EMSA/CPNEG/1/2017 Stand-by Oil Spill Recovery Vessels Information Meeting

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Helsinki/ 30 March 2017





Provision of information regarding the Negotiated Procedure EMSA/CPNEG/1/2017:

- EMSA's At-sea Oil Spill Recovery Service
- Scope of procurement
- Contract Structure
- How to apply
- Questions and Answers



Thursday, 30 March 2017, 10.30 - 12.00

Time	Agenda Item	Speaker
10:30 - 10:40	Registration	-
10:40 - 10:50	Welcome by Hosts	Hosts
10:50 – 11:10	 Introduction to EMSA's at sea oil spill recovery services The European Maritime Safety Agency Framework of the oil spill response vessels service Current configuration of the network Technical challenges & solutions 	EMSA
11:10 – 11:20	Questions and Answers Open Session for participants 	All
11:20 - 11:30	Break	
11:30 – 1 1:50	Scope of procurement EMSA/CPNEG/1/2017 Geographical area Contract structure How to Apply Requirements Evaluation criteria Timetable	EMSA
11:50 – 12:00	Questions and Answers Open Session for participants 	All
12:00	Closing of the meeting	Hosts



Introduction to EMSA's At-sea Oil Recovery Service

Background

Establishment and tasks

- Post Erika (2002: EMSA established)
- Post Prestige (2004: new task Marine Pollution Preparedness & Response)

Decentralised Agency of the European Union

- Own legal identity
- No legislative role
- Technical and operational support
- 200+ employees
- Approx. 55 MEUR annual budget (2016)

Legal basis

Regulation 1406/2002 as amended (2013 – a new task related to offshore installations' spills)



/ EMSA

Fields of competence





Maritime safety

Prevention of pollution caused by ships





Maritime security



EMSA's objectives

Response to pollution caused by ships





Response to pollution caused by oil and gas installations

EMSA's pollution response services

- Network of Stand-by Oil Spill Response Vessels – mechanical recovery and dispersant spraying capabilities
- Equipment Assistance Service (EAS) equipment to be used by vessels of opportunity
- CleanSeaNet and Illegal discharges
- HNS Operational Support: MAR-ICE Network
- Experts: On-site/Office-based







- "Top-up" Member States pollution response capabilities
- "European Tier" of resources
- Mobilisation by EMSA at request of MS/EFTA/CC/Third country sharing a regional basin or Commission (or Third Party under certain conditions)
- Channelled through "EU Community Mechanism"
- Emergency Response Coordination Centre (ERCC) managed by DG ECHO
- Under "operational control" of the affected coastal State

Main Objective: Stand-by At-sea Oil Recovery Service

Contractor must ensure that:

- Vessel undertakes normal commercial activities; and
- At request, the vessel is transformed & mobilised at short notice for at-sea oil recovery services



Simplified mobilisation procedure



Type of Vessels

EMSA



Tankers



Offshore supply vessels



Type of Equipment









Sweeping arms





Combined systems





- Large storage capacity (EMSA largest is 7,458 m³)
- Prepared to deal with oil (heating, filling, discharging)
- Flexibility for decanting
- Flashpoint
- Unrestricted sea-going service



Tankers - Disadvantages

- Space on deck
- Speed
- Low speed
- Manoeuvrability
- Crew number
- Accommodation



Offshore Supply Vessels - Advantages

- Deck Space
- Equipment Deployment
- Less pre-fitting for installing equipment
- Manoeuvrability and Low Speed
- Speed
- Visibility
- Accommodation for EMSA and liaison officer



- Storage capacity limited to 1,000 1,500m3
- Bad weather swell washes the aft with oil (slippery)
- Good weather dirty equipment oil spreads quickly
- Flashpoint
- Significant pre-fitting (e.g. piping and heating)



// EMSA

Setting-up the Service



Preparatory Phase

- Purchase/transfer/servicng of oil spill response equipment
- Pre-fitting the vessel for equipment installation
- Crew Training

Stand-by Phase

- Vessel available and ready to respond within mobilisation time (max. 24h.)
- Equipment maintenance
- Drills and Exercises

Preparatory Phase: Challenges

- Pre-fitting, conversion works
- Purchase/transfer/servicing and installation of OPR equipment
- Mobilisation Plan, Operational Procedures
- Crew Training
- Certification by Classification Society (Class Notation as "Occasional oil recovery vessel60°C")
- Acceptance Test









Quarterly drills: 4 times a year

Scope:

- To verify the level of readiness of vessels, crew and OSR equipment
- To train crew in oil pollution response: equipment operation with other units at sea



Stand-by Phase: Exercises

EMSA

Type:

- Notification only
- Operational (max. 10 days/year)

Scope:

- Integration of EMSA vessels in EU Member States Command and Control Structures
- Co-operation with participating Units
- Internal and External level of Coordination





Scope of procurement

Northern Baltic Sea:

Covering the area from the line Liepāja (Latvia) and Kalmar (Sweden) to the North.

However, if needed and technically appropriate, they will assist elsewhere as well. Given logistical and technical considerations, these other areas would probably be adjacent.

Within the agreed mobilisation time (max.24 hours) the EMSA contracted vessel(s) must fulfil the following conditions:

· be inside the area of operation, and

• be able to send a "Notice of readiness" to the Requesting Party meaning equipped with the pollution response equipment, providing the contracted storage capacity and with the necessary crew for performing oil recovery services.

In addition, the EMSA oil pollution response equipment must be stored, maintained and insured either on board the vessel(s) or in a stockpile located on the coastline of an EU Member State.



Equipment solution

Set of equipment transferred from the previous contractor



- 2 x Sweeping arm
- Boom system
- Offshore skimmer and Arctic skimmer
- Slick detection system
- Additional small equipment (gas detector, minilab, flash point tester, VHFs)

The transferred equipment will need to be serviced/overhauled

Purchase



- Power pack
- Flow meter
- Interface detection system
- Cleaning machines
- Equipment logo
- Upgrade slick detection system



- Vessel should not be engaged with to provide pollution response services at the time of award;
- An authorisation from the shipowner/charterer for the use of the vessel for the purpose of the EMSA services during the contract duration must be provided;
- The minimum vessel net storage capacity for recovered oil must be 1,500 m³
- Vessel must be available for mobilisation at short notice;
- Vessel should be self-propelled;
- Vessel should not be subject to the single hull phase-out requirements;
- Vessel should be registered on either an EU Member State or a contracting party to European Free Trade Area (EFTA) or a non-EU white listed register as defined by the Paris MoU;
- Vessel(s) must be classified by an EU recognised organization;
- Vessel(s) must be classed for, at least, international voyages in the Baltic Sea;
- Vessel(s) must have, at least, Finnish Swedish Ice Class II notation or equivalent;
- In case the vessel is not built it must be under construction by 15th September and finalised before the end of the Preparation Phase (June 2018);
- Vessel's should have a valid Safety Management Certificate (SMC);
- The contact person of the company/consortium and the responsible crew on the vessel(s) must have a good command of the English language.



Contract structure

Dual Contract Structure









Vessel Availability Contract (VAC)

Between EMSA and the Contractor

• 4 Years + Renewable once = Maximum 8 years total

It secures:

- **Requirements** for vessel(s), equipment and crew
- Stand-by / availability
- Drills and participation in exercises
- Mobilisation time
- Mandatory use of the Incident Response Contract



Vessel



Incident Response Contract (IRC)







Pre-fixed contract with pre-set conditions & tariffs:

- Between the requesting coastal State and contractor
- Avoid unnecessary high tariffs vs. vessel of opportunity
- 1 Model Contract for 25+ different legal systems

Clear allocation of responsibilities during operation

- Under operational command of the MS (SOSC)
- National officer on board
- Safety responsibility: Master (final)

Period

21 Days: "window of opportunity"/economic commitments of operator

Renewal possible under same conditions

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Preparatory Phase - Pre-financing available from EMSA

- 1) Oil Spill Response Equipment
 - Purchasing Pre-financing up to 100%
- 2) <u>Pre-fitting Vessel</u> (e.g. for equipment installation)
 - Pre-financing up to 80%
 - Remaining 20% paid when vessel is accepted by EMSA

Stand-by phase

3) Vessel Availability Fee (covers drills; crew training; storage, maintenance and insurance of equipment)

Additional Payments

- 4) At-sea Exercises: Daily rate + Fuel
- Pollution Response Incident by Member State: Daily rates (operational and stand-by) + Fuel + Cleaning

.



Area	Maximum Availability Fee (initial Stand- by period) (EUR)	Maximum Equipment Price (EUR)	Maximum Pre-fitting Price (EUR)	Maximum overall budget (EUR)
Northern Baltic Sea	2,600,000	250,000	600,000	3,250,000



How to Apply





- 1. Procurement Procedure
- 2. Procurement Timetable
- 3. Submitting "Applications"





2 Phase Approach:

Phase I - "Invitation to Apply"

Phase II – (Restricted) "Invitation to Tender"


Publication of Invitation to Apply in the OJEU on 15 March (Open to any Interested Party)



Submission of Applications: Deadline **19 April**



Evaluation of Applications as per Enclosure A.1: Criteria



Determination of Pre-Selected Candidates





Provisional Timetable Application Phase



PROCUREMENT PHASE 1: Invitation to Apply			
" Contract Notice " publication in OJEU	Documents available on www.emsa.europa.eu		
"Application" Preparation	March - April		
Information Meeting	Procurement Procedure and Technical Elements	30 March	
"Application" Deadline	"light" documentation submission	19 April	
"Application" Evaluation	Identification of "Pre-selected Candidates" by EMSA	May - June	



www.emsa.europa.eu

"Working with us" -> Procurement -> "Calls for Tenders"



Procurement documents



LEMENTATION TASKS / OPERAT	IONAL TASKS /	EVENTS /	NEWS & MEDIA / PUBLICATIONS		Search
ROCUREMENT MENU	EMSA/CPN	EG/1/201	7		
Procurement Main Page	Published		15.03.2017		
Ongoing calls for tender	Deadline		19.04.2017		
Fender Archives					
Period 2011 - Today	Service Cor	tracts for S	Stand-by Oil Spill Recovery Vessels		
Period 2006-2010					
Awarded contracts OCUMENTS FOR TENDERER Financial Form Legal Entity Form Declaration of Honour Statement of Ubcontracting / Joint Offer General Conditions for urchase Order Low-value procurement rocedure Tendering Conditions soplicable only if Invitation to	Member St companies/ spill respon The contrac mobilised a This procur More detail zip file belo An informal table below	ates throu consortia o se service p ted vessels t short noti ement proc s about this w. tion Meetin). Prior reg	additional response capacity to that of the p gh contractual arrangements with private can be drawn from any relevant industry inco providers. s would undertake normal commercial activitie ce for at-sea oil recovery services during a (m edure for stand-by oil spill recovery vessels w s procurement procedure can be found in docu g, open to any interested party to attend, wi jistration is not needed. Nevertheless, it woul <u>PNEG12017@emsa.europa.eu</u>) indicating the	or public c cluding ship as and, at re ajor) oil spil ill cover the uments that Il be organi: Id be apprec	ompanies/consortia. Such owners/operators and the quest, be transformed and l. Northern Baltic Sea. can be downloaded in the sed (see the details in the iated for logistic purposes
ender refers to them)	Date	Local	Location	Agenda	Presentations
PORTANT INFORMATION	Date	Time	Finnish Environment Institute (SYKE)	Agenua	
DR TENDERERS	Thursday,	10.30 -	Mechelininkatu 34a, Töölö, Helsinki FINLAND	see	to be published after the
Guidelines for Tenderers. ead before submitting your	30 March	12.00	Meeting room: Muuttohaukka	below	meeting
s.			· · · · · · · · · · · · · · · · · · ·		

Name or Company

Agenda Helsinki.pdf

EMSA, please fill the form:

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Zip file documents

EMSA





Cover letter: deadline for submission of original papers + electronic copy

Enclosures:

- 1: Application Specifications: main requirements;
- 2: Check-List: review it before sending application;
- 3: Legal Entity Form (LEF);
- 4: Financial Entity Form (BAF);
- 5: Declaration of Honour;
- 6: Template for "Statement of Subcontracting/Joint Offer".

/EMSA



- Deadline 19 April 2017
- Two sealed envelopes (one inside the other)
- Submission of 1 original paper copy of the application + electronic copy on USB memory stick or CD
- Justification for non-inclusion of requested documentation
- Applications can be in any official language of the EU (preferably in English)
- Point 10.6: General Description of Proposed Arrangement: must include copy in English
- Separation of documentation into <u>Parts A E</u> (as per the Checklist)



a) Exclusion Criteria – Satisfactory / Non-satisfactory

b) Selection Criteria - Satisfactory / Non-satisfactory

NON-COMPLIANCE WITH 1 EXCLUSION OR SELECTION CRITERION – GROUND FOR NON - ADMISSION

a) Exclusion criteria (points 10.2 - 10.3 of Application Specifications)





> Additional evidences to be provided during Phase II

b) Selection criteria (point 10.4 of Application Specifications)

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Economic and Financial Capacity



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Balance sheets for the last
 3 years

FOR PRIVATE ENTITY: Statement of overall turnover and profit and loss account for the last 3 financial years

FOR PUBLIC ENTITY: annual budget of the last year

b) Selection criteria (point 10.5 of Application Specifications)



Technical and professional capacity of the Company/Consortium Document of Compliance (DoC) for International Safety Management (ISM) Code including the related latest external audit report Grouping: at least 1 member must have a valid DOC

Overview of company/consortium Port State Control record (PSC inspections and detentions) or annual Flag Surveys for last 3 years – 3 detentions will be ground for exclusion

Where applicable, additional list of relevant services for last 5 years Grouping: criteria evaluated as a group, not individually



Evaluation Result

Application meeting exclusion and selection criteria?

Yes → "Pre-selected Candidate" → Invitation to Tender (expected end of June)

No → "End of Participation"

Checklist





ENCLOSURE A.2 - APPLICANT'S CHECKLIST

Enclosed to Procurement Procedure No. EMSA/CPNEG/1/2017 concerning Service Contracts for stand-by oil spill recovery vessels

Competitive procedure with negotiations

Phase I - Invitation to Apply

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Document	Check
Application submitted by 19 April 2017 at the latest	п
Ref. EMSA documentation: Invitation to Apply, point 3	-
Application inserted in 2 envelopes, one inside the other. Both envelopes must be sealed.	
It self-sealed envelopes are used, each envelope must be closed by an adhesive tape with sender's signature across	
Ref. EMSA documentation: Invitation to Apply, point 4	
Both envelopes labelled according requirements	п
Ref. EMSA documentation: Invitation to Apply, point 4	-
Electronic copy (PDF) of the application included in the envelope in a CD or USB key	п
Ref. EMSA documentation: Invitation to Apply, point 5	-
Application must include a copy in English of the documents/information requested under point 10.6 General description of the proposed arrangement.	-
Ref. EMSA documentation: Application Specifications, point 9	
Application structured in line with EMSA requirements – Parts A, B, C, D and E	п
Ref. EMSA documentation: Application Specifications, point 9	-
PARTA	
1. Signed cover letter clearly indicating:	
For individual company:	
- the company applying	-
- the person heading the project	Ц
For subcontractors and groupings:	
 the subcontractors and companies forming the grouping (including roles, qualifications and experience of each company) 	
- the company and person heading the project	
(Ref. ENISA documentation: Application Specifications, point 9)	



Document	Check
PART A 2. Statement of Subcontracting/Joint Offer (template - Enclosure A. b to the Invitation to Apply) In case of Joint Offer or Subcontracting, please fill the document "Statement of Subcontracting/Joint Offer" <i>Ref. EMSA documentation: Application Specifications, points 7, 8 and 9</i>	
PART A 3. Original of the authonsing document For individual company: Original of the document authorising the person heading the project to submit an offer and, in case of award, to sign the contract on behalt of the company Eor groupings: Original of the document authorising the company and person heading the project to submit an offer and, in case of award, to sign the contract on behalt of the grouping Ref. EMSA documentation: Application Specifications, point 9	
PART A 4. Legal Entity Form (template - Enclosure A: 3 to Invitation to Apply) Applicants are exempt from submitting the Legal Entity Form requested and attachments if such a form has already been completed and sent either to EMSA or any EU Institution previously unless changes have occurred in the meantime. In case of grouping, each company must submit this document Ref. EMSA documentation: Application Specifications, point 10.1	
Supporting documents: - copies of company VAT number registration certificates and, if applicable - a copy of an Official Document (Official Gazette, Company Register, etc.)	
PART A 5. Financial Identification Form (template - Enclosure A.4 to Invitation to Apply) for the Company leading and submitting the Application This document filled and signed by the account holder and the bank (or accompanied by a recent bank statement. Ref. EMISA documentation: Application Specifications, point 9	
PART B b. Declaration of Honour (template - Enclosure A.b to Invitation to Apply) Each candidate, each subcontractor essential to fulfit the selection criteria, and each company part of the Consortium should provide it in this Application phase. Ref. EMSA documentation: Application Specifications, point 10.3	



PROCUREMENT PHASE 2: Invitation to Tender				
"Invitation to Tender"	"Invitation to Tender" sent "Pre-selected Candidates"	22 June		
Visit to EMSA stockpile	Opportunity to review equipment for transfer	5 July		
Clarification meetings	Clarification with candidates	12 July		
"Tender" Deadline	"Heavier" documentation submission	14 August		



PROCUREMENT PHASE 2: Negotiation			
Negotiation Stage	Improvements to offers	September/ October	
On-site Meetings	Visits to vessels	September	
"Final Tender" Deadline	Final offers	6 October	
Final Tender Evaluation	Awarding of contracts	November	

To be prepared for the Phase II - Tender

- Technical Specifications of the vessel
- Pollution Response Equipment
- Mobilisation Plan
- Training Programme
- Financial Offer

Will be evaluated in the Tender Phase Against minimum requirements and award criteria





Useful information

EMSA

European Maritime Safety Agen				
IMPLEMENTATION TASKS / OPERAT	IONAL TASKS / EVENTS / NEWS & MEDIA / PUBLICATIONS	Search		
POLLUTION RESPONSE SERVICES	Key Aspects of the Vessels Network	LATEST BROCHURES		
Main page		Pollution Response Services Supporting Pollution		
Oil Spill Response		POLLUTION Response for Cleaner European		
Stand-by Oil Spill Response Vessels	and the second se	RESPONSE SERVICES Services ser		
Key Aspects of the Vessels Network		OSRV Brochure 2015		
Vessels Info-sheets	Provide State Stat	EMSA Network of Oil Spill Response		
Equipment Assistance Service	distantiative and the second s	Vessels - Protecting		
Chemical Spill Response		emsanerwork of oil spill Response vessels against Pollution		
Technical cooperation		In the second se		
Documents				
RELATED VIDEOS	Each of EMSA's contracted vessels has the following characteristics:	NETWORK OF RESPONSE VESSELS: QUICK FACTS		
/ideo: Effectiveness and :fficiency of the EMSA Oil Spill	 Speed of 12 knots for prompt arrival on scene as well as low speed manoeuvrability for response operations On-board capability to decant excess water thereby 	Number of vessels which can be mobilised simultaneously: 17		
tesponse Vessels Network 2011)	maximising the use of on-board storage capacity Large storage capacity for recovered oil 	Average storage capacity per		
MSA Oil Spill Response Services (2009)	 Ability to heat recovered cargo and use high capacity pumps to facilitate the discharging of heavy viscous oil mixtures to 	vessel for recovered oil: 3.500 m3		
	facilities ashore • Oil slick detection system to facilitate the positioning of the	Network storage capacity, if 17 vessels are mobilised >60.000		
RELATED DOCUMENTS	vessel in the thicker oil slicks, and to enable operations at night.	m3		
Protecting European seas	All vessel arrangements comprise of two different containment and	Number of related equipment stockpiles: 17		
gainst oil pollution - Network f EMSA contracted vessels	mechanical recovery options available for response operations depending on the weather conditions and type of pollutant:	Mobilisation time (vessel ready		
MSA Network of Oil Spill	• Sweeping arms;	to sail to site) after request: 24 hours		
tesponse Vessels - Protecting Suropean Seas against	 Ocean-going booms and an offshore skimmer (on certain vessels there are also high-capacity skimmers and weir 	Mobilisation procedure:		
ollution etwork of Stand-by Oil Spill	booms available).	-Member States request assistance via the <u>ERCC</u>		
esponse Vessels and Equipment (Handbook 2014)	The average individual oil storage capacity of EMSA's contracted vessels is in the region of 3500m ³ , while the total storage capacity of all the vessels in the network is above 60000m ³ .	-Member States have		

EMSA Handbook 2014

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ATLANTIC



Remolcanosa S.A.

ABOUT THE SERVICE

The Contractor, Remolcanosa, is a marine services company based in Vigo and has worldwide operational capacity. The main activities include harbour towage, salvage, offshore and coastal towage, crew and vessels management and ISM and ISPS Codes Consulting.

The arrangement includes the supply vessel Ria de Vigo, which is based in Vigo providing Fisheries Monitoring Services.



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Transrec multiskimme





The Rio de Vigo's commercial activity is fisheries control.





EQUIPMENT STOCKPILE

Sweeping arms Two Sofreba rigid sweeping arms (13 m) with weir skimme Boom

Desmi heavy duty boom, 2x250 m (Ro-Boom 2000) Vikoma weir boom 180 Skimmer

Framo weir/shovel drum high-capacity multiskimmer (Transrec 150) Desmi weir skimmer (Terminator) Slick detection

Seadarg oil slick detection system





Slick detectio

IMO number: 8311417 Flag state: Spain Port of registry: Santa Cruz de Tenerife Type: Supply Vessel Built: 1985 Length: 69.00 m Breadth: 13.50 m Max draft: 6.80 m Gross Tonnage: 1585 Ton Storage capacity: 1522 m³ Heating capacity: 750 kW Pumping capacity: 625 m³/h Flash Point: >60° Propeller: 2 x Controllable Pitch Propeller Bow Thruster: Yes Max. speed: 14.25 knots Classification Society: Germanischer Lloyd



EUROPEAN MARITIME SAFETY AGENCY

QUALITY SHIPPING, SAFER SEAS, CLEANER OCEANS

Sines

ATLANTIC

NETWORK OF STAND-BY OIL SPILL RESPONSE VESSELS - INFO SHEET

EQUIPMENT STOCKPILE

skimmer module (LJS 12)

Two Lamor rigid sweeping arms (12 m) with weir/brush

Lamor offshore brush skimmer (LFF 100 2C)

Seadarg oil slick detection system

Norlense single point inflation boom, 2x250 m (NO-800-R)

Sweeping arms

Slick detection

Boom

Skimmer

Mureloil

Sines, Portugal

ABOUT THE SERVICE

The contractor providing the ship is Mureloil, result of a Joint Venture between Naviera Murueta and Naviera Elcano, both of them Spanish shipowners.

The vessel Bahia Tres provides bunkering services along the Portuguese coast. The equipment stockpile is located inSines.







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Sweeping arm

The Bahia Tres' commercial activity is bunkering services.

ABOUT THE VESSEL - Bahia Tres

Boom and brush skimmer

Norlense boom

Sweeping arm skimn





EMSA Handbook 2014

EMSA

EMSA BOOM SYSTEM

EMSA OIL SPILL RESPONSE EQUIPMENT

DESMI RO-BOOM 2000

Remark: The Information Is based on the manufacturer's documentation

BOOM WINDER

and standard profiles.

The Ro-boom is delivered on a 10 ft flat rack winder. The winder frame is used for storage, transportation and handling of the Rohoom

The winder frame is manufactured from specially designed steel Two frames with bearing housings for a shaft are mounted on the bottom frame. On the shaft a drum with end flanges is mounted. On one end of the shaft a sprocket wheel is mounted between the drum and the bearing housing. To rotate the drum a gearbox, with hydraulic motor, is mounted on a bracket plate on the bottom frame, the side of the bearing frame.

AIR BLOWER

occur.

The remote control stand with built-in air-blower is a movable unit designed for inflation/deflation of oil booms and operation of boom winders in areas where hazardous atmospheres may occasionally

The remote control stand is connected to the power supply by means of a 10 metres hose set. It should be placed in such a way that the best possible control of the operation is obtained.

POWER PACK

The Ro-clean Desmi power pack, type DSPP 58 kW is a power unit, designed to operate in areas where hazardous atmospheres may occasionally occur. It is fitted with the necessary safety equipment to meet the safety standard Lloyd's Open Deck explosion proof Zone 2 areas and it is designed with ease of operation and maintenance in mind.

TECHNICAL SPECIFICATIONS :

Length:	2015 mm
Width:	1115 mm
Height:	1800 mm
Weight:	1500 kg
Max. pressure:	210 bar
Flow range:	0-200 l/min

Name	Winder	Air Blower	Power pack	Flash point* Ex Class
Santa Maria(2x250 m)	Ro-boom winder	HRD2	Desmi DSPP 58, 58 kW	Zone 2
Aegis I (2x250 m)	Ro-boom winder	HRD2 (Integrated In the power pack)	Desmi DSPP 58, 58 kW	Zone 2
Ria de Vigo (2x250 m)	Ro-boom winder	HRD2	Hydraulic power provided by the vessel	N.A.

* Depending on the location of the equipment on board, the vessel may be classified with a flashpoint above or below 60°C.





EUROPEAN MARITIME SAFETY AGENCY QUALITY SHIPPING, SAFER SEAS, CLEANER OCEANS

BOOM SYSTEM

EMSA OIL SPILL RESPONSE EQUIPMENT

LAMOR HDB 2000 HEAVY DUTY BOOM

the Asia

Remark: The Information is based on the manufacturer's documentation

GENERAL DESCRIPTION

The Lamor heavy duty boom is a segmented boom constructed in such a way that two layers of synthetic fabric are vulcanized together with synthetic oil-resistant rubber outer layers. The boom is equipped with a ballast chain that guarantees correct deployment in sweeping operations.

The boom has ASTM connectors and towing lines. On deployment the boom sits symmetrically in the water, allowing for easy maneuver and for facing the oil slick from either side. Inflation of the boom is guick and efficient thanks to the air valve and the use of an air blower.



The boom is equipped with inflatable buoyancy chambers with separate air valves, which means that in case of puncture only one chamber will lose air. It is manufactured from heavy-duty neoprene rubber with a hypalon external skin.

This one-piece moulded composite construction has complete cross vulcanization of rubber and reinforcing plastics. The construction is seamless, it has high abrasion resistance, peel resistance and tensile strength.

The boom is also fitted with stainless steel fittings, galvanised ballast/tension chains and internal stainless steel rods. These rods ensure optimum skirt profile under tow.

KEY CHARACTERISTICS:

- Segmented heavy duty boom, 250 metres each
- Inflatable buoyancy chambers
- ASTM connectors
- · Belt-driven air blower
- · Storage reels mounted on 10' flat rack containers



TECHNICAL SPECIFICATIONS				
Freeboard	600 mm	Operational temperature	-40°C to 60°C	
Draught	1100 mm	Efficient in waves	up to 4 m	
Length (chamber)	3 m	Stable In current	up to 3 knots	
Length (section)	50 m	Deployment time	250 m – approx. 45 minutes	
Weight per meter	19.6 kg	Buoyancy /weight ratio	12.5:1	





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