The project *ECO Information in European Ports* underlined the need of standards of training on environmental protection. The final report issued in November 1999 shows the necessity of the active training programmes to

bring the European environmental knowledge in ports on a joint higher level. The assessment developed under the Self Diagnosis Method (SDM) in more than 50 European ports concluded that the staff is at least partially aware of the environmental effects of their work activities. Between 16% and 40% of replies satisfied Environmental Management System requirements, and between 45% and 60% were found as making progress towards this goal.

<i>Are all employees aware of the following</i>	<i>% Answered</i>	<i>% Yes</i>	<i>% Partial</i>	<i>% No</i>
Potential environmental effects of their activities	100%	40%	50%	10%
Environmental benefits of improved performance	97%	19%	62%	19%
Consequences of non-compliance	97%	19%	45%	36%
Economic benefits of improved performances	97%	16%	48%	36%

Over 80% from the respondents did not had a full environmental training programme in place, but 60% of the respondents indicated that some training programmes are in use.

The Central European Initiative- environment and transport subgroup, where Romania is one of the members, included in the action plan steps related to the education and training.

The Black Sea, of which the six littoral states are members of the Council of Europe, with three applying to join the European Union, is assessed as 90% biologically dead, the Danube being source of 80% its pollution. We can mention here the cyanide spill occurred at Baia Mare, Romania on 30th January, 2000 with important consequences, or the accident occurred on 10 March 2000 in north-west Romania, when sludge with high concentrations of heavy metals (in particular lead and zinc) was discharged from the sedimentation pond of a non-operating mine in Baia Borse into the river Visheu, a tributary of the Danube.

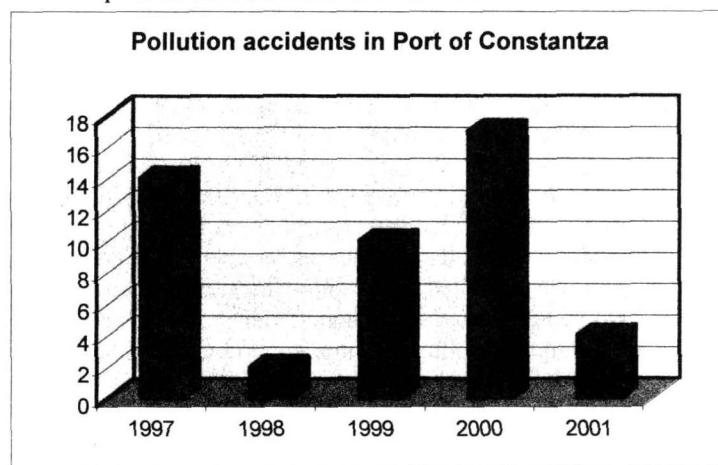
In 2000 the Port of Constantza made high efforts in increasing the maritime safety and environmental protection. The investments were in amount of 33 million US dollars. The main part was spent for the Works of Rehabilitation and Completion of the Breakwaters project which will be finished this year. The Vessel Traffic Management Information System was implemented. Another achievement, the Bilgewater Treatment Plant, part of the Constantza Port Waste Management project, was also inaugurated. Thus, it made one step ahead towards the increase of the port safety and environment protection in compliance with domestic and international regulation. Concerning the development, one of the

most important priority and action is Port Waste Management Project financed from Romanian resources 3.3 million Euros, from European Investment Bank 5 million Euros, From European Union (through ISPA programme) 8.3 million Euros and the completion is expected by 2006.

In Constantza Port there are regularly small pollution accidents. As is presented in the diagram, only in 2000 occurred 17 such accidents, including pollution due to improper loading/discharging operations of bulk cargo or oil products. In first seven months of this year other 4 pollution accidents occurred.

In October 2000 was performed an environmental assessment based on SDM. From the first conclusions of the assessment we can observe:

- Existence of various authorities and entities involved in environmental protection actions, within the port area.
- Land inside the port belongs to several different entities, which reduces the Port Administration commitment, responsibilities and authority.
- Port Administration is not responsible for port operations.
- Zoning of port areas is important to control and reduce the adverse impact to the environment.
- Environmental issues are strategic topics, as they affect the competitiveness of the port
- Establishment of an Environmental Management System and its respective Action Program (Policy, procedures, reception facilities, control, assessment, etc), must be part of the Strategic Action Plan.



3. International initiatives on curricula standardization

The need of curricula standardisation for training of the port industry it is widely recognized. One of the most important events discussing the subject was the 16th International Port Training Conference held in Rotterdam on 27-30 May, 2001. The participants to the conference concluded:

- Port Authorities and cargo handling operators supervised by such authorities are neither governed by global standards on certification or by provisions ensuring, by means of inspection, that ports operate under best-recognised practices. On the other hand, the shipping industry operates under a set of international rules governing a) working and living conditions, b) standards for certification of crews and c) safety conditions on board ship. Compliance of these rules is inspected, among others, by regional Port State Control agreements.
- It is argued that ports may operate under national rules. This argument is debatable. Ships must conform to the national rules of the flag they fly. The lack of appropriate application and control of the rules in many countries of registry led to the adoption of international instruments to pursue acceptable operational practices in this industry. Increasingly, the safety of ships, crews and the environment is also dependent on port services and Port State Control inspections offered. Accordingly, ports operating in conformity with recognized international best practices could also serve the world shipping industry.
- Although in 1951 port work was internationally recognized as an occupation, no instruments, comparable to the STCW convention, are presently in force spelling out the minimum standards to which port personnel training must conform. This state of affairs is questionable. The economic benefits of standardization are not generally challenged by international organizations, which devote a substantial amount of money and resources to the drafting of standards.
- The existence of non-harmonized standards for similar technologies in different countries can contribute to the so-called "technical barriers to trade". Industries have long sensed the need to agree on world standards to help rationalize the international training process. This was, among others, the origin of the International Organization for Standardization (ISO) created in 1947.
- Many port industries are presently pursuing certification for the quality of standards of the ISO. As part of the certification process the ISO stipulated that:
"The supplier shall establish and maintain documented procedures for identifying training needs and providing for the training of all personnel performing activities affecting quality. Personnel performing specific tasks shall be qualified on the basis of appropriate education, training and/or experience, as required. Appropriate records of training shall be maintained".
This development should strongly encourage international organizations and leading shipping and transport educational institutions to seek for minimum curricula standardization.
- the need for overcoming problems affecting the port industry throughout the world makes it also essential to consider standardization of teaching programs for port personnel at levels yet to be determined. This involves the opening of economies and trade liberalization, which in turn require a higher degree of port efficiency.
- Standardization on the basic content of job descriptions is an alternative that could be considered for port training. Such an approach would in turn lead to a degree of standardized training to adhere to the requirements established in the above job descriptions. Standardized job descriptions would also set global benchmarks for developing training programs for international use.
- Unlike the shipping industry, the port industry is a land-based industry with national practices and laws that have been developed for production industries. A number of countries have included the training and certification of portworkers in their national certification process. International instruments in force for Occupational Safety in Dockwork, Handling of Dangerous substances should be embodied in national certification standards covering safety, health and working practices.
This would ensure the application, where appropriate, of minimum training standards in these areas, promote best practices in ports from a national perspective and permit qualifications for cross port sectoral employment conditions. Together with proper and modern management optimal performance is reached.
- The use of simulation techniques in educational programs for the port and shipping industries is rapidly becoming an essential tool for achieving optimal and rapid training results. Such techniques are developed on existing operational realities in these industries. To a large extent these realities are globally similar. Simulation techniques should be developed on such global realities for supporting standardization in practical training through simulation.
- Training of port personnel is currently within the action programs and agendas of several international organizations. Unfortunately, there is no apparent effective coordination between these organizations.

4. Constantza Maritime University initiatives

The training on environment protection for the shore based personnel in the Port of Constantza is sporadic and in most of the cases is developed just in English language under different international projects. That is way Constantza Maritime University decided to translate into Romanian language and deliver the TRAINMAR course *Environmental Management of Ports*, in order to offer training for a larger target population and on a regular basis on this subject. An other CMU initiative was to apply for an European project in order to develop a Masteral Course on Maritime Safety, where the environmental issues are also included. The project was approved to be financed under SOCRATES Programme and will be developed in cooperation with other European universities.

4. Conclusions

Having in view the above presented facts we may conclude that:

- the environmental pollution prevention is a general concern and there are efforts for developing a sustainable transport;
- there are developed and applied environmental standards related to ships and on board personnel;
- it is recognised the role of the training in prevention pollution and anti-pollution procedures but the training programmes for shore-based personnel are running just in few ports;
- environmental management systems are not implemented in all ports;
- there are not training standards for shore-based personnel and so it is difficult to assess the quality and the effectiveness of the training activities developed on this subject;
- the lack of training, or the lack of quality of training may increase the risks related to environmental pollution in ports.

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