# Port Reception Facilities

## A summary of REMPEC's activities in the Mediterranean Region

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# Executive summary

The present publication presents the results of various activities carried out by the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC) in the field of port reception facilities, focusing in particular on the results of a technical assistance project on “Port Reception Facilities for Collecting Ship-Generated Garbage, Bilge Waters and Oily Wastes” financed by the European Community under the MEDA financial mechanism and implemented by the Centre between 2002 and 2004.

The Project involved ten MEDA beneficiary countries, namely Algeria, Cyprus, Egypt, Israel, Lebanon, Malta, Morocco Tunisia, Turkey and Syria. The operation of the Project consisted of several activities, which included an assessment of the existing situation and needs with respect to port reception facilities, recommendations for optimum solutions and production of standard designs and specifications.

The approach that was developed under the MEDA Project to address the lack of port reception facilities was replicated, as far as possible, in other Mediterranean coastal States that did not benefit from the said Project, namely Albania, Croatia and Slovenia, and in some ports of Libya, as well as, following a specific request, in Jordan. Similar activities are also currently being planned by REMPEC in Serbia and Montenegro.

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# 1. MARPOL Convention and the protection of the Mediterranean Sea against ship-generated pollution

Even though accidental marine pollution still attracts major public attention, operational pollution by illegal discharges into the sea is the main source of pollution of the marine environment by ships. This is particularly true for the Mediterranean Sea, a particularly sensitive area in terms of chronic pollution due to its geographical, oceanographic and ecological specificities.

Indeed, some 2350 oil spills of unknown origin were detected in the Mediterranean in 2000 by the European Commission's Joint-Research Centre (JRC) using satellite platforms. The majority of those spills are considered to be illicit discharges.

**Table 1. Status of MARPOL Convention**

| MARPOL Convention and Annexes hereto | Entry into force |
|---|---|
| MARPOL Convention | 2 October 1983 |
| Annex I (Oil) | 2 October 1983 |
| Annex II (Chemicals in bulk) | 2 October 1983 |
| Annex III (Packaged form) | 1 July 1992 |
| Annex IV (Sewage) | 27 September 2003[1] |
| Annex V (Garbage) | 31 December 1988 |
| Annex VI (Air) | 19 May 2005 |

The provision of port reception facilities for the collection of ship-generated wastes is addressed by the International Convention for the Prevention of Pollution from Ships, 1973 (MARPOL Convention), adopted under the aegis of the International Maritime Organization (IMO). This convention regulates different types of ship-generated pollution in six annexes addressing: oil pollution[2], pollution from chemicals carried in bulk[3], pollution from harmful

[1] A revised Annex IV was adopted in April 2004 and entered into force on 1st August 2005.

[2] Regulations for the Prevention of Pollution by Oil - Annex I.

[3] Regulations for the Control of Pollution by Noxious Liquid Substances in Bulk - Annex II.

substances carried in packaged form[4], pollution from sewage[5], pollution from garbage[6] and air pollution[7].

## 1.1. The Mediterranean Sea: a MARPOL Special Area

Due to specific oceanographic, ecological or shipping characteristics of some sea areas, the MARPOL Convention has established "Special Areas" where discharge criteria are stricter than for other sea areas, as follows:

- Annex I: **the Mediterranean Sea area**, the Black Sea area, the Baltic sea area, the Red Sea area, the "Gulf" area, the Gulf of Aden area, the Antarctic area and North-West European Waters;
- Annex II: the Baltic Sea area, the Black Sea area and the Antarctic area;
- Annex V: **the Mediterranean Sea area**, the Black Sea area, the Baltic Sea area, the Red Sea area, the "Gulf" area, the North Sea area, the Antarctic area and the Wider Caribbean Region.
- Annex VI: the Baltic Sea is designated as a SOx Emission Control Area.

According to the provisions of MARPOL Annex I (Oil) and Annex V (Garbage), the Mediterranean Sea is a '**special area'**, where discharge criteria are stricter than for other sea areas.

The discharge requirements under MARPOL Annex I and Annex V that are applicable to the Mediterranean Sea are summarized in table 2.

As the discharge of oil or oily mixture and garbage is subject to control in the Mediterranean Sea,

- ships are requested to retain on board wastes that cannot be discharged into the sea, and

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[4] Regulation for the Prevention of Pollution by harmful Substances Carried by Sea in Packaged Form-Annex III.
[5] Regulation for the Prevention of Pollution by Sewage from ships - Annex IV.
[6] Regulations for the Prevention of Pollution by Garbage from Ships - Annex V.
[7] Regulations for the prevention of Air Pollution from Ships - Annex VI

**Table 2. MARPOL Convention discharge criteria**

| MARPOL relevant Annexes | Type of wastes | Ship type and size | Discharge criteria |
|---|---|---|---|
| **Annex I** | Oil from machinery spaces | Oil tankers of all sizes and other ships ≥ 400 grt | **No discharges except** when:<br>- ship is *en route*, and<br>- oil content of the effluent is < 15 ppm, and<br>- filtering equipment on board (automatic 15 ppm stopping device), and<br>- bilge water does not originate from cargo pump-room bilges and is not mixed with oil cargo residues.<br>(Regulation 10.3.b) |
| | | Ships < 400 grt | **No discharge except** when oil content of effluent without dilution does not exceed 15 ppm. (Regulation 10.2.b) |
| | Cargo tank areas | Oil tankers | **No discharges except** clean or segregated ballast.<br>(Regulation 10.2.a and 10.3.a) |
| **Annex V** | Garbage | All ships | - Disposal of any garbage other than food wastes into the sea is **prohibited**;<br>- Food wastes can only be disposed of at sea more than **12 nautical miles from land**.<br>(Regulation 5.2) |

- ships have to dispose such wastes into adequate reception facilities made available in ports and terminals.

As shown in the table below, reception facilities are required for all kinds of pollutants addressed by the MARPOL Convention, except for harmful substances carried in packaged form (MARPOL, Annex III).

**Table 3. Requirements of MARPOL Convention for the provision of port reception facilities**

| MARPOL Convention Annexes | Requirements for the provision of port reception facilities |
|---|---|
| Annex I (Oil) | YES (regulations 10 and 12) |
| Annex II (Chemicals in bulk) | YES (regulation 7) |
| Annex III (Harmful substances carried in packaged form) | NO |
| Annex IV (Sewage) | YES (new Regulation 12) |
| Annex V (Garbage) | YES (regulation 7) |
| Annex VI (Air) | YES (regulation 17) |

The establishment of adequate port reception facilities has to be given due consideration by competent national administrations, when implementing relevant annexes of the MARPOL Convention, particularly when considering the development of new ports. Almost all ports and terminals require reception facilities for oily mixtures and garbage, both being generated by all kind of ships.

## 1.2. Implementation and enforcement of the MARPOL Convention in the Mediterranean region

The implementation and enforcement of the provisions of the MARPOL Convention relating to the establishment of port reception facilities is one of the main concerns with respect to prevention of operational pollution from ships in the Mediterranean Sea. Moreover, the development of national legislation prosecuting offenders can only be considered justified if possibility is given to the ship masters to use adequate port reception facilities.

Although each Contracting Party is ultimately responsible for the implementation and enforcement of the MARPOL Convention in its ports and terminals, the establishment, operation and maintenance of the facilities may be undertaken by port authorities and/or terminal operators who might also subcontract it to private companies.

Obligation of Governments (port State authorities) under the MARPOL Convention is to ensure that a port authority or a terminal operator provides the facilities according to the needs of ships.

**Table 4. MARPOL ratification status by country in the Mediterranean region**

| Country | MARPOL I / II | MARPOL III | MARPOL IV | MARPOL V | MARPOL VI |
|---|---|---|---|---|---|
| Albania | - | - | - | - | - |
| Algeria | x | x | x | x | - |
| Bosnia & Herz. | - | - | - | - | - |
| Croatia | x | x | x | x | x |
| Cyprus | x | - | - | x | x |
| Egypt | x | x | x | x | - |
| France | x | x | x | x | x |
| Greece | x | x | x | x | x |
| Israel | x | x | - | - | - |
| Italy | x | x | x | x | - |
| Lebanon | x | x | x | x | - |
| Libya | x | x | x | x | - |
| Malta | x | x | - | x | - |
| Monaco | x | x | x | x | - |
| Morocco | x | x | x | x | - |
| Serbia & Mont. | x | x | x | x | - |
| Slovenia | x | x | x | x | - |
| Spain | x | x | x | x | x |
| Syria | x | - | - | - | - |
| Tunisia | x | x | x | x | - |
| Turkey | x | - | - | x | - |

NB: As per 31 October 2005

Whilst almost all Mediterranean countries have ratified MARPOL Annex I and Annex V, under which the Mediterranean Sea is designated as a Special Area, compliance with the requirements related to the provision of reception facilities is not yet achieved in certain ports and terminals of the Mediterranean region. A Contracting Party shall implement the MARPOL Convention through integration of its provisions into national law, comprising elements of violation and effective sanctions, and ensuring enforcement of these provisions.

Mediterranean coasts are still suffering from a serious lack of adequate port reception facilities for collecting ship-generated wastes. The solution to this problem calls for close co-operation amongst all Mediterranean coastal States and for joint action.

# 2. The Mediterranean Sea and ship-generated pollution

## 2.1. The Barcelona Convention and the protection of the Mediterranean Sea

The legal component of the United Nations Environment Programme's Mediterranean Action Plan (UNEP/MAP) - the 1976 Barcelona Convention and its six Protocols - constitutes the basis for the protection of the Mediterranean Sea against pollution at regional level. Since the adoption of the original Barcelona Convention and its first two Protocols in 1976 - the first dealing with the prevention of pollution by dumping, and the second addressing preparedness and response to pollution caused by accidents involving ships, known as "Emergency" Protocol[8] - the so called Barcelona System evolved quite significantly.

The MAP's legal basis was enriched between 1980 and 1996 by four others Protocols, the so-called Land-Based Sources Protocol; Specially Protected Areas Protocol; Offshore Activities Protocol; and Transboundary Transport of Dangerous Wastes Protocol). The Barcelona System also succeeded in renewing itself in accordance with international environmental law developments. Indeed, in 1995, the Barcelona Convention itself as well as the "Dumping" Protocol were amended. During the same year, the Protocol related to Specially Protected Areas was entirely rewritten, giving birth to a new Protocol. Moreover, in 1996, amendments to the Land-Based Pollution Protocol were adopted.

## 2.2. REMPEC and ship-generated pollution in the Mediterranean

As far as ship-generated pollution is concerned, successful cooperation between all the Mediterranean coastal States in the field of preparedness for and response to accidental marine pollution was achieved through the establishment in 1976 of a Regional Activity Centre (called ROCC). The

[8] Protocol Concerning Co-operation in Combating pollution of the Mediterranean Sea by Oil and other Harmful Substances, in Cases of Emergency, Barcelona, 16 February 1976.

Centre, which was created to assist the Contracting Parties to the Barcelona Convention in implementing the provisions of the "Emergency" Protocol, subsequently changed its name to the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC) and extended its mandate to the promotion of regional co-operation for the implementation and enforcement of the IMO's Conventions for the prevention of pollution of the marine environment by ships.

The establishment of reception facilities for dirty ballast waters and other oily residues was included in the Genoa Declaration among priority targets for the second decade (1985-1995) of the Mediterranean Action Plan. Following the Declaration, an "Action Plan Concerning the Provision of Adequate Port Reception Facilities within the Mediterranean Region" was adopted in 1991 by the Meeting of National Experts on Port Reception Facilities in the Mediterranean convened by REMPEC[9]. A set of actions for the full compliance with the MARPOL Convention Annex I, II and V was agreed upon, but unfortunately the initiative had no follow-up by the countries.

The lack of implementation of the 1991 Action Plan brought to light the need to strengthen the cooperation for the prevention of pollution from ships at regional level. In 1995, the Contracting Parties to the Barcelona Convention adopted Priority Fields of Activities for the Environment and Development in the Mediterranean Basin[10], within which prevention of pollution was listed, with special reference to the MARPOL Convention and its requirements for the provision of port reception facilities.

In 1997, an important step forward was taken by the Contracting Parties when they adopted the Regional Strategy on Prevention of Pollution of the Marine Environment by Ships[11], in which they decided that the "Emergency" Protocol as well as the mandate of REMPEC were to be amended, in order to include prevention of pollution from ships. Again, the Strategy

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[9] Cairo, 19 December 1991, REMPEC/WG.3/4, Appendix IV.

[10] Priority Fields of Activities for the Environment and Development in the Mediterranean Basin (1996-2005), adopted by the Conference of Plenipotentiaries on the Convention for the Protection of the Mediterranean Sea Against Pollution and its Protocols, Barcelona, 10 June 1995 (UNEP(OCA)/MED IG.6/6, Annex II).

[11] Adopted by the Tenth Ordinary Meeting of the Contracting Parties to the Barcelona Convention, Tunis, 18-21 November 1997 (UNEP(OCA)/MED IG.11/10, Annex IV, Appendix III).

specifically mentioned the development of port reception facilities as a priority action to be taken into consideration when deciding on amendments to the Protocol. Eventually, the Contracting Parties to the Barcelona Convention decided that there was a need to go beyond amending the "Emergency" Protocol and to have a new Protocol, which should not only revise and update the provisions related to emergency situations, but also include prevention aspects. The Protocol Concerning Cooperation in Preventing Pollution from Ships and, in Cases of Emergency, Combating Pollution of the Mediterranean Sea, so-called "Prevention and Emergency" Protocol, was adopted in 2002, entered into force in March 2004 and superseded the 1976 "Emergency" Protocol.

The adoption in January 2002 of the Prevention and Emergency Protocol[12], which entered into force in March 2004 and replaced the 1976 "Emergency" Protocol, included the promotion of cooperation in the field of prevention of pollution from ships. The mandate of REMPEC was extended accordingly.

## 2.3. Port Reception facilities in the new Prevention and Emergency Protocol

At international level, with a view to assisting the States in the implementation of the provisions of the MARPOL Convention under national law, and to enforce the requirements of its technical annexes, IMO produced a manual entitled "MARPOL: How to do it"[13]. Moreover, the "Comprehensive Manual on Port Reception Facilities"[14], also published by the IMO, provides guidance on the provision of port reception facilities for ship-generated waste.

At regional level, in order to encourage further ratification and proper

[12] Protocol Concerning Cooperation in Preventing Pollution from Ships and, in Cases of Emergency, Combating Pollution of the Mediterranean Sea, Malta, 25 January 2002.

[13] MARPOL – How to do it, Manual on the practical implications of ratifying, implementing and enforcing MARPOL 73/78, 2002 Edition (First published in 1993), International Maritime Organisation, London, 2003; IMO sale number IA636E; ISBN: 92-801-4152-X.

[14] Comprehensive Manual on Port Reception Facilities, 1999 Edition (First published in 1995), International Maritime Organisation, London, 1999, IMO Sales number IMO-597E; ISBN 92-801-6094-X.

implementation and enforcement of the MARPOL Convention by the Mediterranean coastal States, a specific provision was included in the 2002 "Prevention and Emergency" Protocol.

Indeed, Article 14 of the Protocol provides that reception facilities, including facilities for pleasure craft, meeting the needs of ships, are available in the ports and terminals of the Parties. The full text of Article 14 is reproduced below:

*"1. The parties shall individually, bilaterally or multilaterally take all necessary steps to ensure that reception facilities meeting the needs of ships are available in their ports and terminals. They shall ensure that these facilities are used efficiently without causing undue delay to ships.*

*The Parties are invited to explore ways and means to charge reasonable costs for the use of these facilities.*

*2. The Parties shall also ensure the provision of adequate reception facilities for pleasure craft.*

*3. The Parties shall take all the necessary steps to ensure that reception facilities operate efficiently to limit any impact of their discharges to the marine environment.*

*4. The Parties shall take the necessary steps to provide ships using their ports with updated information relevant to their obligations arising from MARPOL 73/78 and from their legislation applicable in this field".*

The provision does not introduce regulations concerning the discharge of ship-generated waste. These regulations are already addressed in detail by the technical annexes of the MARPOL Convention. The aim of the Protocol is to facilitate the effective implementation and enforcement of these regulations in the Mediterranean region.

Article 14 of the "Prevention and Emergency" Protocol aims at facilitating the implementation by the Mediterranean coastal States of the provisions of MARPOL Convention related to port reception facilities.

## 2.4. The mandate of REMPEC: from preparedness and response to prevention of marine pollution from ships

Since the establishment of REMPEC in 1976, the mandate of the Centre was extended several times in order to adapt it to the evolution of the needs of the countries in the field of marine pollution from ships as well as to legal developments within IMO. The mandate of REMPEC was initially limited to preparedness and response to accidents involving oil in cases of emergencies. In 1989, harmful substances other than oil were included in the field of action of REMPEC, yet for preparedness and response to accidents.

Prevention of pollution from ships was first addressed through a decision of the Contracting Parties, which decided *to extend the mandate and functions of REMPEC to the promotion through regional cooperation of the implementation and the enforcement of the IMO Conventions for the prevention of the pollution of the marine environment by ships*. The same decision also approved the activities planned under the 1991 Action Plan in the field of port reception facilities.

In 2001, in order to anticipate the adoption of the new "Prevention and Emergency" Protocol, the Contracting Parties revised the objectives of REMPEC, with a view to "*preventing pollution of the marine environment from ships and ensuring the effective implementation in this region of the rules which are generally recognized at the international level relating to the prevention of pollution from ships"*, and updated its functions accordingly[15].

[15] Objectives and functions of a Regional Centre for the Implementation of the Emergency Protocol, adopted by the Twelfth Ordinary Meeting of the Contracting Parties to the Barcelona Convention, Monaco, 17 November 2001 (UNEP(DEC)/MED IG. 13/8, Annex IV, Appendix 1).

# 3. Regional Cooperation through the Euro-Mediterranean Partnership

## 3.1. The EC/MEDA financed project on "Port reception facilities for collecting ship-generated garbage, bilge waters and oily wastes" in the Mediterranean

The Euro-Mediterranean Partnership inaugurated at the 1995 Barcelona Conference established a policy with ambitious and long-term objectives. The Barcelona process includes three main pillars: political and security partnership; economic and financial partnership; and a partnership in social, cultural and human affairs. Within the economic and financial partnership, regional economic co-operation was developed, involving the 27 partners (15 EU Member States and 12 Mediterranean partners) and including, among six priority fields, transport. A first series of maritime transport projects, financed by the MEDA Fund, was launched in 1997.

A technical assistance project on "Port reception facilities for collecting ship-generated garbage, bilge waters and oily wastes" was one of the projects identified for support. To this end, a contract, which took the form of a "Grant Agreement", was concluded and signed on the 4th December 2001, between the European Community (EC) and the IMO, on behalf of REMPEC, which had presented to the EC a specific project proposal. Its implementation started on the 1st of January 2002.

The three-year Project addressed ten MEDA beneficiary countries which are also Parties to the 1976/1995 Barcelona Convention[16], i.e. **Algeria; Cyprus; Egypt; Israel; Lebanon; Malta; Morocco; Tunisia; Turkey** and **Syria**.

### Role of the Mediterranean EU Member States

The Project also involved four Mediterranean EU Member States (France,

[16] "Convention for the Protection of the Mediterranean Sea Against Pollution" adopted on 16 February 1976, as amended on 10 June 1995 and renamed the "Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean".

Greece, Italy and Spain) as EU Partners from whom full support to the Project was assumed in view of their experience in the field. This support was specifically provided through the presence of EU Partner's representatives in the meetings of the Project's Steering Committee, in order to provide REMPEC with guidance in the implementation of the Project and ensure compatibility of its results with international standards and with the Port Waste Reception Facilities Directive 2000/59/EC. Three Meetings of the Steering Committee took place within the implementation period of the Project (one per year).

### Involvement of the beneficiary countries

The ten Project beneficiary countries were constantly kept informed of and involved in the implementation of the activities planned under the Project. To this end, circular letters were regularly issued to the REMPEC Focal Points and other relevant competent authorities of the beneficiary countries and of the Mediterranean EU Member States. The countries were requested to plan, jointly with REMPEC and its Consultants, the visits in the ports as well as meetings with relevant national competent authorities. Finally, the ten beneficiary countries were invited to attend, as observers, the meetings of the Steering Committee. Other important stakeholders such as the EC relevant Directorates, IMO and UNEP's Mediterranean Action Plan (MAP) were also kept updated on the implementation of the Project.

## 3.2. Results achieved through the MEDA Project on port reception facilities

### Identification of the existing situation and needs

In order to address the issue of port reception facilities in the beneficiary countries, REMPEC primarily identified the existing situation and needs regarding port reception facilities in the relevant ports and oil terminals of the Mediterranean countries covered by the Project. This was attained through an assessment carried out in each relevant port/terminal of the beneficiary countries. In totals, fifty-six ports/oil terminals were visited. These are listed in Table 5.

**Table 5. Ports/Oil terminals visited per country**

| Country | Ports/Oil terminals visited |
|---|---|
| Cyprus | Limassol, Larnaka, Industrial port of Vassiliko, Dhekelia, Moni |
| Lebanon | Tripoli, Selaata, Sidon, Jounieh, Beirut, Zahrani Terminal |
| Egypt | Port Said, Alexandria, Sidi Kerir, Damietta, El Dekheila |
| Morocco | Nador, Tangier |
| Syria | Lattakia, Banias, Tartous |
| Malta | Marsaxlokk, Valletta |
| Turkey | Iskenderun, Ceyhan, Mersin, Aliaga, Nemrut Bay, Dikili, Izmir, Antalya, Bodrum, Marmaris, Kusadasi |
| Algeria | Annaba, Skikda, Bejaia, Algiers, Arzew&Bethioua, Oran, Jizel, Mostaganem, Ghazaouet, Tenes |
| Tunisia | La Goulette/Rades, Sfax, La Skhira terminal, Sousse, Gabes, Bizerta/Menzel Bourguiba, Zarzis |
| Israël | Haifa, Hadera, Ashdod, Ashqelon |

The first output of this activity was the availability of the information related to the actual existing situation regarding port reception facilities for collecting ship-generated garbage, bilge waters and oily waste in the relevant ports and terminals (loading/unloading operation areas) in the ten beneficiary countries of the Project.

For oily wastes, the assessment of the existing situation indicated that out of the fifty-six ports/oil terminals visited, twenty-eight had adequate facilities or facilities that needed minor improvements. With respect to garbage, adequate facilities are provided in all ports, with the exception of three ports where no facilities at all are provided.

The second output was the identification of needs for each relevant port by the full evaluation of ship traffic movements and the estimated quantities of oil and garbage to be discharged, with reference to the MARPOL

Convention regulations as well as to the EU Directive 2000/59/EC on port reception facilities (particularly in the case of Cyprus and Malta).

The assessment of the needs revealed that new facilities or the improvement of the existing facilities were necessary to ensure adequate collection and/or treatment of oily wastes. Improvement for the collection and treatment of garbage was suggested for four ports.

## Optimum solutions

On the basis of the results of this assessment, a study proposing optimum solutions for collecting, treating and disposing ship-generated waste was prepared. The Study took into consideration specific features of each particular country, and included proposals regarding the type and size of required port reception facilities and waste treatment plants, based on the best available technology.

The Project's beneficiary countries were provided with realistic, applicable proposals for adequate port reception facilities, taking into consideration specific circumstances of each country and/or port concerned, and based on the best available technology.

## Standard designs

Finally, standard designs were produced for (a) oily waste reception, treatment and dewatering facilities and (b) garbage collection, treatment and disposal facilities. The standard designs were made available to all Mediterranean coastal States involved, for implementation in their ports.

The Project's beneficiary countries were provided with a study containing standard designs and technical specifications, which could be utilized for the setting up of reception facilities in their ports.

# 4. Complementary activities carried out by rempec in the field of port reception facilities

Taking into consideration the importance of ensuring the existence and adequacy of reception facilities in all ports/terminals of the Mediterranean region, it was decided to extend as far as possible to the Mediterranean countries that did not benefit from the EC/MEDA financed Project the activities planned under the said Project. The aim was to provide all Mediterranean countries with the same expertise in the field, taking also into consideration the EU standards, particularly those contained in the EC Directive on port reception facilities (Directive 2000/59/EC of 27 November 2000).

## 4.1. Complementary activities in the Mediterranean countries that did not benefit from the EC/MEDA Project

Activities similar to those included in the EC/MEDA financed Project were carried out concomitantly by REMPEC in four other Mediterranean countries that did not benefit from the Project, namely Albania, Croatia, Slovenia and Libya (4 ports). Moreover, an assessment of the situation and needs was also carried out, on behalf of the IMO, in the port of Aqaba, following a specific request from Jordan.

With the exception of Bosnia-Herzegovina and Serbia & Montenegro as well as some ports in Libya, all relevant ports/terminals of non-EU Mediterranean countries were assessed. In addition, optimum solutions and standards designs were also provided for the ports/terminals of Albania, Croatia and Slovenia.

The following table shows the complementary activities carried out in the abovementioned countries.

**Table 6. Complementary activities carried out in the Mediterranean countries**

| Activity/Country | Assessment of the Situation and Needs | Optimum Solutions |
|---|---|---|
| Albania, Croatia and Slovenia | ✔ | ✔ |
| Libya (4 ports) | ✔ | |
| Jordan | ✔ | |

It should be noted that the standard designs for port reception facilities are applicable to all ports/terminals of the Mediterranean. Indeed, the drawings were conceived to cover a range of nine different types of facilities (three modules combined with three different capacities). Consequently, the Study related to standard designs was disseminated to all Mediterranean countries that did not participate in the MEDA Project, for their perusual.

## 4.2. Financing the complementary activities

REMPEC's Mediterranean Trust Fund (MTF) budget and IMO's Integrated Technical Cooperation Programme (ITCP) provided financial support for the implementation of the complementary activities mentioned above, as appears in the following table:

**Table 7. Financial support for similar activities**

| Financing | Countries |
|---|---|
| **REMPEC** (Mediterranean Trust Fund Budget) | Albania, Croatia and Slovenia |
| **IMO** (Integrated Technical Cooperation Programme) | Libya and Jordan |

## Albania, Croatia and Slovenia

Out of thirteen ports assessed in the Adriatic (Albania, Croatia and Slovenia), port reception facilities were found to exist in nine ports and six of them required to improve their facilities for oily wastes collection and/or treatment. In particular, minimal collection services were recommended for three ports and enlargement of storage capacity as well as new treatment facilities were recommended for one port. With respect to garbage, adequate facilities are present in all ports with the exception of two.

## Libya

Four ports were assessed in Libya, namely Tripoli, Misurata, Khoms and Zawia Terminal. Absence of adequate and organized reception and treatment facilities for oily waste was reported for Tripoli, whilst no facilities existed at Misurata, Khoms and Zawia Terminal.

As far as garbage is concerned, the facilities exist but these require some improvements in the ports of Khoms, Tripoli and Misurata. Zawia Terminal does not have a systematic provision of reception facilities for garbage.

## Jordan

There is no need for the port of Aqaba to provide facilities for collecting oily ballast waters from tankers. However, the collection of oily wastes should be optimized. Although facilities for collecting garbage exist, these need to be improved.

# 5. Concluding Regional Seminar

In order to conclude the EC/MEDA Project on port reception facilities in the Mediterranean, a Regional Seminar was held to present and discuss the results of the activities and to recommend a course of action, for future implementation by the beneficiary countries, of the results of the Project. The results of similar activities that REMPEC carried out concomitantly with those under the EC/MEDA were also presented. The Seminar was held in Malta between the 24 and 26 November 2004 and all the Mediterranean countries were invited to attend.

## 5.1. Financing the participation of all Mediterranean countries in the Regional Seminar

In order to allow the non-MEDA Project beneficiary countries to benefit from the Regional Seminar's expected outcome, REMPEC succeeded in sourcing the necessary financial resources to cover the participation of these countries in the Seminar. While the participation of representatives of the beneficiary countries of the MEDA Project on Port Reception Facilities (i.e.: Algeria; Cyprus; Egypt; Israel; Lebanon; Malta; Morocco; Tunisia; Turkey and Syria) at the Regional Seminar was financed from the budget of the Project, the participation of representatives of countries involved in REMPEC's complementary activities (i.e.: Albania, Bosnia and Herzegovina, Croatia, Jordan, Libya, Slovenia and Serbia and Montenegro) was financed by IMO's Integrated Technical Co-operation Programme.

## 5.2. Outcome of the Regional Seminar: an appropriate follow-up of the results achieved

Various countries emphasised the importance of the implementation of the results of the Project with particular reference to possible further future assistance. REMPEC endeavoured, during the Seminar, to tackle the issue of financing as well as cost recovery aspects. In this regard, several options for the establishment and financing of reception facilities, including the possibility to contract out the setting up and operation of the facilities, were presented to the participants.

The participants in the Regional Seminar made special emphasis on the need for an appropriate follow-up of the achievements of the Project by

adopting a Resolution entitled "Implementation of the Results of the EC/MEDA Financed Project on Port Reception Facilities in the Mediterranean and of REMPEC's Complementary Activities", in which a set of actions for the follow-up and implementation of the results of the Project are listed.

It was decided in particular to "*review and report to REMPEC, and through REMPEC to all Mediterranean coastal States, on the follow-up and implementation of these results for the setting up of reception facilities in their ports and terminals*". Moreover, the respective countries were invited to "*endeavor to take all necessary measures in order to implement these results in their ports and terminals*" and further support by REMPEC was requested by the countries "*with a view to identifying possible sources of financing for the effective implementation of these results*".

A Resolution endorsing the results of the MEDA Project and REMPEC's complementary activities and outlining further actions for their implementation at the national, bilateral, multilateral and regional level was adopted by the participants to the Seminar.

As stated during the concluding Seminar, although the primary responsibility for the implementation of the results of the EC/MEDA financed Project and the related complementary activities rested with the beneficiary countries, the Centre would be ready to provide any technical assistance that might be requested by Mediterranean countries with regard to the concrete implementation of these results. The follow-up work on port reception facilities could be included in the Centre's work programme, which is adopted by the Meeting of REMPEC Focal Points and by the Meeting of the Contracting Parties to the Barcelona Convention. This follow-up work could be of a regional nature or could take the form of assistance to individual requests from the countries.

The feedback of the countries during the implementation of the Project and their active participation during the Regional Seminar indicated the importance attached by the Mediterranean countries to the Project and in particular to the follow-up of the results achieved.

# 6. Establishing port reception facilities

The overall objective of the Project, as stated above, was to facilitate the implementation in the Mediterranean region of the International Convention for the Prevention of Pollution from Ships, 1973 (MARPOL Convention), with respect to the provision of adequate port reception. The specific objectives of the Project, i.e. assessing the existing situation in the relevant ports/terminals of the beneficiary countries as well as proposing optimal solutions for adequate reception facilities and providing relative designs, were achieved.

The primary responsibility for the implementation of the MARPOL Convention requirements being with the beneficiary countries, it is assumed that, as a result of the technical assistance provided through the EC/MEDA financed Project (i.e. an assessment of the situation and needs, a harmonised knowledge of international and European standards, as well as the necessary know-how relating to adequate facilities and relative engineering/specification aspects), the beneficiary countries are now in a better position to comply with the relevant international regulations.

## 6.1 Duties of a State Party to the MARPOL Convention

The role of a contracting Party to the MARPOL Convention is:

- to implement MARPOL provisions, which implies the integration of these provisions into national law, including violations definitions and establishment of relative sanctions; and
- to ensure compliance with MARPOL provisions, which implies that legal (prosecution of offenders), administrative (monitoring, surveys and inspections) and technical (pollution detection, gathering of evidence) conditions enabling enforcement are being met by the different administrations of the State involved.

As far as the availability of port reception facilities is concerned, the State shall undertake to transpose the MARPOL relative requirements into its national law, i.e. that ports and terminals provide adequate port reception facilities to meet the needs of the ships. Moreover, the maritime administration shall ensure that the facilities are available in ports and terminals, and should follow up by reporting, inspecting and prosecuting in cases of non-compliance.

## 6.2 Financing port reception facilities

One of the main concerns expressed by some Mediterranean countries which participated in the EC/MEDA Project as well as in the complementary activities carried out by REMPEC in the field of port reception facilities was related to the public sector investment required for the establishment of reception facilities in their respective ports and terminals.

In this regard, it should be noted that the MARPOL Convention states that the government of the State "undertake to ensure the provision of" the facilities. The requirement related to **ensuring** the provision of port reception facilities is addressed to the State, and is therefore an obligation that remains with the State, but this does not imply that the building and operation of the facilities shall be a duty of the public sector.

> MARPOL does not impose that the establishment of port reception facilities be carried out with direct government involvement. It is left to the State to decide whether the waste reception services are provided by a public enterprise or by a private company.

The actual provision of port reception facilities can be undertaken by either the public and/or the private sector. An overview of the advantages and the disadvantages of public/private options can be found in Chapter 3 of the Comprehensive Manual on Port Reception Facilities published by IMO (see note 12). A new approach to environmental investment whereby the burden of traditionally public investment costs can be shifted to the private sector, particularly in areas where these costs can be recovered through user charge and fees for services rendered, could be advisable when the financial constraints on public sector turn out to be too heavy[17]. Investments can also be done jointly by both private and public sector depending on the type of port management.

Private sector involvement in building and operating port reception facilities can take the form of various concession agreements, mainly:

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[17] G. Constantinides, Study Concerning the Estimate of Costs of the Implementation of the Regional Strategy for Prevention of and Response to Marine Pollution from Ships in the Mediterranean (Study commissioned by REMPEC), March 2005. Ref. REMPEC/WG. 25/6, April 2005.

- **Build, Operate and Transfer (BOT):** this option recognizes the fact that the contractor (grantee) never has ownership of the facility but possesses the right to build and operate the facility for a specified period of time (usually 25-30 years) after which, having covered costs plus profit on investment, hands over the facility to the public sector, unless obtaining another concession subject to new terms.

- **Design, Build, Operate and Transfer (DBOT):** Under this arrangement the grantee undertakes the design of the facilities in addition to the above terms.

- **Build, Operate and Own (BOO)**: This arrangement allows the grantee to retain ownership for ever subject to negotiated terms.

- **Build, Operate, Own and Transfer (BOOT):** This arrangement requires transfer to the public sector at the end of the maturity period.

# ANNEX I

# Deliverables related to activities carried out by REMPEC in the field of port reception facilities

## Within the MEDA Project:

Activity A: Collection and treatment of solid and liquid wastes";
Activity C: "Collection and treatment of oily ballast waters from tankers";
Activity B: "Optimum solutions for collecting, treatment and disposal of relevant ship-generated solid and liquid wastes";
Activity D: "Standard designs for (a) oily wastes reception, treatment, storage and dewatering facilities and (b) garbage collection, treatment and disposal facilities";
Activity E: "Report of the Regional Seminar on Port Reception Facilities for Collecting Ship-Generated Garbage, Bilge Waters and Oily Wastes in the Mediterranean, Malta, 24-26 November 2004";

- Resolution entitled "Implementation of the Results of the EC/MEDA Financed Project on Port Reception Facilities in the Mediterranean and of REMPEC's Complementary Activities"
- Information documents and presentations of the lecturers.

## For similar activities carried out in countries which did not benefit from the Project:

### Adriatic countries (Albania, Croatia and Slovenia):

Activity 1: "Collection and treatment of solid and liquid wastes";
Activity 2: "Collection and treatment of oily ballast waters from tankers";
Activity 3: "Optimum solutions for collecting, treatment and disposal of relevant ship-generated solid and liquid wastes in Albania, Croatia and Slovenia".

### Libya (Ports of Tripoli, Misurata, Khoms and Zawia terminal):

Activity 1: "Collection and treatment of solid and liquid wastes";
Activity 2: "Collection and treatment of oily ballast waters from tankers".

### Port of Aqaba, Jordan:

Activities 1&2: "Collection and treatment of solid and liquid wastes from ships and oily ballast waters from tankers".

*Nota bene: all Final Reports/Studies were delivered in both English and French languages.*

## Reports of the Meetings of the Steering Committee

- Report of the first Meeting of the Steering Committee of the MEDA Project on Port Reception Facilities for Collecting ship-generated Garbage, Bilge Waters and Oily Wastes (Malta, 06-07 May 2002);

- Report of the second Meeting of the Steering Committee of the MEDA Project on Port Reception Facilities for Collecting ship-generated Garbage, Bilge Waters and Oily Wastes (Malta, 30-31 October 2003);

- Report of the third Meeting of the Steering Committee of the MEDA Project on Port Reception Facilities for Collecting ship-generated Garbage, Bilge Waters and Oily Wastes (Malta, 23 November 2004).

## Dissemination of information

In order to facilitate the dissemination of information on the results of both the MEDA Project on Ports Reception Facilities and similar activities carried out in the non-MEDA Project beneficiary countries, all Final Reports were posted in both English and French version on the REMPEC website (www.rempec.org), page "Document", under "Publications" and "Reports/ Projects".

# ANNEX II

# Ports involved in the EC/MEDA financed Project on port reception facilities in the Mediterranean

## Algeria

| Ports involved in the project | Port | | Oil Terminal | | | | |
|---|---|---|---|---|---|---|---|
| | Commercial Port | Port with major ship -repairing and/or tank cleaning facilities | Crude oil | | Oil Products | | Fuel oil power plant & other facility |
| | | | Loading terminal | Unloading terminal | Loading terminal | Unloading terminal | |
| Skikda | ✓ | | ✓ | ✓ | ✓ | ✓ | |
| Oran | ✓ | | | | ✓ | ✓ | |
| Arzew & Bethioua | ✓ | | ✓ | ✓ | ✓ | ✓ | |
| Tenes | ✓ | | | | | | |
| Jijel | ✓ | | | | | | |
| Bejaia | ✓ | | ✓ | | | ✓ | |
| Mostaganem | ✓ | | | | | | |
| Annaba | ✓ | | | | ✓ | ✓ | |
| Ghazaouzet | ✓ | | | | | | |
| Algiers | ✓ | | ✓ | ✓ | ✓ | ✓ | |

## Cyprus

| Ports involved in the project | Port | | Oil Terminal | | | | |
|---|---|---|---|---|---|---|---|
| | Commercial Port | Port with major ship -repairing and/or tank cleaning facilities | Crude oil | | Oil Products | | Fuel Oil fired power plant |
| | | | Loading terminal | Unloading terminal | Loading terminal | Unloading terminal | |
| Larnaka | ✓ | | ✓ | | ✓ | ✓ | |
| Vassiliko | ✓ | | | | | | ✓ |
| Limassol | ✓ | | | | | | |
| Moni | | | | | | | ✓ |
| Dhekelia | | | | | | | ✓ |

## Egypt

| Ports & Terminals involved in the project | Port | Oil Terminal | | | | | |
|---|---|---|---|---|---|---|---|
| | | Crude oil | | Oil Products | | Fuel Oil power plant | Other facility |
| | | Loading terminal | Unloading terminal | Loading terminal | Unloading terminal | | |
| Sidi Kerir | | | ✓ | | | | |
| Port Said | ✓ | | | | ✓ | | |
| Alexandria | ✓ | | | ✓ | ✓ | | |
| Damietta | ✓ | | | ✓ | ✓ | | |
| Dhekelia | ✓ | | | ✓ | ✓ | | |
| Mersa El Hamra | | | | | ✓ | | |

## Israel

| Ports involved in the project | Port | | Oil Terminal | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Crude oil | | Oil Products | | | |
| | Commercial Port | Port with major ship - repairing and/or tank cleaning facilities | Loading terminal | Unloading terminal | Loading terminal | Unloading terminal | Fuel Oil fired power plant | Other facility |
| Ashdod | ✓ | | | | | | ✓ | |
| Haifa | ✓ | ✓ | | ✓ | ✓ | ✓ | | |
| Ashqelon | | | | ✓ | ✓ | ✓ | ✓ | Planned dessali-nation plant |
| Hadera | | | | | | ✓ | ✓ | |

## Lebanon

| Ports & Terminals involved in the project | Port | Oil Terminal | | | | | |
|---|---|---|---|---|---|---|---|
| | | Crude oil | | Oil Products | | Power plant | Other facility |
| | | Loading terminal | Unloading terminal | Loading terminal | Unloading terminal | | |
| Tripoli | ✓ | | | | ✓ | ✓ Deir Ammar | |
| Zahrani Oil Terminal | | | | | ✓ | ✓ | |
| Sidon | ✓ | | | | | | |
| Jounieh | ✓ | | | | | ✓ Zouk | |
| Beirut (privately operated oil products distribution companies) | ✓ | | | ✓ | ✓ | | |
| Selaata | ✓ | | | | | | |

## Malta

| Ports of the project | Port | | Oil Terminal | | | | |
|---|---|---|---|---|---|---|---|
| | Commercial Port | Major ship – repairing and/or tank cleaning facilities | Crude oil | | Oil Products | | Fuel oil Power plant & other facility |
| | | | Loading terminal | Unloading terminal | Loading terminal | Unloading terminal | |
| Marsaxlokk (oil tankink Terninal, Malta Freeport) | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ |
| Valletta (Tank Cleaning Facility, Malta Drydocks) | ✓ | ✓ | | | ✓ | ✓ | ✓ |

## Morocco

| Ports involved in the project | Port | | Oil Terminal | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Commercial Port | Port with major ship -repairing and/or tank cleaning facilities | Crude oil | | Oil Products | | Fuel Oil fired power plant | Other facility |
| | | | Loading terminal | Unloading terminal | Loading terminal | Unloading terminal | | |
| Nador | ✓ | | | | | | | |
| Tangier | ✓ | | | | | | | |

## Syria

| Ports & Terminals involved in the project | Port | | Oil Terminal | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Commercial Port | Port with major ship - repairing and/or tank cleaning facilities | Crude oil | | Oil Products | | Fuel Oil fired power plant | Other facility |
| | | | Loading terminal | Unloading terminal | Loading terminal | Unloading terminal | | |
| Banias | | | ✓ | | ✓ | ✓ | | |
| Tartous | ✓ | | ✓ | | | | | |
| Lattakia | ✓ | | | | | | | |

## Tunisia

| Ports & Terminals | Port | Oil Terminal | | | | | |
|---|---|---|---|---|---|---|---|
| | | Crude oil | | Oil Products | | Fuel Oil fired power plant | Other facility |
| | | Loading terminal | Unloading terminal | Loading terminal | Unloading terminal | | |
| La Skhira Oil Terminal | | ✓ | | | ✓ | | |
| Sfax | ✓ | | | | | | |
| Sousse | ✓ | | | | | | |
| La Goulette and Rades port complex | ✓ | | | | | | |
| Bizerte and Menzel Bourguiba | ✓ | ✓ | | ✓ | ✓ | | |
| Gabes | ✓ | | | | | | |
| Zarzis | ✓ | | | ✓ | ✓ | | |

# Turkey

| Ports involved in the project | Port | | Oil Terminal | | | | |
|---|---|---|---|---|---|---|---|
| | | | Crude oil | | Oil Products | | |
| | Commercial Port | Port with major ship -repairing and/or tank cleaning facilities | Loading terminal | Unloading terminal | Loading terminal | Unloading terminal | Fuel oil power plant & other facility |
| Izmir | ✓ | | | | | | |
| Iskenderun | ✓ | | | | ✓ | ✓ | |
| Nemrut Bay | ✓ | | | | ✓ | ✓ | |
| Dikili | ✓ | | | | | | |
| Ceyhan | ✓ | | ✓ | ✓ | | | |
| Aliaga | | | | ✓ | ✓ | ✓ | |
| Mersin | ✓ | | | | | | |
| Kusadasi | ✓ | | | | | | |
| Antalya | ✓ | | | | | | |
| Marmaris | ✓ | | | | | | |
| Bodrum | ✓ | | | | | | |

# ANNEX III

# Ports covered by complementary activities on port reception facilities carried out by REMPEC

## Albania

| Port | Port | | Oil Terminal | | | | |
|---|---|---|---|---|---|---|---|
| | Commercial Port | Port with major ship -repairing and/or tank cleaning facilities | Crude oil | | Oil Products | | Other facilities |
| | | | Loading terminal | Unloading terminal | Loading terminal | Unloading terminal | |
| Durres | ✓ | | | | | ✓ | |
| Shengjin | ✓ | | | | | ✓ | |
| Vlore | ✓ | | | | | ✓ | |
| Saranda | ✓ | | | | | ✓ Not in use | |

## Croatia

| Ports involved in the project | Port | | Oil Terminal | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Commercial Port | Port with major ship - repairing and/or tank cleaning facilities | Crude oil | | Oil Products | | Fuel Oil fired power plant | Other facility |
| | | | Loading terminal | Unloading terminal | Loading terminal | Unloading terminal | | |
| Dubrovnik | ✓ | | | | | | | |
| Omisalj | | | ✓*1 | ✓ | | ✓ | | |
| Rijeka Rasa Plomin | ✓ | | | ✓*2 | ✓ | ✓ | | |
| Ploce | ✓ | | | | ✓ | ✓ | | |
| Split | ✓ | | | | ✓ | ✓ | | |
| Sibenik | ✓ | | | | | | | |
| Zadar | ✓ | | | | ✓ | ✓ | | |

*[*1] It indicates the future operation of the Omisalj terminal as a crude oil discharging facility to oil tankers*

*[*2] It indicates the operation of the Bakar based oil refinery which is supplied with crude oil through the Omisalj terminal and not from crude oil tankers directly.*

## Slovenia

| Port involved in the project | Port | | Oil Terminal | | | | |
|---|---|---|---|---|---|---|---|
| | | | Crude oil | | Oil Products | | |
| | Commercial Port | Port with major ship -repairing and/or tank cleaning facilities | Loading terminal | Unloading terminal | Loading terminal | Unloading terminal | Fuel Oil fired power plant |
| Koper | ✓ | | | | | ✓ | |

## Libya

| Port involved in the project | Port | | Oil Terminal | | | | |
|---|---|---|---|---|---|---|---|
| | | | Crude oil | | Oil Products | | |
| | Commercial Port | Port with major ship -repairing and/or tank cleaning facilities | Loading terminal | Unloading terminal | Loading terminal | Unloading terminal | Fuel Oil fired power plant |
| Tripoli | ✓ | | | | | | |
| Misurata | ✓ | | | | | ✓ | |
| Khoms | ✓ | | | | | | |
| Zawia | | | | ✓ | ✓ | ✓ | |

## Jordan

| Port involved in the project | Port | | Oil Terminal | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Crude oil | | Oil Products | | | |
| | Commercial Port | Port with major ship - repairing and/or tank cleaning facilities | Loading terminal | Unloading terminal | Loading terminal | Unloading terminal | Fuel oil fired power plant | Other facility |
| Aqaba | ✓ | | *1 | ✓ | *1 | ✓ | *2 | |

*1 *The oil terminal at the industrial port zone, is not presently used as a crude oil exporting facility, but it is likely to resume operations as such for truck transported Iraqi crude oil. In parallel, only minor quantities of marine fuel oil are currently loaded to ships in the Main port.*

*2 *A new LNG fired power plant has recently replaced the fuel oil one.*

# ANNEX IV

## Available reception facilities in ports covered by the EC/MEDA financed Project on port reception facilities in the Mediterranean

Annex IV provides a Summary Table of available port reception facilities for solid and liquid wastes as well as ballast waters from tankers in the ports/terminals of the countries covered by the EC/MEDA financed Project on port reception facilities in the Mediterranean. Detailed information on available reception facilities in these ports/terminals can be found in the relevant final reports listed in Annex I of the present document.

# Summary Table of Available Port Reception facilities for solid and liquid wastes

| Port | Oily wastes | | | | | | Garbage | | |
|---|---|---|---|---|---|---|---|---|---|
| | Estimated, average annual volume for delivery ($m^3$/year) | Existing Reception Facilities | | | | Remarks - Proposed Reception Facilities | Estimated, average annual volume for delivery ($m^3$/year) | Adequacy of existing facilities | Remarks - Proposals |
| | | Type | Holding capacity ($m^3$) | Treatment rate ($m^3$/hour) | Adequacy | | | | |
| Algiers | 6.930 | | | | | A fixed treatment facility is proposed with minimum sizes 70 $m^3$ hold. capacity and 10 $m^3$/hour treat.rate | 1.467 | Ac | Sufficient collection through pre-positioned receptacles and trucks |
| Annaba | 725 | | | | | For the limited needs of the port, minimum,essential collection means should be provided upon request | 336 | Ac | Adequate garbage collection |
| Arzew - Bethioua | 4.907 | | | | | A fixed treatment facility is proposed with minimum sizes 50 $m^3$ hold. capacity and 6 $m^3$/hour treat.rate | 1.363 | Ac | Sufficient collection through pre-positioned receptacles and trucks |
| Bejaia | 4.362 | V | | | Ac | Collection is carried out through Naftal and D.D.D resources | 583 | Ac | Sufficient collection through pre-positioned receptacles and trucks |
| Ghazaouet | 603 | | | | | Minimum,essential collection means should be provided upon request | 207 | | |
| Jizel | 228 | V + P | | | Ac | Waste oils can be collected for treatment in the regional Naftal facilities. | 69 | Ac | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Mostaganem | 1.021 | V + P | | | | Limited needs. Collection upon request can be achieved through the involvement of the Port Authority or private contractors. | 352 | Ac | |
| Oran | 2.326 | | | | | Minimum,essential collection means should be provided upon request | 786 | Ac | Adequate reception and collection capacity |
| Skikda | 50.840 | F | 15.000 | 250 | I | The fixed facility has to do with cargo associated wastes from oil tankers calling to Sonatrach oil terminal. A facility is proposed with minimum sizes 450 $m^3$ hold. capacity and 55 $m^3$/hour treat.rate with a sufficient number of collection means as outlined in the Report. | 1.914 | Ac | A garbage transfer station would optimize the collection and transport pattern |
| Tenes | 100 | V + P | | | Ac | Waste oils can be collected for treatment in the regional Naftal facilities | 13 | Ac | Limited needs. |
| Larnaka | 1.406 | B + V | 600 (max) | | Ac | | 458 | Ac | |
| Limassol | 13.870 | B + V | 600 (max) | | Ac | | 4.970 | Ac | Although adequate, a garbage transfer station could be established |
| Vassiliko | 317 | F + V | 2.000 | 120 | Ac | | 38 | Ac | |
| Alexandria & Dhekelia | 14.400 | B | 200 (max) | | I | A Dhekelia based facility (140 cub. meters hold. capacity, 18 $m^3$/hour throughput rate) is proposed | 4.426 | Ac | A garbage transfer station in Alexandria would optimize the collection and transport pattern |
| Damietta | 5.183 | F + B + V | 700 (max) | | Ac | | 991.6 | Ac | Damietta is the only port in the area of the project in which a port based incinerator for dry garbage operates |
| Port Said | 3.555 | B | 200 | | I | A fixed treatment facility is proposed to optimize the available collection scheme | 1.032 | Ac | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Ashdod | 13.009 | V | 15 | | Ac | Waste oils collected are treated at a nearby treatment facility | 3.994 | Ac | |
| Hadera | 440 | F | 10 | | Ac | The limitation of delivery of 10 cub. meters should be withdrawn by providing additional holding capacity | 242 | Ac | |
| Haifa | 15.611 | B + V | | | Ac | | 8.746 | | |
| Beirut | 4.583 | V | 25 | | I | A fixed treatment facility is proposed with minimum sizes 45 $m^3$ hold. capacity and 6 $m^3$/hour treat.rate | 1308 | Ac | |
| Saida | 1.009 | | | | I | Essential collection means should be provided upon request | 155 | I | Although the needs are limited, storage receptacles and a skip loader truck should be provided |
| Selaata | 205 | | | | I | | 41 | Ac | |
| Tripoli | 2.930 | V | 25 | | Ac | A fixed treatment facility is proposed with minimum sizes 30 $m^3$ hold. capacity and 5 $m^3$/hour treat.rate | 461 | Ac | |
| Marsaxlokk | 31.744 | B + V | 1.100 | | Ac | Oil Tanking is out of this estimation | 2.049 | Ac | |
| Valletta | 12.497 | F + B + V | 1.100 (B)<br>12.000 (F) | 350 (B) | Ac | The facilities indicated are provided by the Tank Cleaning Facility and Waste Oils Co. | 4.553 | Ac | Establishment of a transfer station at a suitable place in the port area to optimize garbage collection and transport |
| Nador | 11.318 | | | | | A fixed treatment facility is proposed with minimum sizes 105 $m^3$ hold. capacity and 13 $m^3$/hour treat.rate | 3.768 | Ac | Mandatory disposal of garbage has achieved sufficient collection service through pre-positioned receptacles and trucks |
| Tangiers | 380 | | | | | Essential collection means should be provided upon request | 1.295 | Ac | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Lattakia | 3.431 | V | <10 | | Ac | Operational improvements as outlined in the Report | 1.123 | Ac | Operational improvements |
| Tartous | 5.159 | V | | | I | Minimum 35 $m^3$ capacity in the form of mobile collection means | 829 | I | Although the needs are limited, storage receptacles and a skip loader truck should be provided |
| Bizerte & Menzel Bourguiba | 1.361 | V + P | 20 | | Ac | Used oils regeneration plant ensures collection and treatment of waste oils from ships | 271 | Ac | |
| La Goulette & Rades | 5.435 | V + P | 20 | | I | A fixed treatment facility (minimum 70 cub. meters hold. capacity, 8.5 $m^3$/hour throughput rate) is proposed | 1.612 | Ac | |
| Sfax | 6.643 | V + P | 20 | | Ac | Distant transport of collected waste oils to Bizerta dictates the establishment of a fixed treatment facility (65 cub. meters hold. capacity, 8 $m^3$/hour throughput rate) | 1.580 | Ac | Effective involvement of local contractors charged in collecting garbage |
| Sousse | 380 | V + P | 20 | | Ac | | 1.295 | Ac | |
| Gabes | 4.182 | V + P | 20 | | Ac | | 1.526 | Ac | |
| Zarzis | 1.155 | V | 20 | | I | The storage and treatment facility proposed to deal with cargo associated oily wastes from tankers can absorb also this kind and volume of wastes | 445.8 | Ac | Effective involvement of local contractors charged in collecting garbage |
| Iskenderun | 2.316 | F + V | 13 (V)<br>98 (F) | | Ac | | 586.5 | Ac | |
| Dikili | 255 | V | | | Ac | Limited needs of ships that call to the port | 176.8 | Ac | Limited needs of ships that call to the port |
| Kusadasi | 559 | | | | | Established practice for incoming ships not to discharge waste oils. Essential collection means only are recommended. | 2.106 | Ac | Adequate collection pattern has achieved 90% of ships to deliver garbage |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Mersin | 5.674 | F + V | 15 (V)<br>250 (F) | 10 | Ac | | 1.894 | I | At least two 10 – 15 cub. meters trucks or/and proper receptacles |
| Bodrum | 876 | | | | Ac | A small scale Environment Station to collect oily wastes and garbage is proposed | 1.695 | Ac | |
| Marmaris | 1.314 | B | 500 | | Ac | | 245 | Ac | |
| Nemrut Bay | 6.361 | | | | | A fixed treatment facility (minimum 62 cub. meters hold. capacity, 8 $m^3$/hour throughput rate) is proposed | 1.662 | Ac | |
| Izmir | 5.939 | B + F | 400 | 60 | Ac | Modernization of the treatment process with emphasis to the handling of emulsified oils | 1.384 | Ac | |
| Antalya | 2.373 | F + V | 20 | | Ac | Modernization of the treatment technology through potentially the establishment of a new facility | 460.5 | Ac | |

## Where

F means a port area based, collection and treatment system , usually linked through piping to the jetties or piers and its associated equipment including holding tanks

B means navigable means, self or non – propelled, separating or not the collected oily water mixtures

P means small portable tanks appropriate for collecting and temporary storing used and other waste oils

V means road tankers able to collect and transport wastes oils and other oily water mixtures

Ac means adequate facilities in terms of capacity

I means inadequate facilities in terms of capacity

## Summary Table of Available Port Reception facilities for oily ballast waters from tankers

| Port Terminal | Port | | Oil terminal | | | | | Esimated average annual volume of cargo associated oily wastes ($m^3$/year) | Available Reception Facilities | | | Remarks - Proposals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Commer-cial | Port with major ship-repairing or tank cleaning facility | Crude oil | | Oil products | | Fuel oil power plant or other facility | | Type | Storage capacity ($m^3$) | Adequacy | |
| | | | Loading terminal | Unloading Terminal | Loading terminal | Unload-ing terminal | | | | | | |
| Algiers | | | | | | | | | F + T + S | 5.100 | Ac | **Naftec S.p.a. Algier Refinery terminal** |
| Arzew & Bethioua complex | | | | | | | | | F + T | 25.700 | Ac | *SD2, SD3 Sonatrach RTC operated deballasting facilities* |
| Bejaia | | | | | | | | 54.000 | F + T | 2.500 | Ac | |
| Skikda | | | | | | | | 41.600 | F + T | 15.000 | Not operat-ional | *A collection facility (holding capacity for tank washings and other oily water mixtures at least to 450 and 85 $m^3$ respectively and proper collection means) and a treatment plant with nominal rate 55 $m^3$/hour is proposed* |
| Larnaka | | | | | | | | 2.000 | B | 1.200 | | *Reception of tank washings is carried* |
| Moni | | | | | | | | 880 | B | 1.200 | | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Vassilikos | | | | | | | | 2.870 | B | 1.200 | Ac | *out by barges from almost any requested anchorage or berth while storage and treatment is performed in the Vassilikos waste oils treatment facility* |
| Dhekelia | | | | | | | | 3.980 | B | 1.200 | | |
| Sidi Kerir | | | | | | | | | B + T + S | 120.000 | Ac | |
| Ashqelon | | | | | | | | | F + T | 20.000 | Ac | *The deballasting station serves only emergency cases for oil contaminated ballast, since SBT tankers are predominantly engaged in oil handling operations* |
| Haifa | | | | | | | | | F + T | 7.000 | Ac | |
| Tripoli | | | | | | | | 1.460 | | | | *A barge able to collect and store 100 cub. meters of mainly machinery spaces' oily water mixtures and a port based treatment facility (see Final Report of Activity A of the project) is proposed* |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Zahrani O.T. | | | | | | < 670 | | | | | *The operation of the terminal has changed from a crude oil exporting to an oil products receiving facility. A barge at least 100 cub.meters capacity able to cope with the collection of only machinery spaces' oily water mixtures is proposed* |
| Jounieh | | | | | | | | | | | *The limited needs can be handled by the proposed facility in Beirut (see Final Report of Activity A)* |
| Marsaxlokk | | | | | | 12.000 | B | | | Ac | *Dirty ballast and tank washings from tankers calling to Oil Tanking terminal in Malta Freeport are collected by privately operated barges.* |
| Valletta | | | | | | 31.200 | F + T | 3.000 | | Ac | *Tank Cleaning Facility operated by Malta Drydocks.* |
| Banias | | | | | | 234.000 | | | | | *A combined collection system in Banias and Tartous* |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tartous | | | | | | | | 165.000 | | | | *with a central, Banias based treatment facility (minimum 3.720 $m^3$) is proposed.* |
| Bizerte & Menzel Bourguiba | | | | | | | | 134.300 | F + T + S | 8.000 | Ac | |
| La Skhira | | | | | | | | | F + T | 60.000 | Ac | *The redundant reception capacity might change the available infrastructure for retaining and initially separating dirty ballast and other oily water mixtures* |
| Zarzis | | | | | | | | 9.600 | | | | *A barge able to receive and store 2.000 cub. meters, potentially operating as a floating separator to cope with the limited needs of the oil tanker operations at the port is proposed.* |
| Aliaga | | | | | | | | | F + T + S | 20.000 | Ac | *TURPAS Oil terminal and refinery, Aliaga.* |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ceyhan | | | | | | | | | F + T + S | 95.000 | Ac | *Botas Oil Terminal, Port of Ceyhan* |
| Nemrut Bay | | | | | | | | | F + T + S | 5.000 | Ac | *Petrol Ofisi Storage and Distribution Terminal* |

## Where

F means a port area based, collection and treatment system , usually linked through piping to the jetties or piers and its associated equipment including holding tanks

B means navigable means, self or non – propelled, separating or not the collected oily water mixtures

P means small portable tanks appropriate for collecting and temporary storing used and other waste oils

V means road tankers able to collect and transport wastes oils and other oily water mixtures

Ac means adequate facilities in terms of capacity

I means inadequate facilities in terms of capacity

# ANNEX V
# Available reception facilities in ports covered by complementary activities carried out by REMPEC

Detailed description of available reception facilities in ports/terminals of countries covered by complementary activities carried out by REMPEC is provided under this Annex. Additional details can be found in the relevant final reports listed in Annex I of the present document.

# Albania

| Port | Garbage collection capacity provided in the port ($m^3$ per allocated means) | | | | Description of port- based treatment of garbage collected from ships | Operational restrictions on the use of the facilities |
|---|---|---|---|---|---|---|
| | **Trucks** (used as reception and transportation means) | **Navigable means** (such as barges used as reception and transportation means | **Receptacles provided at the quayside** | **Other reception means** | | |
| Durres | 8 (15 $m^3$ each one) | 3 ( 8 - 10 $m^3$ capacity each one) | 20 (20 $m^3$ total capacity) | 1 small debris skimmer vessel | | |

| Authorized private companies | Requirements for ships to deliver garbage | Method of final disposal | Charging system | Other remarks |
|---|---|---|---|---|
| **1.Izir Karagjozi (PDD)** Tel: 0030355052/**24228** **Mob 00355/ 682043397)** **2.Arian Quteza (Joni sh.p.k.)** Tel:00355052/ 31352 Mob:00355/ 692094621) | No requirements | Disposal at the local landfill a few kms far from the port area | (Tdw range) $ US<br>0 - 500 10<br>500 - 1.000 15<br>1.000 - 3.000 25<br>3.000 - 6.000 35<br>6.000 - 10.000 38<br>10.000 - 15.000 42<br>15.000 - 20.000 48<br>Over 20.000 60 | |

| Port | Type of Facility | | | Oily wastes received from the facility | | | | | | | | | | | | Operational restrictions on the use of the facility |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Durres | Fixed | Land based Mobile | Navigable Mobile | Dirty ballast water | | Tank washings | | Chemicals contaminated oily mixtures | | Scale and sludge from tanker cleaning | | Oily bilge water from machinery spaces | | Oily residues from machinery spaces *(sludge)* | | |
| | | | | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | |
| | - | √ | √ | | | | | - | - | * | - | 40 max | | 40 max | | No chemicals contaminated wastes can be received |

| Authorized private companies | Description of the facility | Method of treatment of oily wastes | Charging system | Other remarks |
|---|---|---|---|---|
| **1.Izir Karagjozi (P.D.D.) see above 2.Arian Quteza (Joni sh.p.k.) see above** | Both companies operate their own storage and treatment facilities outside the port area | Settling, heating and air induced oil water separation<br>20 tons/day<br>500 lt/hour | No information | |

| Port | Garbage collection capacity provided in the port *($m^3$ per allocated means)* | | | | Description of port- based treatment of garbage collected from ships | Operational restrictions on the use of the facilities |
|---|---|---|---|---|---|---|
| | **Trucks** (used as reception and transportation means) | **Navigable means** (such as barges used as reception and transportation means | **Receptacles provided at the quayside** | **Other reception means** | | |
| Vlore | 2 of 10 $m^3$ and 1 of 3 $m^3$ | 1 reception boat ( 3 $m^3$ ) | | | | |

| Authorized private companies | Requirements for ships to deliver garbage | Method of final disposal | Charging system | Other remarks |
|---|---|---|---|---|
| 1. Shqiponja sh.p.k<br>2. L.SH.I sh.p.k. | No requirements | Land filling under not strictly controllable conditions | (Tdw range) $ US<br>0 - 500 10<br>500 - 1.000 15<br>1.000 - 3.000 25<br>3.000 - 6.000 35<br>6.000 - 10.000 38<br>10.000 - 15.000 42<br>15.000 - 20.000 48<br>Over 20.000 60 | |

| Port | Garbage collection capacity provided in the port ($m^3$ per allocated means) | | | | Description of port-based treatment of garbage collected from ships | Operational restrictions on the use of the facilities |
|---|---|---|---|---|---|---|
| Shengjin | **Trucks** (used as reception and transportation means) | **Navigable means** (such as barges used as reception and transportation means | **Receptacles provided at the quayside** | **Other reception means** | | |
| | 1 ( 5 $m^3$ total capacity) | 1 reception boat ($3 m^3$ capacity) | | | | |

| Authorized private companies | Requirements for ships to deliver garbage | Method of final disposal | Charging system | Other remarks |
|---|---|---|---|---|
| Gjovalin Kadeli<br><br>Tel: 003550281-2221<br><br>Mob: 00355-692023489 | No requirements | Landfilling under not strictly controllable conditions | (Tdw range) $ US<br>0 - 500 10<br>500 - 1.000 15<br>1.000 - 3.000 25<br>3.000 - 6.000 35<br>6.000 - 10.000 38<br>10.000 - 15.000 42<br>15.000 - 20.000 48<br>Over 20.000 60 | |

| **Port**<br><br>Saranda | **Garbage collection capacity provided in the port** *($m^3$ per allocated means)* | | | | **Description of port-based treatment of garbage collected from ships** | **Operational restrictions on the use of the facilities** |
|---|---|---|---|---|---|---|
| | **Trucks**<br>(used as reception and transportation means) | **Navigable means**<br>(such as barges used as reception and transportation means | **Receptacles provided at the quayside** | **Other reception means** | There are not available, treatment facilities in the port area | |
| | 1 ( 10 $m^3$ total capacity) | | 1 of 1 $m^3$ | | | |

| **Authorized private companies** | **Requirements for ships to deliver garbage** | **Method of final disposal** | **Charging system** | **Other remarks** |
|---|---|---|---|---|
| Riza Abedin owned Co.<br><br>(Mob 00355 - 692483227) | No requirements | Disposal at the local landfill 1.5 kms far from the port area | (Tdw range) $ US<br>0 - 500 10<br>500 - 1.000 15<br>1.000 - 3.000 25<br>3.000 - 6.000 35<br>6.000 - 10.000 38<br>10.000 - 15.000 42<br>15.000 - 20.000 48<br>Over 20.000 60 | |

## Croatia

| Port | Garbage collection capacity provided in the port ($m^3$ per allocated means) | | | | Description of port-based treatment of garbage collected from ships | Operational restrictions on the use of the facilities |
|---|---|---|---|---|---|---|
| Dubrovnik | **Trucks** (used as reception and transportation means) | **Navigable means** (such as barges used as reception and transportation means | **Receptacles provided at the quayside** | **Other reception means** | | Potentially hazardous wastes are not collected but only domestic like garbage |
| | 2 ( 16 $m^3$ capacity) | | 40 (110 $m^3$ total capacity) | | | |
| **Name, Address and other contact details of Operator** | **Requirements for ships to deliver garbage** | | **Method of final disposal** | **Charging system** | **Other remarks** | |
| Luka.<br>Dubrovnik<br>Public Service<br>Cistoca d.o.o | A prior notice.<br><br>Proper containment of the organic portion of garbage | | Controlled landfilling | Charge for cruise and passenger ships that deliver domestic like garbage is 20 $ US per $m^3$ | A 24 hours a day service is provided at all berths of the port | |

| Port | Type of Facility | | | Oily wastes received from the facility (oily ballast waters from tankers) | | | | | | | | | | | | Operational restrictions on the use of the facility |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Fixed | Land based Mobile | Navigable Mobile | Dirty ballast water | | Tank washings | | Chemicals contaminated oily mixtures | | Scale and sludge from tanker cleaning | | Oily bilge water from machinery spaces | | Oily residues from machinery spaces *(sludge)* | | |
| | | | | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | |
| Ploce, Vlaska channel | √ | | | 400 **(1)** 800 **(2)** | | 400 **(1)** 800 **(2)** | | - | - | * | - | 400 **(1)** 800 **(2)** | | 400 **(1)** 800 **(2)** | | No chemicals contaminated wastes can be received |

| Reception facility Operators | Description of the facility | Method of treatment of oily wastes | Charging system | Other remarks |
|---|---|---|---|---|
| **ENERGOPETROL d.d (1)** **L.P.T. (2)** | Both two terminal operators provide reception and treatment facilities for any occasional needs of incoming tankers to discharge dirty ballast, tank washings and other oily residues. Discharge to Energopetrol d.d. facility is carried out through a 4", 5 bar (MWP) and 500 long piping from its jetty in Vlaska channel. | Mechanical settling and separation only, No secondary treatment of waste water. | No available information | |

| Port | Type of Facility | | | Oily wastes received from the facility | | | | | | | | | | | | Operational restrictions on the use of the facility |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Fixed | Land based Mobile | Navigable Mobile | Dirty ballast water | | Tank washings | | Chemicals contaminated oily mixtures | | Scale and sludge from tanker cleaning | | Oily bilge water from machinery spaces | | Oily residues from machinery spaces *(sludge)* | | |
| | | | | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | |
| Ploce | √ | | | 400 **(1)**<br>800 **(2)** | | 400 **(1)**<br>800 **(2)** | | - | - | * | - | 400 **(1)**<br>800 **(2)** | | 400 **(1)**<br>800 **(2)** | | No chemicals contaminated wastes can be received |

| Reception facility Operators | Description of the facility | Method of treatment of oily wastes | Charging system | Other remarks |
|---|---|---|---|---|
| **ENERGOPETROL d.d (1)**<br>**L.P.T. (2)**<br>**Vebecot d.o.o.**<br>**Pomorski S.LP. d.o.o** | Both two terminal operators provide reception and treatment facilities for any occasional needs of incoming tankers to discharge dirty ballast, tank washings and other oily residues. Discharge to Energopetrol d.d. facility is carried out through a 4", 5 bar (MWP) and 500 long piping from its jetty in Vlaska channel. | Mechanical settling and separation only, No secondary treatment of waste water. | Vebecot d.o.o. and Pomorski SLP d.o.o. charge 120 $US per cub. meter collected | |

| Port | Type of Facility | | | Oily wastes received from the facility | | | | | | | | | | | | Operational restrictions on the use of the facility |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Fixed | Land based Mobile | Navigable Mobile | Dirty ballast water | | Tank washings | | Chemicals contaminated oily mixtures | | Scale and sludge from tanker cleaning | | Oily bilge water from machinery spaces | | Oily residues from machinery spaces *(sludge)* | | |
| | | | | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | |
| Split | | √ | | 100 | | 100 | | - | - | * | - | 100 | | 100 | | No chemicals contaminated wastes can be received |

| Authorized private company | Description of the facility | Method of treatment of oily wastes | Charging system | Other remarks |
|---|---|---|---|---|
| CIAN d.d.o.<br>21000 Split, Varazdinska 51<br><br>Tel: +385 21540 190<br>+385 21540 192<br>Fax:+385 21 540199<br>e-mail: cian@st.tel.hr | The company operates a number of vacuum road tankers and small capacity barges (skimmer vessels) to collect waste oils from ships.<br><br>Waste treatment is carried out at its own facility. | Mechanical settling carried out to separate oil before its further filtration and homogenisation. | No available information | |

| Port | Type of Facility | | | Oily wastes received from the facility (oily ballast waters from tankers) | | | | | | | | | | | | Operational restrictions on the use of the facility |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Fixed | Land based Mobile | Navigable Mobile | Dirty ballast water | | Tank washings | | Chemicals contaminated oily mixtures | | Scale and sludge from tanker cleaning | | Oily bilge water from machinery spaces | | Oily residues from machinery spaces *(sludge)* | | |
| | | | | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | |
| Split | √ | | | 5.000 | | 5.000 | | - | - | * | - | 5.0000 | | 5.000 | | No chemicals contaminated wastes can be received |

| Operator of the reception facility | Description of the facility | Method of treatment of oily wastes | Charging system | Other remarks |
|---|---|---|---|---|
| INA PETRONAFTA | No available information | No available information | No available information | |

| Port | Type of Facility | | | Oily wastes received from the facilities | | | | | | | | | | | | Operational restrictions on the use of the facility |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Dirty ballast water | | Tank washings | | Chemicals contaminated oily mixtures | | Scale and sludge from tanker cleaning | | Oily bilge water from machinery spaces | | Oily residues from machinery spaces (*sludge*) | | |
| | Fixed | Land based Mobile | Navigable Mobile | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | |
| RIJEKA | √ | √ 10 road tankers (85 $m^3$ total capacity) | √ 5 barges | 1.000 | | 1.000 | | - | - | - | - | 1.000 | | 1.000 | | No chemicals contaminated wastes can be received |

| Waste oils collection companies | Description of the facilities | Method of treatment of oily wastes | Charging system | Other remarks |
|---|---|---|---|---|
| *-DEZINSEKCIJA d.o.o.*<br>**Address: Brajsina 13, 51000 Rijeka**<br>**TEL: + 38551512-533**<br>e-mail: dezinsekcija@ri.tel.hr<br><br>*-IND-EKO*<br>**Address: Korzo 40, 51000 Rijeka**<br>**TEL: + 38551336093**<br>e-mail: ind-eko@ri.tel.hr<br><br>*-Rijekatank d.o.o.*<br>**Address: Dalmatinskih brigada 17, 51211 Matulji**<br>**TEL: + 38551276750**<br>e-mail: mareco@ri.tel.hr | Apart from the collection means operated by the authorized, private companies, a fixed reception and treatment facility is operated in the Bakar based INA oil terminal and refinery. Its storage capacity is 4.000 tons and the nominal treatment rate 750 $m^3$/hour. | Treatment is effected through primary settling, recovery of separated oil through surface skimming and finally through an open, API separator for the water phase that achieves a 750 cub. meters per hour rate. No secondary treatment for the water effluent | | |

| Port | Type of Facility | | | Oily wastes received from the facility (oily ballast waters from tankers) | | | | | | | | | | | | Operational restrictions on the use of the facility |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Fixed | Land based Mobile | Navigable Mobile | Dirty ballast water | | Tank washings | | Chemicals contaminated oily mixtures | | Scale and sludge from tanker cleaning | | Oily bilge water from machinery spaces | | Oily residues from machinery spaces *(sludge)* | | |
| | | | | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | |
| Rijeka<br>Bakar bay | √ | | | 4.000 | | 4.000 | | - | - | * | - | 4.000 | | 4.000 | | No chemicals contaminated wastes can be received |

| Reception facility Operator | Description of the facility | Method of treatment of oily wastes | Charging system | Other remarks |
|---|---|---|---|---|
| INA OIL REFINERY & OIL TERMINAL | The terminal provides a fixed, reception and treatment facility for dirty ballast, tank washings and other oily residues serving not only the tankers engaged in its operation but also the barges operated by the waste oils collection companies under their authorization from the Port Authority of Rijeka. | Mechanical settling and separation at 750 cub. meters/hour. | 25 euros/ton collected | Oil recovered from the separation and treatment process is sent to the oil refinery slop tank used to h hold drainage and other waste oils produced in the oil storage tanks. Sludge produced from the wAPI equipment is treated in a decanter/centrifuge unit, while the oily sediments are mixed and astabilized with quicklime to be disposed of within the area of the refinery. |

## Slovenia

| Port | Garbage collection capacity provided in the port ($m^3$ per allocated means) | | | | Description of port- based treatment of garbage collected from ships | Operational restrictions on the use of the facilities |
|---|---|---|---|---|---|---|
| Koper | **Trucks** (used as reception and transportation means) | **Navigable means** (such as barges used as reception and transportation means | **Receptacles provided at the quayside** | **Other reception means** | | |
| | 1 Truck (10 $m^3$ capacity) | 1 reception boat ( 15 $m^3$ capacity) | (6 $m^3$ capacity containers) | | | |
| **Name, Address and other contact details of Operator** | **Requirements for ships to deliver garbage** | | **Method of final disposal** | **Charging system** | **Other remarks** | |
| Hidro Koper<br>Company<br>Address: Ferrarska 10, p.p.212, SI-6001 Koper<br>Tel: +386 56133000, Fax: +38656133011<br>Email: hidro.koper@siol.net | | | Controlled landfilling | The existing charging system is based on a daily fee depending on the gross tonnage and the number of persons onboard the ships that call to the port | | |

| Port, name and location of Facility | Type of Facility | | | Oily wastes received from the facility (oily ballast waters from tankers) | | | | | | | | | | | | Operational restrictions on the use of the facility |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Dirty ballast water | | Tank washings | | Chemicals contaminated oily mixtures | | Scale and sludge from tanker cleaning | | Oily bilge water from machinery spaces | | Oily residues from machinery spaces *(sludge)* | | |
| | Fixed | Land based Mobile | Navigable Mobile | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | Nominal reception capacity ($m^3$) | Maximum receiving rate ($m^3$/hour) | |
| Koper | √ | √ | | - | - | - | - | - | - | - | - | 47.0 | 30 | 47.0 | 30 | No chemicals contaminated wastes can be received |

| Name, Address and other contact details of Operator | Description of the facility | Method of treatment of oily wastes | Charging system | Other remarks |
|---|---|---|---|---|
| Luka Koper d.d.<br>Address: Vojkovo nabrezje 38<br>SI – 6501 Koper<br>Tel: +386 5 6656 100<br>Fax:+386 5 6395020<br>Email: portkoper@luka-kp.si<br><br>Ecoles private company | | Bilge water is treated through port based a DAF unit, filtering and ozonation systems.<br><br>Used oils and sludge is collected by Ecoles road tankers. | A direct fee depending on the quality and the actual quantity of the oily wastes delivered applies varying from 100 – 500 $US per cubic meter for bilge water free of oil to sludge. | |

# Libya

| Port | Garbage collection capacity *(m3)* | | | | Description of port- based treatment | Operational restrictions on the use of the facilities |
|---|---|---|---|---|---|---|
| | **Trucks** (used as reception and transportation means) | **Navigable means** | **Receptacles provided at the quayside** | **Other reception means** | | |
| Tripoli | 5<br>(5 m3 each one) | | 30<br>(20 m3 total capacity) | | | |

| Service provider | Requirements for ships to deliver garbage | Method of final disposal | Charging system | Other remarks |
|---|---|---|---|---|
| A licenced private company | A prior notice, at least, 24 hour before scheduled arrival at the port, outlining the volume and nature of garbage. | Disposal at the local landfill some 50 kms far from the port area | A compulsory, charging system applies to all ships equal to 25 Lib. dinars per call. | |

## Jordan

| Port | Garbage collection capacity provided in the port *($m^3$ or tons)* | | | | Description of port- based treatment of garbage collected from ships | Operational restrictions on the use of the facilities |
|---|---|---|---|---|---|---|
| | **Trucks** *(used as reception and transportation means)* | **Navigable means** *(such as barges used as reception and transportation means* | **Receptacles provided at the quayside** | **Other reception means** | | |
| Aqaba | 3 (6 $m^3$) | 1 (120 tons) | A number of barrels are placed quayside or at other locations | | | |

| Garbage collection provider | Requirements for ships to deliver garbage | Method of final disposal | Charging system | Other remarks |
|---|---|---|---|---|
| The Ports Corporation<br>tel: +962 3 2014031<br>fax: +962 3 2016204 | Food waste should be delivered tightly packed to avoid leakage or emissions | Disposal at the local landfill a few kms far from the port area | 10 $ US/ day (ships berthside)<br>15 $ US (at anchor) | |

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