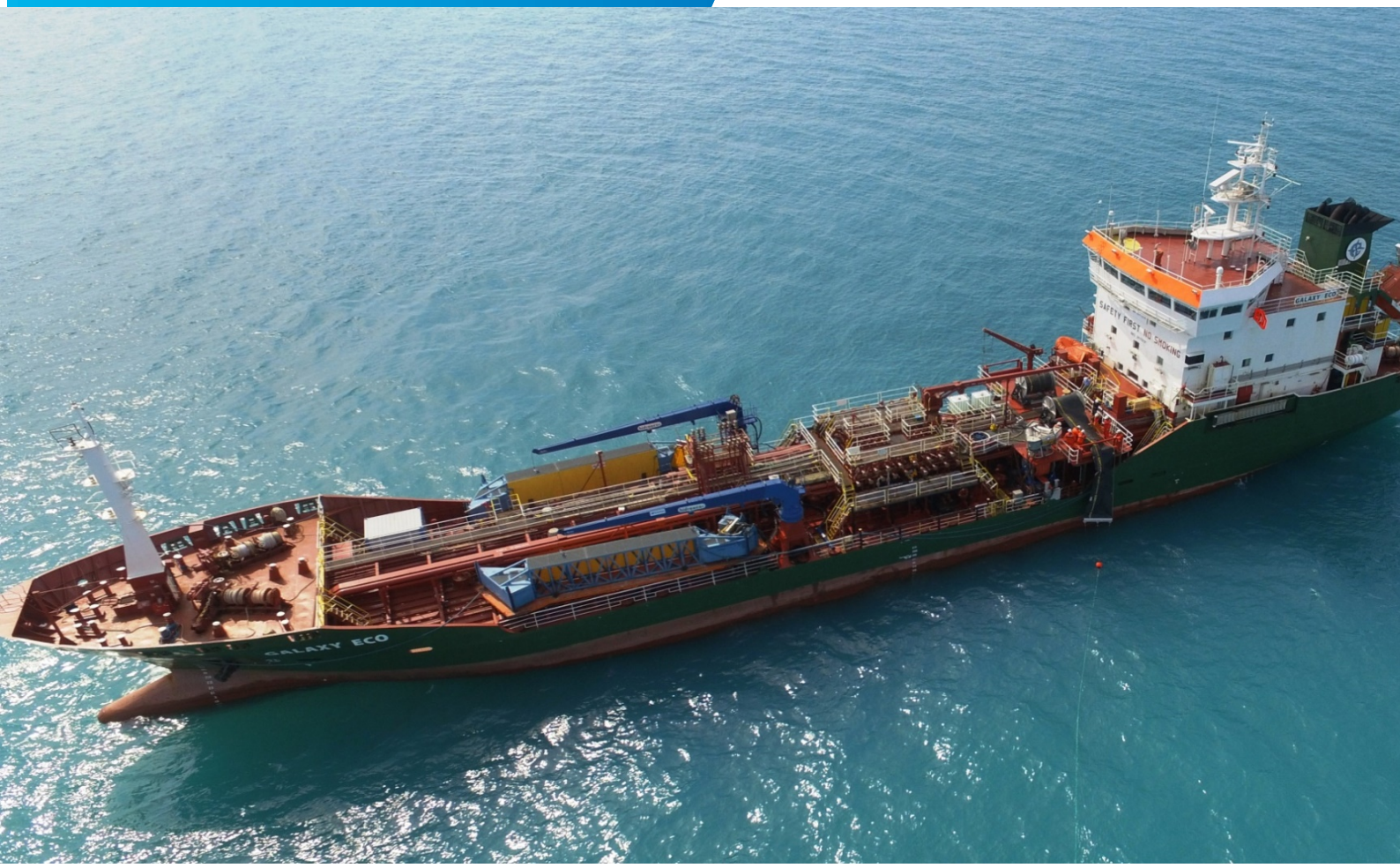
European Maritime Safety Agency



Drills & Exercises Annual Report 2017

EMSA Pollution Response Services

Date: 08/03/2018

EMSA

Summary

In order to provide additional support to the pollution response mechanisms of EU Member States in a cost efficient way, the European Maritime Safety Agency (EMSA) operates, in European waters, a range of oil pollution response (OPR) services consisting of a Network of stand-by oil spill response vessels, Equipment Assistance Service (EAS) including specialised stand-alone equipment arrangements, as well as dispersant stockpiles. The OPR services are available for responding to oil spills at sea caused by ships as well as by oil and gas installations at the request of a coastal State[1], a Private Entity[2], and/or the European Commission.

At the end of 2017, 17 fully equipped oil spill response vessels, four dispersant stockpiles and three EAS arrangements were available for mobilisation.

To achieve the level of performance for pollution response required by the Agency, the contracted OPR services have to perform regular training, drills, Equipment Condition Tests (ECTs) and exercises.

The evaluation of the contractors' performance during vessel drills, ECTs and exercises by the Agency's staff in line with the "Guidelines on Conducting Drills / ECTs and Exercises for the EMSA Contracted Vessels / EAS arrangements" is an effective tool to ensure that the level of preparedness of the pollution response services is adequately maintained. In this regard it must be noted the increase in the number of operational events involving the Agency in 2017 in comparison with previous years due to the establishment of the EAS arrangements and the associated ECTs and exercises.

Overall, the outcome of drills, ECTs and exercises carried out during 2017 demonstrated that the services are provided efficiently and in accordance with the EMSA services users expectations.

In addition to providing operational assistance in case of oil spills, the Agency is tasked to support Member States in case of marine incidents involving chemicals. Since 2009, EMSA is providing expert advice for hazardous and noxious substances (HNS) through its MAR-ICE Network. This service provides rapid information transfer regarding chemical substances involved in marine pollution emergencies 24/7 and free of charge to the EU/EFTA coastal Member States and EU Candidate Countries. In order to familiarise EU Member States and to ensure high quality of this service, several exercises of MAR-ICE are performed each year.

The figures related to the drill and exercise activities in 2017 are summarised in the table below:

Table 1 Summary of drills, ETCs and exercises carried out in 2017

Acceptance Drills: Newly Contracted Vessels	Acceptance Drills: Improvement projects / new equipment	Quarterly Drills / ECTs	Operational Exercises Vessels/EAS	Notification Exercises Vessels/EAS	MAR-ICE Exercises
1	1	68 / 11	11 (12 vessels / 2 EAS)	15 (21 vessels / 2 EAS)	4
Total number of events	115				

[1] EU Member States, EU Candidate States, Norway and Iceland as well as those third countries sharing a regional sea basin with the European Union (Regulation (EU) 100/2013).
[2] Private Entity means the ship owner or oil and gas installation operator controlling the activity causing the marine pollution or the imminent threat of it. The Private Entity is responsible for the oil spill cleaning operations.

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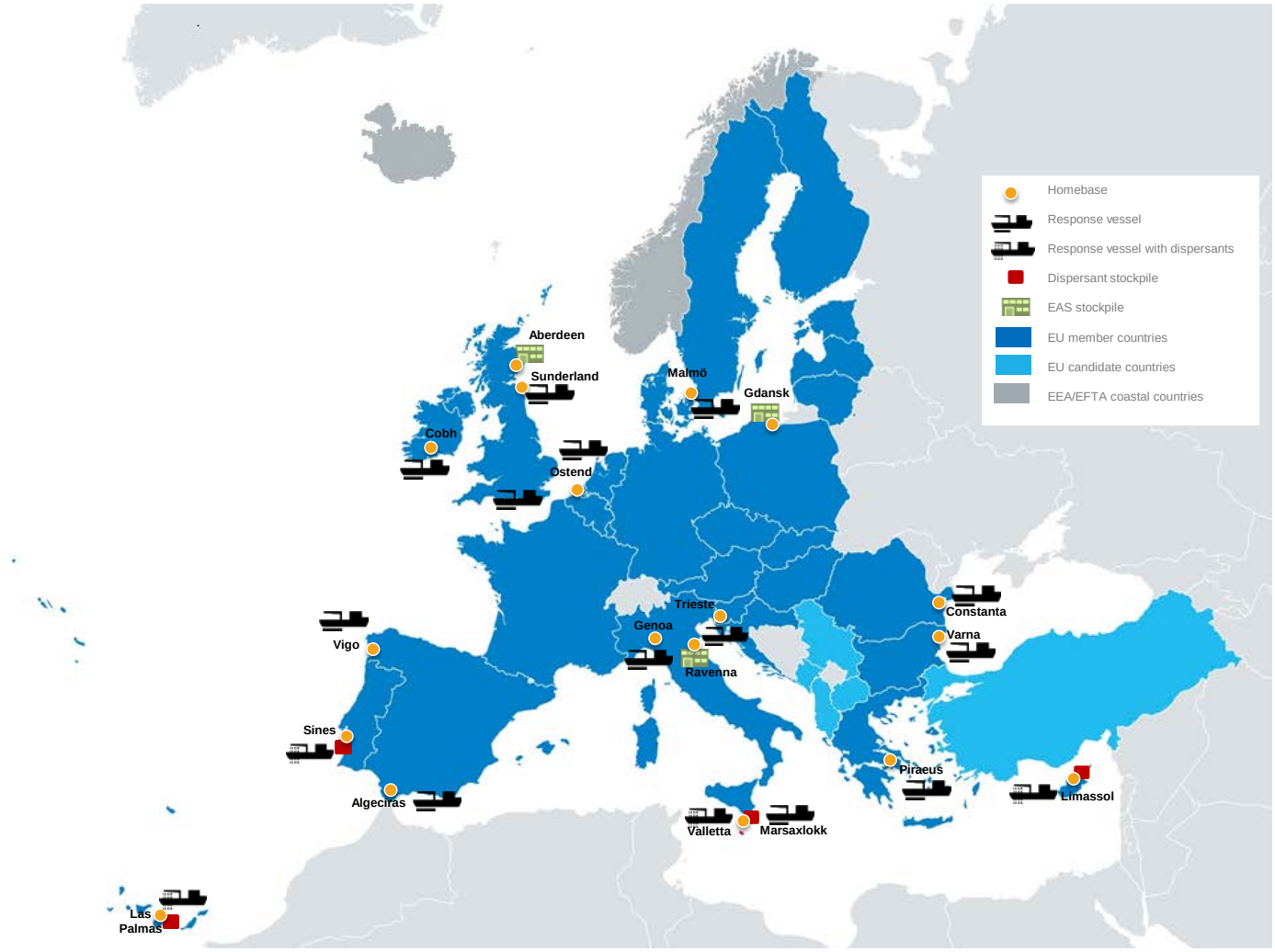
1. Introduction

1.1 EMSA's Oil Pollution Response (OPR) Services - Overview

Through its "toolbox" of response services, EMSA offers a European tier of pollution response resources in order to top-up the capacities of coastal States for protecting their coastlines from marine pollution caused by ships and oil and gas installations. The map below provides an overview of EMSA's OPR Services and their geographical distribution.

Map 1 Distribution of EMSA's contracted vessels and EAS arrangements at the end of 2017



At the end of 2017, 17 fully equipped oil spill response vessels were available for pollution response, with 10 of these 17 vessels certified for recovery of oil with flashpoints < 60°C. All the contracted vessels based in areas with the presence of oil and gas installations are now certified for recovery of oil with flashpoint < 60°C.

Main activities related to the Vessel Network in 2017 included:

- Entering into operational service of the vessel contracted at the end of 2016, covering the area of the southern Black Sea;
- Awarding a new contract for the Biscay Bay, in order to replace the contract that was terminated in the same area at the beginning of 2017. The new contracted vessel will enter into operation in mid-2018;
- Renewal of three vessel contracts covering the southern Atlantic coast as well as western and central Mediterranean Sea for an additional 4-year period.

Regarding the Equipment Assistance Service (EAS), a third arrangement was contracted in the Adriatic Sea (Ravenna, Italy), becoming fully operational in the second half of 2017. This new arrangement complements the existing EAS stockpiles in the Baltic and North Sea and provides specialised stand-alone equipment for Vessels of Opportunity (VOO), primarily for the Southern Europe area.

Detailed information on the Vessel Network and EAS arrangements at the end of 2017 can be found in the table below.

Table 2 Summary of the OPR services and contractual information at the end of 2017

Area covered	Contractor / Contract	Vessel(s) / Assets	Vessel type / storage capacity(m^3) / dispersant stock	Service 2017
1. Contracted vessels				
Southern Baltic	Stena Oil EMSA/NEG/1/2015 Lot 2	*Norden*	Oil Tanker / 2880	✓
Northern North Sea	James Fisher Everard Ltd EMSA/NEG/1/2013 Lot 1	*Mersey Fisher, Thames Fisher*	Product Tankers / 5028 / 5028	✓
Channel and Southern North Sea	DC Industrial S.A. 2014/EMSA/NEG/1/2014 Lot 3.1	*Interballast 3*	Hopper Dredger / 1886	✓
	DC Industrial S.A. 2014/EMSA/NEG/1/2014 Lot 3.2	*DC Vlaanderen 3000*	Hopper Dredger / 2744	✓
Atlantic North	James Fisher Everard Ltd EMSA/NEG /1/2013 Lot 2	*Galway Fisher, Forth Fisher*	Product Tankers / 4754 / 4754	✓
Atlantic Coast	Remolcadores Nossa Terra S.A. EMSA/NEG/1/2014 Lot 1	*Ria de Vigo*	Offshore Supply / 1522	✓
Bay of Biscay	Ibaizabal VAC NEG/01/2012 Lot 3	*Monte Arucas*	Oil tanker / 2952	Contract expired on 04/04/2017. The contractor declined the contract renewal
Southern Atlantic Coast	Mureloil VAC NEG/1/2012 Lot 1	*Bahia Tres*	Oil Tanker / 7413 / Dispersant 200 t	The contract has been renewed as of 18/07/2017 for another 4 years
Canary Islands and Madeira	Petrogas EMSA/NEG/1/2015 Lot 1	*Mencey*	Oil Tanker / 3500 / Dispersant 200 t	✓
Western Mediterranean	Naviera Altube EMSA NEG/1/2011 Lot 4	*Monte Anaga*	Oil Tanker / 4096	✓
	Ciane EMSA/NEG/34/2012	*Brezzamare*	Oil Tanker / 3288	The contract has been renewed as of 27/08/2017 for another 4 years
Central Mediterranean	Tankship EMSA NEG/1/2011 Lot 2	*Balluta Bay*	Oil Tanker / 2800 / Dispersant 200 t	✓
	SL Ship Management Ltd EMSA NEG/1/2012 Lot 2	*Santa Maria*	Oil Tanker / 2421	The contract has been renewed as of 26/06/2017 for another 4 years
Adriatic Sea	Castalia EMSA/NEG/1/2013 Lot 4	*Marisa N*	Oil Tanker / 1562	✓
Aegean Sea	Environmental Protection Engineering S.A. EMSA/NEG/1/2013 Lot 3	*Aktea OSRV (Aegis I as a back-up vessel)*	Oil Tanker / 3000 Offshore Supply / 950	✓
Eastern Mediterranean	Petronav EMSA NEG/1/2010 Lot 1	*Alexandria*	Oil Tanker / 7458 / Dispersant 200 tonnes	✓
Northern Black Sea	Petronav EMSA/NEG/1/2014 Lot 2	*Amalthia*	Oil Tanker / 5154	✓
Southern Black Sea	COSMOS 2016EMSA/CPNEG/6/2016 – Lot1	*Galaxy Eco*	Oil Tanker / 2969	Entered into service on 20/06/2017

2. EAS arrangements				
Baltic Sea	Labelpoland.com EMSA/NEG/8/2015 – Lot 2	10 stand-alone equipment sets	Contracted storage area: 800m^2 (Gdansk, Poland)	✓
North Sea	Sureclean / NRC EMSA/NEG/8/2015 – Lot 1	9 stand-alone equipment sets	Contracted storage area: 600m^2 (Oldmeldrum, UK)	✓
Southern Europe	Ottavio Novella 2017/EMSA/CPNEG/38/2016	10 stand-alone equipment sets	Contracted storage area: 800m^2 (Ravenna, Italy)	Operational as of 11 October 2017

1.2 Purpose and types of drills and exercises

The vessels and EAS arrangements contracted by the Agency are equipped with state-of-the-art, containment and recovery equipment. In addition, some of the vessels arrangements have dispersant spraying capabilities with dispersant stock available. Furthermore, in-situ-burning equipment is available at the EAS stockpiles. The pollution response equipment provided by the Agency aims at achieving high recovery rates and high effectiveness of the pollution response activities.

Once the technical requirements of each contract are satisfied, the most important factors determining success of the pollution response system are the skills of the vessel's crews in the operation of the equipment, the capability of the oil spill response coordinators to lead the response action and to integrate EMSA's response assets within the pollution response mechanisms of the Member States. For the EAS the critical factor lies with the operational condition of the equipment. Therefore, regular training, drills, equipment condition tests (ECTs) and exercises are essential to achieving and maintaining the appropriate level of performance.

Every vessel and EAS contract defines the types and number of drills, ECTs and exercises to be carried out by each associated service:

- The vessels perform two types of drills: 1) acceptance drills (also referred to as acceptance tests) and 2) quarterly oil pollution response drills; and two types of exercises: 1) notification exercises and 2) at-sea operational exercises.
- With regard to the EAS arrangements, the contracts have defined a maximum number of six ECTs per year. With regard to exercises, there are the same two types of exercises as for the vessels. ECTs aim at guaranteeing that the technical support personnel is able to deploy and quickly instruct Member State's operators on how to use the equipment, as EMSA's contractor technical support personnel does not operate the equipment during response operations.

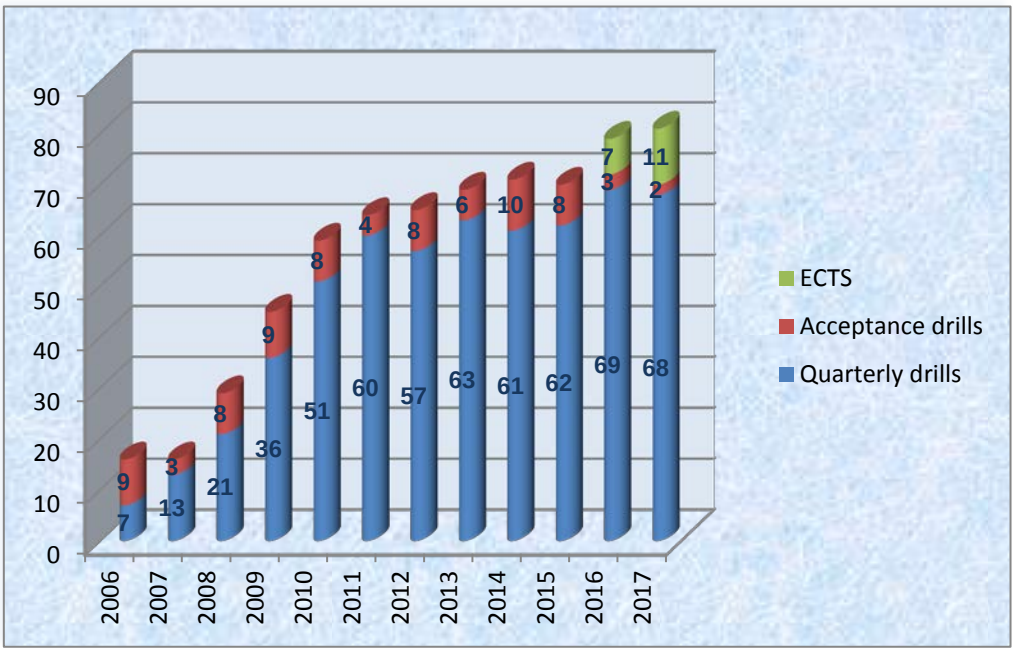
Detailed instructions on conducting drills ECTs and exercises, including their methods of evaluation are provided in the "Guidelines on Conducting Drills/ECTs and Exercises for the EMSA Contracted Vessels/EAS arrangements". These Guidelines constitute a component of all contracts. They are periodically reviewed and updated taking into account new services development, new types of equipment acquired and lessons learned during drills and exercises. In 2018 the Guidelines will be reviewed in order to enhance and harmonise the practices amongst EMSA contractors.

2. Drills & ECTs performed in 2017

In 2017, a total of 68 quarterly drills, 2 acceptance drills and 11 ECTs were performed by the vessels and the EAS arrangements under contract to the Agency. The acceptance drills are of particular importance as they are the major milestone for new vessels and/or EAS contractor to enter into the stand-by phase of a contract.

A summary of drills / ECTs performed by EMSA's OPR services during the period 2006-2017 is shown in the chart below.

Chart 1 Number of drills 2006 – 2017



2.1 Vessel drills

2.1.1 Acceptance drills

One vessel arrangement contracted at the end of 2016 namely the Tanker *Galaxy Echo*, based in Varna, Bulgaria, providing replacement capacity in the Southern Black Sea, successfully completed the acceptance drill and became fully operational in June 2017.

One technical improvement project launched in 2016 namely the replacement of the booms on board *Monte Anaga* stationed in Algeciras, Spain, covering the area of the western Mediterranean Sea was successfully accepted in June 2017.

Details of the acceptance drills are demonstrated in the table below.

Table 3 Vessel / Improvement acceptance tests carried out in 2017

N°	Contract	Contractor	Vessel	Home port	Subject	Acceptance Test Date	Results
1	EMSA NEG/1/2011 Lot 4 Western Mediterranean	Naviera Altube	Monte Anaga	Algeciras, Spain	Improvement project - replacement of the booms. Acceptance test of the new booms.	07/06/2017	Acceptance from 08/06/2017.
2	2016EMSA/CPNEG/6/2016 – Lot1 Southern Black Sea	Cosmos Shipping AD	Galaxy Echo	Varna , Bulgaria	Replacement of the capacity for the Southern Black Sea. Acceptance Test for pre-fitting and equipment.	14-15/06/2017 and partial repetition on 19/06/2017	Acceptance effective from 20/06/2017

2.1.2 Quarterly drills

According to the contract, the Contractor is obliged to train his crew and to maintain the oil pollution response equipment in order to be ready to carry out oil pollution response services efficiently. To demonstrate the fulfilment of these obligations, the Contractor is obliged to carry out drills on a quarterly basis. The Agency developed guidelines describing performance standards for the vessel, crew and equipment. These guidelines are an annex to the Vessel Availability Contract. The quarterly drill can be accepted only if all required standards have been achieved. The acceptance of the Contractor's Quarterly Drill Report by the Agency is a condition for the payment of the Vessel Availability Fee by the Agency.

The attendance of the MS representatives to the quarterly drills is encouraged as it gives them first-hand experience of EMSA's assistance capabilities as well as facilitating the integration of EMSA's resources with the pollution response mechanisms of the Member States. During 2017 six quarterly drills were attended by representatives of the Member States and one by a Private Entity. The summary of the quarterly drills carried out in 2017 is presented in the table below.

Table 4 Summary of the quarterly drills carried out in 2017

N°	Contract	Contractor	Vessel/s	Drill	Date	Results
1	EMSA/NEG/1/2015 Lot 2 Southern Baltic	Stena Oil	*Norden*	1Q	18/01/2017	4 drills required in 2017. All drills were conducted and accepted by EMSA.
				2Q	17/05/2017	
				3Q	24/09/2017	
				4Q	27/11/2017	
2	2014/EMSA/NEG/1/2014 Lot 3.1 Channel and Southern North Sea	DC Industrial S.A.	*Interballast III*	1Q	13/03/2017	4 drills required annually. All drills were conducted and accepted by EMSA.
				2Q	16/05/2017	
				3Q	08/08/2017	
				4Q	17/10/2017	
3	2014/EMSA/NEG/1/2014 Lot 3.2 Channel and Southern North Sea	DC Industrial S.A.	*DC Vlaanderen 3000*	1Q	13/03/2017	4 drills required annually. All drills were conducted and accepted by EMSA.
				2Q	13/06/2017	
				3Q	13/09/2017	
				4Q	17/10/2017	
4	EMSA/NEG/1/2013 Lot 1 Northern North Sea	James Fisher Everard Ltd	*Mersey Fisher* / *Thames Fisher*	1Q	21/03/2017	4 drills required annually (2 per vessel). All drills were conducted and accepted by EMSA.
				3Q	11/08/2017	
				2Q	25/05/2017	
				4Q	24/10/2017	
5	EMSA/NEG /1/2013 Lot 2 Atlantic North	James Fisher Everard Ltd	*Galway Fisher* / *Forth Fisher*	1Q	14/03/2017	4 drills required annually (2 per vessel). All drills were conducted and accepted.
				3Q	15/07/2017	
				2Q	06/04/2017	
				4Q	10/10/2017	
6	VAC NEG/01/2012 Lot 3 Bay of Biscay	Ibaizabal S.A.	*Monte Arucas*	1Q	15/02/2017	1 drill required in 2017. Contract expired on 04/04/2017.
				2Q	n/a	
				3Q	n/a	
				4Q	n/a	
7	2014/EMSA/NEG/1/2014 Lot 1 Atlantic Coast	Remolcadores Nossa Terra S.A.	*Ria de Vigo*	1Q	16/03/2017	4 drills required annually. All drills were conducted and accepted by EMSA.
				2Q	21/05/2017	
				3Q	13/09/2017	
				4Q	23/11/2017	
8	VAC NEG/1/2012 Lot 1 Southern Atlantic Coast	Mureloil S.A.	*Bahia Tres*	1Q	16/03/2017	4 drills required annually. All drills were conducted and accepted by EMSA.
				2Q	10/05/2017	
				3Q	13/09/2017	
				4Q	26/10/2017	

9	EMSA/NEG/1/2015 Lot 1 Canary Islands and Madeira	Petrogas	*Mencey*	1Q	27/03/2017	4 drills required annually. All drills were conducted and accepted by EMSA.
				2Q	01/06/2017	
				3Q	14/09/2017	
				4Q	24/11/2017	
10	EMSA NEG/1/2011 Lot 4 Western Mediterranean Sea	Naviera Altube S.L.	*Monte Anaga*	1Q	08/02/2017	4 drills required annually. All drills were conducted and accepted by EMSA.
				2Q	07/06/2017	
				3Q	28/08/2017	
				4Q	21/11/2017	
11	EMSA/NEG/34/2012 Western Mediterranean Sea	Ciane SpA	*Brezzamare*	1Q	16/02/2017	4 drills required annually. All drills were conducted and accepted by EMSA.
				2Q	23/05/2017	
				3Q	16/09/2017	
				4Q	22/11/2017	
12	EMSA/NEG/1/2013 Lot 4 Adriatic Sea	R.T.I Castalia	*Marisa N*	1Q	28/03/2017	4 drills required annually. All drills were conducted and accepted by EMSA.
				2Q	26/06/2017	
				3Q	25/09/2017	
				4Q	06/12/2017	
13	EMSA NEG/1/2011 Lot 2 Central Mediterranean Sea	Tankship Ltd	*Balluta Bay*	1Q	16/02/2017	4 drills required annually. All drills were conducted and accepted by EMSA.
				2Q	18/05/2017	
				3Q	09/08/2017	
				4Q	09/11/2017	
14	EMSA NEG/1/2012 Lot 2 Central Mediterranean Sea	SL Ship Management Ltd	*Santa Maria*	1Q	17/02/2017	4 drills required annually. All drills were conducted and accepted by EMSA.
				2Q	17/05/2017	
				3Q	08/08/2017	
				4Q	21/11/2017	
15	EMSA/NEG/1/2013 Lot 3 Aegean Sea	Environmental Protection Engineering S.A.	*Aktea OSRV*	1Q	08/03/2017	5 drills required in 2017 (4 Aktea OSRV and 1 Aegis I). All drills were conducted and accepted by EMSA.
				2Q	12/06/2017	
				3Q	19/09/2017	
			Aegis I	4Q	17/11/2017	
				2Q	12/06/2017	
16	EMSA NEG/1/2010 Lot 1 Eastern Mediterranean Sea	Petronav Ship Management Ltd	*Alexandria*	1Q	06/03/2017	4 drills required annually. All drills were conducted and accepted by EMSA.
				2Q	31/05/2017	
				3Q	27/09/2017	
				4Q	16/10/2017	
17	2014/EMSA/NEG/1/2014 Lot 2 Northern Black Sea	Petronav Ship Management Ltd	*Amalthia*	1Q	22/03/2017	4 drills required annually. All drills were conducted and accepted by EMSA.
				2Q	21/06/2017	
				3Q	14/09/2017	
				4Q	01/11/2017	
18	2016/EMSA/CPNEG/6/2016 Lot 1 Southern Black Sea	Cosmos	*Galaxy Echo*	1Q	n/a	2 drills required in 2017. Both were conducted and accepted by EMSA. The service started on 20/06/2017.
				2Q	n/a	
				3Q	07/09/2017	
				4Q	10/11/2017	

The outcome of the quarterly drills carried out during 2017 demonstrated that the service is operated efficiently and in accordance with EMSA expectations. However, room for improvement has been identified especially with regard to the homogeneity of drill reporting and drill planning by the contractors. The guidelines will be amended to address these issues.

Figure 1 Combined quarterly drill with participation of DC Vlaanderen 3000 and Interballast III

2.2 EAS - Equipment Condition Tests (ECTs)

According to the contract, the Contractors are obliged to train their staff and to maintain the equipment in a full state of readiness for carrying out oil pollution response services efficiently.

To demonstrate the fulfilment of these obligations, the Contractors are obliged to carry out ECTs. The Agency developed guidelines describing equipment performance standards. These guidelines are an integral part of the Service Availability Contract. The ECT can be accepted only if all required standards have been achieved. The summary of the ECTs carried out in 2017 is presented in the table below.

Table 5 Summary of the ECTs carried out in 2017

N°	Contract	Contractor	EAS Location	ECT	Results
1	EMSA/NEG/8/2015 Lot 1 North Sea	Sureclean / NRC	*Oldmeldrum, UK*	Current Buster 20/06/17 Speed Sweep 21/06/17 Trawl Net 22/06/17 Trawl Net 03/11/17	Equipment was found in a good condition. All ECTs accepted by EMSA.
2	EMSA/NEG/8/2015 Lot 2 Baltic Sea	Labelpoland.com	*Gdansk, Poland*	Current Buster 06/06/17 Speed Sweep 07/06/17 Trawl Net 08/06/2017 Norlense boom 09/06/17	Equipment was found in a good condition. All ECTs accepted by EMSA.
2	EMSA/CPNEG/38/2015 Southern Europe	Ottavio Novella	*Ravenna, Italy*	Trawl Net 15/11/17 Speed Sweep 15/11/17 Current Buster 17/11/17	Equipment was found in a good condition. All ECTs accepted by EMSA.

Within the framework of the ECTs, training sessions for the Member States' equipment operators were organised in the EAS Baltic and EAS North Sea. The trainees were able to get familiarised and operate different equipment systems such as the Current Buster 6, the Speed Sweep or the Ro-Trawl. Overall, a number of 22 equipment operators from 12 MS were trained during these two training sessions. Given the positive feedback and Member States'S appreciation, EMSA will continue providing such training within all of its EAS arrangements.

Figure 2 EAS North Sea (Aberdeen). Training for the MS equipment operators. Deployment of the Current Buster.

2.3 Technical Issues Record

Checking the technical status and completeness of the oil pollution response equipment on board the vessels and the EAS equipment stockpiles is an important element of each drill attended by EMSA observers.

Both vessels and EAS contracts provide for a mandatory reporting of incidents/malfunctions. Besides this, EMSA conducts annual verification of all equipment.

During each drill, ECT and exercise attended by the Agency, the condition of the equipment was closely assessed and recorded. This record allows the Agency to obtain a broader overview of the performance of different types and brands of equipment.

Identification of the most frequent technical problems leads to prevention of failures during actual pollution response and also helps the acceptance process for equipment arrangements in the framework of the vessel tenders and improvement projects.

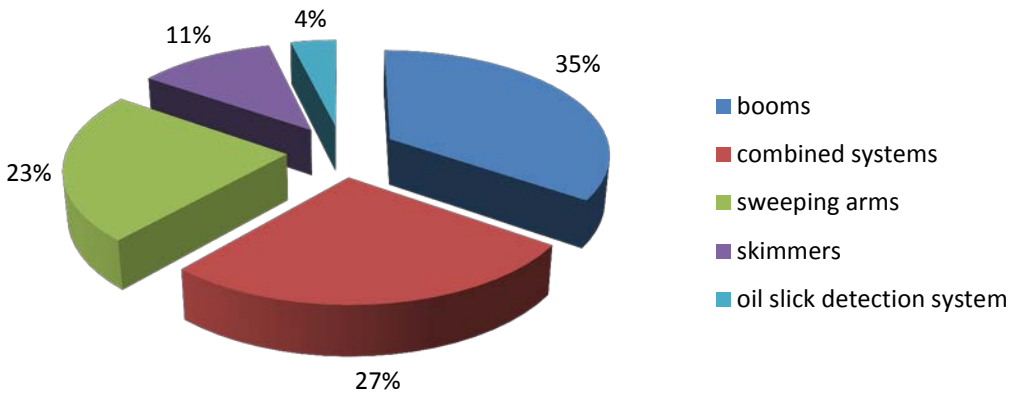
For both services, Vessel Network and EAS, 26 equipment technical issues were recorded in 2017 (dropping down from 37 in 2016) as follows: 9 related to booms, 7 to combined systems (current buster, speed sweep, trawl net), 6 to sweeping arms, 3 to skimmers and 1 to an oil slick detection system.

The most frequent issues were related to the hydraulic systems (control valves, motors, couplings) and to the internal high pressure air circuits encountered in the single point inflation booms. In certain cases, the frequent repetition of incidents led to requesting corrective action from the manufacturer, resulting in an improvement of the equipment design.

Generally, the technical issues were dealt with in an efficient and effective way and the equipment was brought back to the operational state as quickly as possible. Preventive measures, such as overhauling and/or replacement of the aging equipment are being implemented in order to increase the reliability of the equipment and to minimise the number of failures.

Based on the equipment records, the overhauling or replacement plan is being established in order to improve services and reduce the probability of equipment failure.

Chart 2 Technical issues 2017 distribution



3. Exercises performed in 2017

At-sea operational exercises assist the integration of EMSA's OPR services within the response mechanisms of Member States, improving the necessary coordination and cooperation of the EMSA resources with the coastal State response units.

In 2017 EMSA planned for and participated in the exercises using a procedure for the internal/external exercise coordination in order to provide the full set of services (Vessels, EAS, Mar-ICE, CleanSeaNet and others) in a harmonised manner as well as to send/receive the appropriate feedback to and from the Member States after the performance of the exercises. However this is an area where a strong co-operation in the planning and preparing phases could result in improved exercises scenarios, implementation and debriefing.

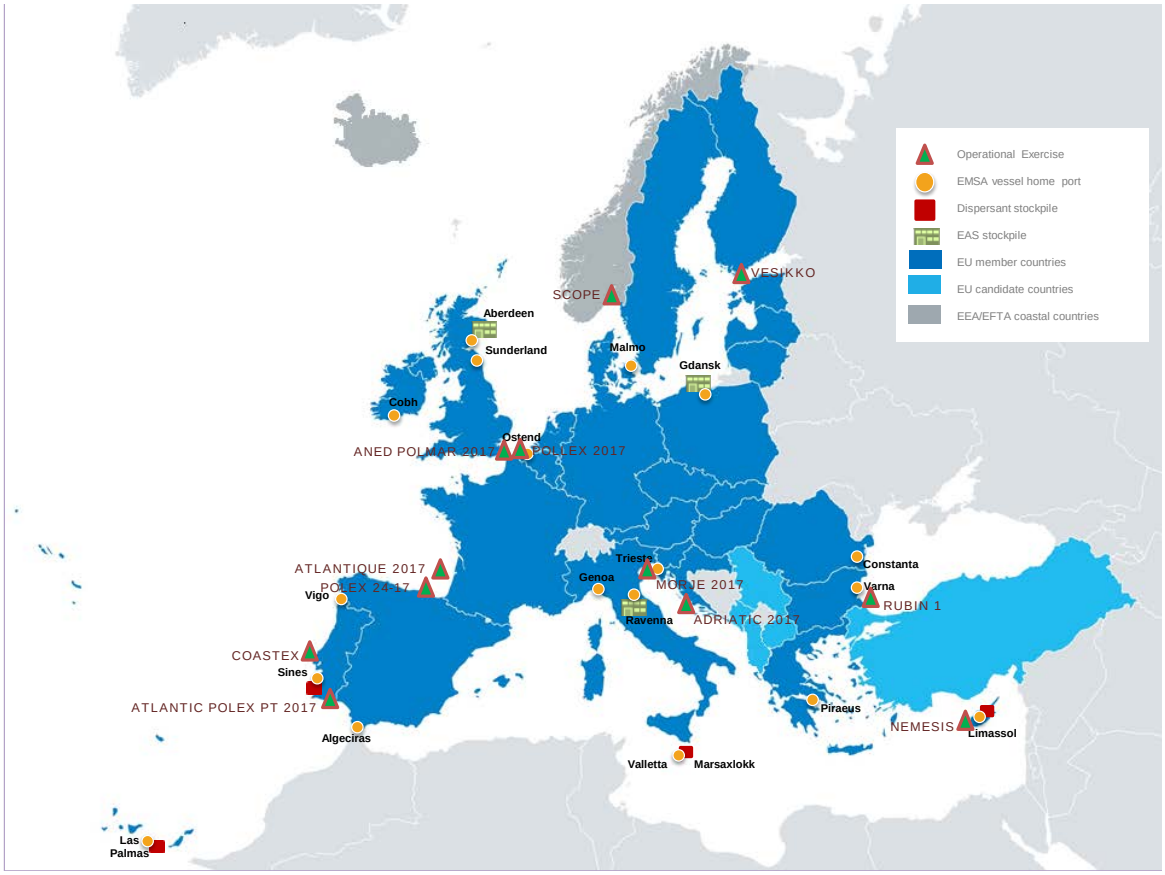
3.1 Operational exercises

In the course of 2017, 12 EMSA Stand-by Oil Spill Response Vessels, and two equipment sets from the EAS North Sea and EAs Baltic Sea were deployed in 12 at-sea operational exercises, organised in cooperation with EU Member States and/or Regional Agreements.

These events took place in all European Regional sea basins, covering the Baltic Sea, North Sea, Atlantic Coast, Mediterranean Sea and Black Sea. In general, the results of these exercises showed that EMSA vessels were well integrated into the pollution response mechanisms of Member States and Regional Agreements. Reports of EMSA observers indicate that all vessels participating in the operational exercises successfully completed the tasks assigned by the pollution response command of the country hosting the exercise.

The geographical spread of operational exercises in Europe with EMSA vessels participation is shown in the following map below.

Map 2 Geographical Coverage of Operational Exercises 2017



It should be noted that the operational exercises at sea are organised by the Member States within the framework of national or regional contingency plans. Each EMSA's participation to an exercise is followed by a request to the Member State to evaluate the services provided by the Agency.

Exercises are an opportunity to highlight some strategic questions which need to be answered at a preliminary stage of response in order to maximise its effectiveness. Among these questions, the following three are particularly relevant to the use of EMSA's assets.

- Role of EMSA's recovery vessels:

It has been noted that in their exercise scenarios several Member States tends to consider the use of EMSA's recovery vessels mainly as storage capacity for their smaller units. This goes against maximizing the response efficiency if one considers the time lost by the two concerned vessels in doing ship to ship transfer, whereas the EMSA's vessel is specifically equipped to perform recovery operations for a longer period of time. The lack of adequate storage capacity at sea should be addressed separately in order not to weaken the response effectiveness.

- Discharge of clean water:

Often authorities in charge of the response don't allow the discharge of clean water after being decanted on board and passed through the Oil Water Separator. The negative consequences are that the ship tanks are rapidly full, the ship needs to stop operations, the time spent on transit to and from the discharging facility is increased, the quantities to be discharged at the reception facility are bigger thus creating further delay in discharging time as well as increased costs, All these disadvantages should be weighed against the fact thatthe discharge of clean water would be in accordance with the MARPOL threshold and would take place in an already contaminated area.

- When to request EMSA response assets (vessel and equipment):

Although during exercises this part is usually missing as the participation is scheduled before the exercise, consideration to ask for EMSA assets should be given as soon as possible. EMSA assets are not destined to be the first response capacity and therefore their mobilisation and transport/transit time have to be integrated since the

very beginning of the response. Delaying the request may result in calling them at a time when the window of opportunity for their use will close. Such a delay could have also an influence on the eligibility of the corresponding costs to be compensated by the liable party.

Recently, EMSA reviewed the internal procedure for the exercise co-ordination putting more importance to the exercise assessment and including EMSA feedback to the exercise organiser. In 2018 EMSA will implement the reviewed procedure especially focusing on the requesting and analysing feedback from the Member States regarding the performance of the EMSA services provided during exercises.

In order to strengthen EMSA's co-operation with the Member States at the stage of the exercise planning, the Agency is going to develop a "Guidance Tool" for the Member States regarding the use of EMSA services during exercises. The proposal of such a "Guidance Tool" will be discussed during annual meeting of the Pollution Response Services User Group in 2018.

The summary of operational exercises performed by EMSA contracted vessels during the 2017 is shown in the table below.

Table 6 Operational exercises carried out in 2017

N°	Name	Date	Location	Participating Parties	EMSA vessel(s) / ECT
1	POLLEX 2017	14 March 2017	North Sea near Zeebrugge	The Netherlands, Belgium, EMSA	*Interballast 3* *DC Vlaanderen 3000*
2	MORJE 2017	18 - 19 April 2017	Koper, Slovenia	Slovenia, EMSA	*Marisa N*
3	ANED POLMAR 2017	16 - 17 May 2017	Boulogne, France	France, Belgium, EMSA	*Interballast 3*
4	COASTEX	23 - 26 May 2017	Troia, Portugal	Portuguese Navy, Frontex, EFCA, observers from the coastal States	*Ria de Vigo*
5	POLEX 24-17	14 - 16 June 2017	Santander, Spain	Spain, EMSA	*Ria de Vigo*
6	VESIKKO	04 – 08 September	Finland	Finland	*EAS Baltic Sea*
7	SCOPE	22- 26 September 2017	Langesund, Norway	Norway, Sweden, Denmark, Iceland, Germany	*Norden* *EAS North Sea*
8	ADRIATIC 2017	04 - 05 October	Northern Basin Split, Croatia	Croatia, EMSA	*Marisa N*
9	ATANTIQUE 2017	12 October 2017	Gulf of Gascogne, France	France, EMSA	*Galway Fisher*
10	NEMESIS	17 October	Cyprus	Cyprus, EMSA	*Alexandria*
11	ATLANTIC POLEX PT 2017	19 October	Vila Real de Santo Antonio, Portugal	Portugal, EMSA	*Monte Anaga*
12	RUBIN 1	24 October	Varna, Bulgaria	Bulgaria, EMSA	*Galaxy Echo*

3.2 Notification exercises

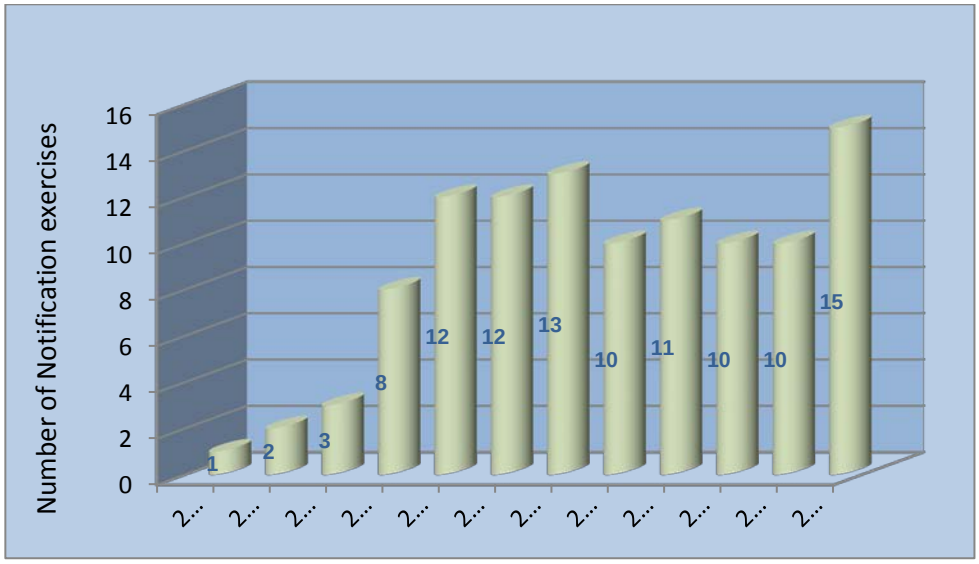
Notification exercises are usually conducted in conjunction with operational exercises. In addition, 'stand-alone' notification exercises are occasionally carried out. The aim of these exercises is to test and implement agreed procedures and lines of communication for reporting incidents and for requesting and providing assistance.

Notification exercises involve EMSA, one or more Requesting Parties[3], EMSA's contractor(s) and the Emergency Response Coordination Centre (ERCC), operated by DG ECHO. The main criterion for the evaluation of the notification exercise is the time needed for the Incident Response Contract (Vessel - IRC-V or EAS - IRC-E)[4] to be signed by both the EMSA contractor and the Requesting Party.

In 2017, the Agency participated in 15 notification exercises, involving activation of 21 vessel and two EAS contractors.

The number of notification exercises carried annually over the years 2006-2017 is shown on the chart below.

Chart 3 Number of notification exercises 2006 – 2017



During the notification exercise, the time counting starts at the moment when the formal assistance request is received by EMSA. Taking into account variables such as the time of day, the day of the week, the contractor's location and other factors, six hours is considered as an acceptable target deadline for all parties to complete the mobilisation process, including signature of the Incident Response Contract (IRC). During the exercise, the Agency provides any assistance necessary to the Member State for facilitating the process of completing and signing the IRCs.

In 2017 the Marine Pollution Common Emergency Communication and Information System (CECIS MP) operated by DG ECHO was the common tool for conducting the notification exercises. However, not all notification exercises were conducted with the use of CECIS MP. Some Member States trying to use CECIS MP experienced problems such as lack of personnel trained on the use of the system, lack of constant CECIS MP monitoring during the exercise, or lack of knowledge regarding access to the system. In addition there were many malfunctions of the system noted during the exercises. There is a need to improve the tool and to train users.

In accordance with the Directive 2002/59 as amended, Coastal Stations/Authorities shall distribute information about incident/accident posing a potential hazard to shipping or a threat to maritime safety, the safety of individuals or the environment. Such Incident Reports shall be distributed via SafeSeaNet (SSN) to the potentially affected Member States (art. 16, 17 and 21).

The link SSN-CECIS MP established in 2016 to avoid double reporting of POLREP messages (POLWARN and POLINF information) was tested during notification exercises in 2017. Based on the experience gained EMSA is

[3] EMSA's OPR services can be activated by the following Requesting Parties: EU Member States, EU Candidate Countries, European Free Trade Association (EFTA)/European Economic Area (EEA) coastal Member States, Third countries sharing a regional sea basin with the Union, Private Entities and/or the European Commission.

[4] Incident Response Contract": This contract is to be concluded between the EMSA contractor and the Requesting Party. This pre-established model contract addresses the actual response operations. It covers the terms and conditions of the service and includes the associated daily hire rates. Following a request for assistance, EMSA will activate or even pre-mobilise the vessel / equipment to facilitate the operation. The command and control during an incident rests with the affected coastal State using the vessel / equipment.

considering launching a project aiming at the development of the e-learning tool regarding the use of SSN and CECIS.

It must be noted that out of the 15 notification exercises carried out in 2017, only 9 exercises included the full procedure of EMSA Vessel and/or EAS mobilisation. This was a result comparable to that achieved in previous years. EMSA Contractors reacted immediately and in line with standards set by EMSA. However, some Member States terminated the procedure prior to the signature of the IRC. This could have a negative effect during a real case of mobilisation of EMSA's pollution response services. The mobilisation of the EMSA assistance could be seriously delayed due to the Member Stateslack of training/ knowledge on the mobilisation steps, timing, cost, formalities documents templates etc.

It has to be reiterated that for exercises signing the IRC does not trigger the payment of any fee by the Requesting Party.

In order to speed up the vessel mobilisation process, based on the experience, the logic for circulating the IRC will be amended in 2018. The sequence of the parties signing the contract will be reverted so the EMSA contractor will be receiving contract signed by the requesting party in the first place.

A description of the notification exercises carried out in 2017 can be found in the table below.

Table 7 Notification exercises carried out in 2017

No.	Exercise name/date	Participating parties: MS / Contractor / Service mobilised	Results	Comments
1	MORJE 2017 18/04/2017	Slovenia, EMSA/ Castalia / *Marisa N*,	Signature of the IRC-V (time from acceptance of the offer by the requesting party to receipt of the copy of the contract signed by both parties by EMSA): 1 h 56 min. Total time from the request to signature of the contract by both contracting parties: 2 h 56 min.	Very good result of the exercise. The contact details of the Requesting State needed for the Notice of Pollution Response, took 27 minutes to be received.
2	COASTEX 2017 12/05/2017	Portugal, EMSA / Mureloil, Remolcanosa, Naviera Altube, NRC / *Bahia 3, Ria de Vigo, Monte Anaga, EAS North Sea*	Time from receiving the request for assistance to receiving copy of the IRC Form signed by both Parties *(suspension time from 11 May 18:40 to 12 May 08:00 excluded):* Mureloil 6 h 5 min. Remolcanosa 6 h 58 min. Navaltube 7 h 09 min. EAS 6 h 28 min.	The exercise went well and the time necessary to have the three IRCs-V and four IRCs-E signed by both parties was satisfactory.
3	ANED POLMAR 2017 16 – 17/05 2017	France, EMSA / DC Industrial / *DC Vlaanderen 3000, Interballast III,*	*Interballast 3* Signature of the IRC-V (time from acceptance of the offer by the requesting party to receipt of the copy of the contract signed by both parties by EMSA): 3 h 10 min. Total time from the request to signature of the contract by both contracting parties: 4 h 18 min. *DC Vlaanderen* Signature of the IRC-V (time from acceptance of the offer by the requesting party to receipt of the copy of the contract signed by both parties by EMSA): 2 h 11 min. Total time from the request to signature of the contract by both contracting parties: 2 h 31 min.	The requesting State had problems with use of CECIS. The request was delivered by e-mail. Exercise was completed with a good result. The requested vessels were mobilised in a reasonable time.
4	POLEX 24-17 14/06/2017	Spain, EMSA / Remolcanosa / *Ria de Vigo*	Signature of the IRC-V (time from acceptance of the offer by the requesting party to receipt of the copy of the contract signed by both parties by EMSA): 43 min. Total time from the request to signature of the contract by both contracting parties: 2 h 39 min.	Very good result of the exercise.

5	DENGERNETH 19/06/2017	Denmark, Parties to the Copenhagen Agreement, EMSA / Stena Oil / *Norden*	Time from the request of assistance to submission of the EMSA offer: 49 min. Exercise Organisers decided not to continue the exercise with EMSA once the offer was received.	The Requesting State used CECIS to submit the assistance request. MSS encountered technical problems with CECIS.
6	EPOCS 23/06/2017	Norway, EMSA / JFE, Stena Oil / *Thames Fisher, Norden*	Time from the request of assistance to submission of the EMSA offer: 49 min The exercise was closed by the organisers before acceptance of the EMSA's offer of assistance.	EMSA vessel mobilisation procedure was not initiated. EMSA internal procedure was performed fast and efficient. EMSA contractors reacted properly.
7	HEAVEN PRAWN 06/07/2017	Norway, EMSA / JFE, Stena Oil / *Norden*	Time from the request of assistance to submission of the EMSA offer: 1 h 39 min. Exercise suspended by the organisers until next day. Next day EMSA offer accepted in CECIS and the exercise terminated without circulation of the vessel mobilisation documents.	EMSA vessel mobilisation procedure was not initiated. EMSA internal procedure was performed fast and efficient. EMSA contractors reacted properly.
8	TERRIER 20/07/2017	Norway, EMSA / JFE, Stena Oil / *Galway Fisher, Norden*	Time from the request of assistance to submission of the EMSA offer: 54 min. Offer accepted and the exercise immediately terminated without circulation of the vessel mobilisation document.	EMSA vessel mobilisation procedure was not initiated. EMSA internal procedure was performed fast and efficient. EMSA contractors reacted properly.
9	SCOPE 06-08/09/2017	Norway, EMSA / JFE, Stena Oil, NRC / *Norden And EAS North Sea*	The mobilisation procedure was conducted with a positive result and the IRC-V and IRC-E were signed by the requesting Member State and the EMSA Contractors. Time from the request for assistance to the submission of the offer by EMSA was 1 h 59 min. Acceptance of the offer took 1 day 21h 15min days. The contracts were signed after 6 days 4h 8min.	The exercise was concluded with the mobilisation of the OPR vessel and EAS service.
10	ADRIATIC 2017 04/10/2017	Croatia, EMSA /Castalia / *Marisa N*	Overall time from receiving the assistance request to receipt of the IRC-V signed by the requesting State and EMSA Contractor was 4 h.	The exercise was concluded with the mobilisation of the OPR vessel. All parties involved in the exercise (EMSA, Requesting State and EMSA contractor) performed well.
11	ATLANTIQUE 2017 12/10/2017	France, EMSA / Remolcanosa, JFE / Ria de Vigo, Forth Fisher	Due to malfunction of CECIS only the initial exchange of information between EMSA and EMSA contractors took place, after which the French authorities first suspended and then closed the exercise.	EMSA vessel mobilisation procedure was not initiated. EMSA internal procedure was performed fast and efficient. EMSA contractors reacted properly.
12	NEMESIS 2017 16/10/2017	Cyprus, EMSA / Petronav / *Alexandria*	The Requesting Party requested a vessel with mechanical recovery equipment, dispersant spraying system and provision of dispersants. Time from EMSA offer of assistance to receipt of the IRC-V signed by both parties was 3 h 26 min.	The exercise was concluded with the mobilisation of the OPR vessel. All parties involved in the exercise (EMSA, Requesting State and EMSA contractor) performed well.
13	ATLANTIC POLEX PT 2017 19/10/2017	Portugal, EMSA / Mureloil / Bahia 3	The Requesting Party requested via CECIS one dispersant application vessel plus 20,000 litres of dispersant. Time from receiving the request for assistance until receipt of the contract signed by both parties was 6 h. Time from the request of assistance to submission EMSA offer in CECIS was 2 h.	The exercise was concluded with the mobilisation of the OPR vessel within a reasonable time. All parties involved in the exercise (EMSA, Requesting State and EMSA contractor) performed well.
14	RUBIN 1 19/10/2017	TOTAL supported by Bulgaria, EMSA / Petronav, Cosmos / *Amalthia, Galaxy Echo*	Time from the request of assistance to sending IRC-V contract to the Requesting Party (private entity) was 3 h. The exercise was terminated before signing of the contract	This was the first notification exercise performed between EMSA and a Private Entity with the support of the affected Member State. Although the exercise was finished without the signature of the IRC, the procedure and communication

				channels were successfully tested.
15	ISRAEL 2017 24/10/2017	Israel, Cyprus, REMPEC, EMSA / Petronav / *Alexandria*	Requesting party created emergency in CECIS and requested EMSA assistance. Within 1 h 14 min. from the request EMSA submitted in CECIS an offer of assistance. The exercise was terminated by the organiser without reply to EMSA's offer.	EMSA vessel mobilisation procedure was not initiated. EMSA internal procedure was performed fast and efficient. EMSA contractors reacted properly.
TOTAL		EXERCISES: 15 VESSELS: 21 EAS: 2 15 IRCs SIGNED BY EMSA CONTRACTORS: (10 Vessels and 5 EAS)		

4. MAR-ICE activations for drills and exercises

The MAR-ICE network of chemical experts was established in October 2008 between EMSA, Cefic (European Chemical Industry Council) and Cedre (Centre de Documentation de Recherche et d'expérimentation sur les pollutions accidentelles des eaux). It became fully operational in January 2009. In 2017, the MAR-ICE Cooperation Agreement was amended extending the service through 2022.

The MAR-ICE network offers a 24 hours service to EU Member States, Coastal EFTA States and EU Candidate Countries providing information, documentation and expert advice on chemicals involved in marine spills to national authorities in charge of response operations. The information provided is based on product specific characteristics and on advice from companies experts obtained through the ICE database.

In 2017, the network was activated for exercises on five occasions by Finland, Spain (twice) and Norway (twice). Details are presented in the table 8.

Table 8 MAR-ICE drills and exercises carried out in 2017

MAR-ICE DRILLS / EXERCISES				
1	7/6/2017	Finland, SYKE	- MAR-ICE Contact Form was used; - Exercise scenario involved leakage from cargo containers; - Products: UN 1133, UN 3467, and UN 2794 ; - Request focused on: potential danger to humans.	MAR-ICE Contact Point provided: - ERICARDs and MSDS within 30 minutes of request, and - Prioritisation of hazards, recommendations for SAR personnel and passengers.
2	14/6/2017	Spain, SASEMAR, MRCC Madrid	- MAR-ICE Contact Form was used; - Exercise scenario involved a spill of 3000 t of IFO 380; - Request focused on: ecological information, physical and chemical properties and drift simulation.	MAR-ICE Contact Point provided: - MSDS; - Spill modelling provided: MOTHY, OILMAP, ADIOS; - Reply was send within one hour.
3	6/9/2017 and 13/9/2017	Norway, Kystverket SCOPE Exercise	- MAR-ICE Contact Form was used; - Scenario: collision of tanker and gas carrier; - Release of UN 1005 (Ammonia).	MAR-ICE Contact Point provided: - MAR-CIS datasheet and ERICARD (within 30 minutes); - Substance trajectory and fate modelling; (CHEMMAP model was run & info about gas drifting/trajectory, mass balance and dissolved and atmospheric concentrations were provided).
4	3/10/2017	SASEMAR, MRCC Madrid	- MAR-ICE Contact Form was used; - Scenario: Grounding of chemical tanker; - 2 tanks damaged - leakage of acetone (UN 1090): 4000 t and phenol (UN 2312): 1700 t - Request focused on: analysis and modelling of released products	MAR-ICE Contact Point provided: - Modelling of acetone and phenol (water column) were provided.

In all exercises, the communication between the requesters and the MAR-ICE Contact Point went well and the requested information was provided well within the established timelines.

5. Conclusions / Highlights

- The outcome of the oil pollution drills, ECTs and exercises carried out during 2017 demonstrated that the service is operationally ready in accordance with EMSA requirements.
- The evaluation of oil pollution drills, ECTs and exercises, either based on assessment by EMSA staff or on the contractors' reports, as well as feedback from the Member States is providing lessons learned with regard to the technical condition of the equipment and performance of the crew/staff. Lessons learned in 2017 allowed determining actions aiming at the improvement of EMSA pollution response services including pollution response capacity improvements, equipment overhauling or replacement, crew/staff performance parameters improvement, as well as the improvements/updates of the service mobilisation procedures.
- "Guidelines on Conducting Drills/ECTs and Exercises for the EMSA Contracted Vessels/EAS arrangements" which is the basic tool setting performance standards will be reviewed in order to enhance and harmonise the practices amongst EMSA contractors.
- Participation of Member States representatives in vessel drills, ECTs and exercises makes them more familiar with the operational capabilities of the Vessel Network and EAS equipment sets. In 2018, EMSA will continue promoting this approach in order to enhance the integration of EMSA's pollution response services in the Member States response mechanisms.
- Mutual feedback between EMSA and the Member States regarding the preparation, execution and results of exercises should be improved in order to strengthen the integration of the Agency's services in the Member States pollution response mechanisms.
- Considering the positive feedback from MS, EMSA will continue in 2018 with the EAS training programme with dedicated training sessions on equipment deployment and operation for equipment operators from the Member States.
- CECIS Marine Pollution (MP) simplifies and facilitates mobilisation of assistance to a Member State affected by a pollution incident. EMSA strongly encourages the use of this system during the notification exercises. In order to improve the system, all deficiencies related to the use of CECIS MP during notification exercises should be reported by EMSA and Member States to the system administrator (DG ECHO).
- The link SSN-CECIS MP established in 2016 to avoid double reporting of POLREP messages (POLWARN and POLINF information) was tested during notification exercises in 2017. Based on the gaps identified and lessons learnt, in 2018 EMSA in cooperation with DG ECHO will develop an e-learning tool regarding the use of SSN and CECIS to assist Member States users during exercises and marine pollution incidents.
- The number of activations of MAR-ICE for drills and exercises has increased over the years. This trend is positive as Member States that have used the service for exercises seem to be more likely to also activate the network for real incidents.

Figure 3 Exercise Middle Adriatic 2017

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