

Mediterranean Oil Industry Group for Oil Response

REPORT OF THE MOIG REGIONAL WORKSHOP

Regional and National Oil Spill Response Capability and Cooperation



Sheraton Hotel, Adana-Ceyhan, Turkey 17-19 November 2015

Local Technical Partners



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Agenda

Tuesday, November 17th

08:15 - 09:15 09:15 - 09:20 09:20 - 09:30	Registration Safety & Security Briefing (Sheraton Security & Safety Manager) Opening Address & Welcome Remarks, Mahmoud Kamour (Chairman, MOIG) & David Cook (Vice President, NRC International)
09:30 - 10:00	Tea & Coffee Break

Session 1: Regional and National Response Capability Building

Chairpersons	Mahmoud Kamour – MOIG
10:00 – 10:30	MOIG Framework and Update on 2015 Activities (Houcine Mejri, MOIG)
10:30 – 11:00	Environmental Safety in Turkey (Osman Yumak, Republic of Turkey Ministry of Transport Maritime Affairs and Communication)

Session 2: Contingency Planning and Legislation & Spill Preparedness

Chairpersons	Yassine Mestiri – ETAP, David Cook – NRC International		
11:00 –11:30	System of Emergency Response in Turkey & Emergency Law and Related Implementation Regulation (Nesibe Obuz, Republic of Turkey Ministry of Environment and Urbanization)		
11:30 –12:00	BIL Emergency Response Preparedness (Yunus Selcuk Arik, Botas International Limited)		
12:00 – 12:30	Legal Framework for the Protection of the Marine Environment from Exploration and Production Activities in the Mediterranean Sea/Case of Tunisia (Hedi Herichi, ETAP)		
13:30 – 13:30	Lunch		

Session 3: Development of Tier 2 Oil Spill Response Centers

Chairpersons	Kerem Kemerli – MEKE Marine, Frands Jensen – DESMI
13:30 –14:00	Development of Tunisia Tier 2 Coordination Centers (Yassine Mestiri, ETAP)
14:00 –14:30	National and Regional Response Centers (Richard Byrnes, IEMS)
14:30 – 15:00	Design, Establishment & Delivery of National & Regional Shared Response Services (David Cook, NRC International)
15:00 – 15:30	Tea & Coffee Break

Session 4: Oil Spill Preparedness, Capability & Integrated Response

Chairpersons	Richard Byrnes – IEMS, Richard Hill – MARKLEEN	
15:30 –16:00	Mediterranean Sea Oil Spill Response and Preparedness & Gap Analysis (Kerem Kemerli, MEKE Marine)	
16:00 –16:30	Regional Spill Response Capability in the Mediterranean Region (Sandro Sammut, AOST)	
16:30 –17:00	Case Study of Integrated Response Efforts between Government & Industry (Demir Aksehirli, NRC Turkey)	
19:00 – 21:00	Dinner	

Wednesday, November 18th

Session 5: Oil Spill Response Services and New Technologies

Chairpersons	Demir Aksehirli – NRC Turkey, Malek Kallel – SEREPT			
08:45 – 09:15	Development in the Mediterranean Region in the Field of Oil Spill Preparedness and Response (Gabino Gonzalez, REMPEC)			
09:15 – 09:30	Preparedness and Capabilities on Libyan Cost Lines (Mahmoud Kamour, NOC)			
09:30 – 10:00	Latest Proven Oil Spill Response Equipment Technology (Frands Jensen, DESMI)			
10: 00– 10:30	New Marine Terminal Port & Harbour Protection System (Javier Perez, MARKLEEN)			
10: 30 – 11:00	Marine Environmental Protection Services (Kerem Kemerli, MEKE Marine)			
11:00 – 11:20	Tea & Coffee Break			

Session 6: National & Regional Emergency Response Exercises

Chairpersons	Gabino Gonzalez - REMPEC, Sandro Sammut - AOST		
11:20 – 11:50	Examples of Emergency Response from the Eastern Mediterranean Region (Dorothea Maragkopoulou, OSRA)		
11:50 – 12:20	Tunisia Tier 2 Exercise (Richard Byrnes, IEMS)		
12:20 – 12:50	Ashtart Major Emergency Exercise (Malek Kallel, SEREPT)		
12:50 – 13:20	OSRL & Global Company with a Strong Regional Focus (Steven Sleep, OSRL)		
13:20 – 13:45	CMT Base Introduction & Tier 2 OSR Exercise (Erol Mordonlu, NRC Turkey)		
13:45	Lunch		

Thursday, November 19th

Session 7: Ceyhan Marine Oil Loading Terminal Visit

Chairpersons	Demir Aksehirli, Capt. Erol Mordonlu – NRC Turkey		
08:00	Departure to Ceyhan Marine Oil Loading Terminal (CMT)		
09:00	Arrival at CMT Oil Spill Response Base		
09:00 - 09:15	HSE Briefing + Tea & Coffee Break		
09:15 – 10:00	Base Visit and Inland Spill Response Demo		
10: 00 – 10:15	Transport to Marine Oil Loading Terminal		
10:15 – 12:15	Marine, Shoreline Oil Spill Response & Widlife Rehab Demonstrations		
12:15 – 12:45	Visit to BIL Incident Control Room Centre & Fire Control Centre		
12:45 – 13:30	Lunch		
13:30 – 13:45	Thanks to Local Partner Botas International Limited		
13:45 – 15:00	Transport to Sheraton Hotel in Adana		

Session 8: Discussions

Chairpersons	Mahmoud Kamour - MOIG, David Cook - NRC International
15:00 – 15:30	Open Floor to Share Ideas and Recommendations
15:00 – 15:50	Closing Remarks
15:50 – 15:55	Thanks to Local Partners NRC Turkey and BTC
15:55 – 16:00	Presentations of New MOIG Members STIR, AOST, MEKE Marine and MARKLEEN
16: 00 – 16:15	Tea & Coffee Break

Welcoming Remarks from the Chair

Distinguished Participants, Ladies and Gentlemen



Mahmoud Kamour MOIG Chairman-NOC Libya

It gives me great pleasure to welcome all of you to the MOIG regional workshop, titled National and Regional Oil Spill Response Capability and Cooperation. Our workshop has been designed to be both with a number

of technical presentations and practical Tier 2 Oil Spill Response Exercise. The significance of Oil Spill Response Capability and Cooperation in our region is well supported by several Regional, National and International organizations including members and technical partners that we have the honor to hear from in this workshop.

This event will focus on sharing expertise from Oil and Gas Companies, Responders, Manufacturers and will host CEOs, Vice-Presidents, Directors, Managers, Captains, Experts and Engineers to debate, interact and network. This workshop will also provide you with more than 20 presentations on 07 keys areas on Oil Spill Preparedness and Response and thus will be a platform in which all participants can have the opportunity to exchange experiences and best practices, develop new contacts, stay abreast of the newest technologies and developments related to Oil Spill Preparedness and Response.

We will have an open floor discussion the third day afternoon, where we shall record key points and recommendations forward, as part of future MOIG efforts.

I would like to thank the organizers and in particular Local Technical Partners Botas International Limited (BIL) and NRC Turkey, without whom this event will be not possible. A special thanks to companies from Turkey, Croatia and UK for their participation and supporting this event. We are also honored to have representatives from the Turkish Government taking part in the workshop. Among those present are attendees from the Department of Ministry of Transport Maritime Affairs and Communications, the Ministry of Environment and Urbanization, Turkish Petroleum (TPAO) and the Adana Municipality.

I would like also to take this opportunity to express my sincere thanks to our honorable Chairpersons and Speakers and if I have missed anyone, please forgive me and be assured that your input is recognized and appreciated by MOIG Members.

Finally, this is an opportune time for me to declare the official opening of the "MOIG Workshop" and I wish all three fruitful days of interesting and beneficial participation and also that you have a pleasant stay in Turkey.

Mahmoud Kamour MOIG Chairman

Welcoming Remarks from the NRC Vice President

Distinguished Participants, Ladies and Gentlemen



David CookVice President-NRC International

Mr Chairman, on behalf of NRC International and our local company – NRC Turkey, thank you for the warm welcome and expression of gratitude which are much appreciated. As stated by the Chairman, NRC would also like to welcome

all to the MOIG workshop and especially to Adana, Turkey. We trust everyone will find the workshop both informative and a friendly environment where they may openly discuss issues and exchange views on the topic of National and Regional Oil Spill Response Capability and Cooperation. As ever with such events, I recommend to engage and share your respective experiences and knowledge so that we may all benefit as much as is possible from the workshop.

The agenda contains seven (7) key areas with defined topics to be presented and discussed by twenty (20) speakers over the next two days. The key areas for discussion are National and Regional Response Capacity Building, Contingency Planning and Legislation, Development of Tier 2 Oil Spill Response Centers, Oil Spill Preparedness, Capability and Integrated Response, Oil Spill Response Services and New Technologies, plus National and Regional Emergency Response Exercises.

The third day will include a visit to the BOTAS International Ltd (BIL) and BTC emergency response facilities at the Ceyhan Marine oil loading Terminal (CMT) and the oil spill base operated by NRC, where attendees will be able to inspect the CMT equipment warehouse, observe a number of static and interactive demonstrations, plus watch BIL and NRC conduct a Tier 2 Oil Spill Response Exercise deploying marine, nearshore and onshore resources. In addition, we will visit the BIL Incident Command and Fire Control Centers. Thank you & welcome.

David Cook NRC Vice-President

Introduction

The Workshop on Regional and National Oil Spill Response Capability and Cooperation was held in Adana/Ceyhan-Turkey from 17 to 19 November 2015. The workshop was organized by the Mediterranean Oil Industry Group (MOIG) in cooperation with Botas International Limited (BIL) and Turkey National Response Corporation (NRC).

Oil and Gas Exploration and Production activities are gradually increasing throughout the Mediterranean Region. In addition, the region has various new Oil Terminals which increases shipping and subsea pipeline activities. It is without any doubt that we all have a vested interest in continuing to recognize the menace of major oil spill in the Mediterranean would cause and all MOIG members have a vested interest as potentially all countries could be affected to some degree.

In line with the MOIG annual technical session, Members from various Mediterranean Countries have expressed an interest to hold a workshop where various members and technical partners came together to openly discuss issues related to oil spill preparedness and response.

The MOIG Workshop was held in Turkey in order to bring together MOIG members, technical partners, National authorities, regional and International oil spill responders, manufacturers, research and development institutions and key personnel from the Oil and Gas sector of Turkey.

The MOIG Chairman recognized that there are various levels of experience and expertise within and available to the MOIG membership and would like this workshop to bring that experience and expertise together so we can all individually as MOIG members and collectively as an industry group benefit through participating in this workshop.

The main objectives of the workshop were to:

- ✓ Enhance communication and expert networking (MOIG Initiative);
- ✓ Recognize regional efforts and identify further actions;
- ✓ Benefit from Manufacturers and Responders technical expertise;
- ✓ Clarify preparedness and response expectations;
- ✓ Establish key recommendations.

Meeting Organization

Speakers

The agenda was prepared by MOIG and NRC Turkey to achieve the objectives outlined above. A total twenty (20) speakers from Turkey Government, Oil and Gas Companies, responders, manufactures and private companies contributed to this event providing specific presentations. The BIO of speakers is reproduced in Appendix 1 of the present report.

Participants

A total of Fifty-Five (55) participants from the Turkish Government, oil companies, responders, manufactures, specialized agencies and associations such as the Ministry of Transport Maritime Affairs and Communication, Ministry of Environment and Urbanization, Turkish Petroleum (TP), Municipality of Adana, REMPEC, ETAP, NOC, SHELL, SEREPT, NRC, BIL, BTC, OSRL, MEKE, IEMS, AOST, OSRA, TANKMED, DESMI, TRAPSA, STIR, MARKLEEN, STAR, ATRAC, NOVAR, MARINPAK, **VIKOMA** and SIGMA ENVIRONMENTAL whose activities are relevant for the objectives of the workshop as well as to the oil industry sector through MOIG participated in the Workshop. The final list of participants is reproduced in Appendix 2 of the present report.



Material

The workshop was divided in Eight (7) sessions: Regional and National Response Capacity Building, Contingency Planning and Legislation, Development of Tier 2 Oil Spill Response Centers, Oil Spill Preparedness, Capability and Integrated Response, Oil Spill Response Services and New Technologies, National and Regional Emergency Response Exercises, and Ceyhan Marine Oil Loading Terminal Visit. The list of documents provided to the participants is reproduced in Appendix 3 of the present report.

Meeting Proceeding

The workshop was held between 17th and 19th November 2015 in the Round Ballroom 2 of the Sheraton Hotel in Adana-Turkey, where most of participants were accommodated.

The workshop photos are reproduced in Appendix 4 of the present report.

The working language of the Meeting was English.

Session 1: Regional and National Response Capacity Building

Mr Houcine Mejri, Director, MOIG–Tunisia, thanked the MOIG members, Technical Partners and Guests for their attendance to the workshop and delivered a communication titled "MOIG Framework & Update on 2015 Activities". He started by introducing the MOIG framework, benefits of MOIG Membership, Members and Technical Partners. He then presented the main activities of 2015 and the provisional programme 2016. He underlined that the 2016 work programme was prepared following to member recommendations and composed of five facets: 3rd Party Audits of ETAP Joint Venture Companies Tier 1 and Tier 2 Coordination, Training, Major Oil Spill Response Exercise, Regional Workshop and Joint activities with REMPEC in the field of the MGICAP.

Captain Osman Yumak, Port State of Mersin, Ministry of Transport Maritime Affairs and Communication-Republic of Turkey, presented a communication on "Environmental Safety in Turkey". He underlined that the Mediterranean Sea has a high oil risk profile and a large scale commercial and passenger shipping increase day by day and one of the risk areas is Turkish Straits in this region. He noted that more than 55.000 vessels passed through the straits carried around 150 million ton dangerous cargo and the existing Turkish Straits Vessel Traffic Services (TSVTS) system has improved significantly the safety and security navigation, also constructing an integrated network capable of providing AIS for vessels navigating in the surrounding waters. He underlined that a new Project is on the way to extend Maritime traffic monitoring system at İzmit-İzmir-Mersin Bays and another Project will be active in 2016. He explained that a multi-tier GIS based disaster management decision support system, which runs on the internet and supported by the GIS desktop applications, is rather important for public life, marine and coastal environment. He emphasized that the establishment of emergency response center and determination of present situation Project (ERC&DPS) was commenced provided that investment was going to be passed after risk assessment and sensitivity mapping. He indicated that the Project of "Determining the current situation of the Turkish seas and establishment of emergency response centers" has been carried out within the terms of collaboration between Maritime Administration and

TUBITAK and completed on 29 Oct 2009. He noted that the regional oil pollution response center were build in Antalya and the construction of the National oil pollution response center is continuing and will be completed in 2016 at Tekirdağ. The Emergency response stockpiles equipment and materials will be start supplied in 2016 and stockpiles will be established in 2018.

Session 2: Contingency Planning and Legislation & Spill Preparedness

Mme Nesibe Obuz, Expert, Ministry of Environment and Urbanization–Republic of Turkey delivered a presentation on "System of Emergency Response in Turkey". She started by explaining the emergency laws and related implementation regulation such as 5312 Numbered law pertaining of emergency response and compensation for damage in pollution of marine environment by oil and other harmful substances and its implementation regulation. She then presented the land based and ship source pollutions, examples of ship accidents happened in Turkey, vessel and coastal facility emergency response plans. She concluded by introducing the Regional and National Emergency Response Plans including response levels Tier 1, Tier 2 and Tier 3.

Mr Hedi Herichi, Central Director of Petroleum Agreement, ETAP-Tunisia delivered a presentation on "Legal Framework for the Protection of the Marine Environment from Exploration and Production Activities in the Mediterranean Sea/Case of Tunisia". He started by explaining that the discussions about Mediterranean Sea protection against pollution caused by the petroleum operations is conducted through the legal responsability of the polluter before techniques and means of combatting of oil spills in the Marine Environment. He underlined that this responsability is rooted in Tunisia in the arsenal of National basic legal texts through the Hydrocarbon code promulgated in 1999 and through the International Conventions (multilaterals, bilaterals or taken in the framework of IMO or that resulting from Barcelone Convention). In addition, he noted that the responsability and the initiative of the Coastal State is depending on the delimitation of its continental shelf in which pollution was caused. Indeed, The Marine Environment protection of the Coastal State is an act of National Souvereignty. He stated that the Tunisian continental shelf is bordered by two conventions (Algeria and Italy) and with Lybia, the demarcation was an act with the judgement of the International court of Justice in 1982. He concluded saying that the protection of the Marine Environment against pollution caused by the petroleum activities is not an efforts of one State over its maritime spaces or its continental shelf but it's the work of multilateral cooperation between states and companies engaged in Oil and Gas exploration and production.

Session 3: Development of Tier 2 Oil Spill Response Centers

Mr Yassine Mestiri, Deputy General Manager, ETAP-Tunisia presented a communication titled "Development of Tunisia Tier 2 Coordination Centers". He started by summarizing the approach adopted by ETAP to establish the Tier 2 Oil Spill Response Coordination Centers in Tunisia in order to protect the coastal and marine environment of Tunisia as well as the Mediterranean sea in case of Major Oil Spill. He underlined that ETAP launched this initiative for the main following reasons:

- ✓ ETAP is the hosting company and one founder of the Mediterranean Oil Industry Group (MOIG), which is a Mediterranean institution of coordination and for prevention and control of marine pollution;
- ✓ Obligation of Tunisia to implement conventions and protocols that it has signed;
- ✓ Lack of main player specialized in this area and leadership in case of oil spill as the Civil Protection Brigade for fire-fighting;
- ✓ Desire of Petroleum Companies, partners of ETAP to set-up a Tier 2 Coordination Centers in Tunisia.

He stated that this approach was inspired from the Egyptian Experience emphasizing that the Egyptian National Oil Company (EGPC) is owning seven Tier 2 Centers including Sherm Elsheikh Center currently operated and managed by the International Environmental Marine and Services (IEMS), MOIG Member. He outlined the visit performed by ETAP delegation to Tier 2 Coordination Center of Sherm Elsheikh in July 2014 was to view closely the operation mode of the Center at all levels in order to duplicate a similar centers in Tunisia. He underlined that the initial approach shows that Tunisia will need 04 centers in four distinct geographic regions from the South to the North to ensure a global protection (Zarzis, Skhira, Zarzis, Kelibia and Bizerte). He then provided an overview on the coordination meeting organized by ETAP and MOIG in 09th March 2015 at TRAPSA Storage Facility with many senior stakeholders from Tunisia such as Garde Nationale Maritime, Marine Nationale, Police Maritime, Ministry of Industry, DGE, ANPE and TRAPSA. He underlined that the main aim of this meeting was to discuss the need or not the creation of Oil Spill Response Center in Skhira Terminal. He expressed his appreciation for the positive outcome of this meeting indicating that all stakeholders unanimously agreed the absolute need to develop the Tunisian Tier 2 coordination management system and response centers. He noted that the next step will be the audit of Oil Spill Response and Preparedness Capacity Tier 1 in Tunisia scheduled to be held during the second half of January 2016. In this regards, he indicated that MOIG has been commissioned by ETAP to engage the International Spill

Accreditation Association (ISAA) to review the existing Tier 1 capacity of 09 key companies nominated by ETAP (SEREPT, TPS, BGT, ENI, MARETAP, PA RESOURCES, TRAPSA, STIR and ECUMED).

Captain Richard Byrnes, Chief Executive Officer, IEMS-Egypt, delivered a communication on "National and Regional Response Centers". He indicated that despite the growing attempt to improve oil spill preparedness there is several areas that need to be addressed. He noted that is unfortunately common place for industry to have one expectation and the governments another, this is clearly evident when we address Tier 2 response coordination between Tier 1 and Tier 3. He underlined that the generalized Tier 2 coordination challenges are: Tier 1 – Equipment Management – Competences and Response Planning, Tier 2 – Oil Spill Management System "OSMS", Mutual Aid and Reliance on External Resources and Tier 3 – National Planning, Expectations and National rights. He emphasizes that IEMS has the experience in the region of building and managing Tier 2 response centers in Egypt and they are part of the National system. He highlighted that the public / private partnership may not address all the challenges, and has in Egypt eradicated several obstacles and set the foundation for the development of additional response centers within the public / private initiative.

Mr David Cook, Vice-President, NRC International-UK, delivered a communication on Design, Establishment & Delivery of National & Regional Shared Response Services. He started by introducing NRC services which include being a global provider of environmental, industrial and emergency solutions and employed approximately 1000 personnel in 15 countries. He provided an overview about the NRC network of Tier 2 Centers in the Mediterranean and Black Sea region, in Turkey, Egypt, Georgia, Kazakhstan, Northen Iraq and several other locations, including alongside alliance partners in Malta and Greece. He underlined that expanding on the philosophy of local service and global strength, NRC has established a robust alliance partner network over the years, building close working relationships of like-minded and complimentary service providers. Hence, the NRC range and scope of alliance partners, provide a larger and more effective global footprint, for the many shared services offered. He provided also an overview of how NRC has developed a shared response services concept in answer to a market requirement, more especially with falling the oil price and resulting challenges. He emphasized that the concept developed by NRC focuses on provision of a wide range of services, resources and expertise, during an incident that will assure the client they have access to whatever is required for a sustained and effective response effort. He presented some examples of the range of shared and sustainable response services including spill response services (Oil & Hazmat), consulting & support services, waste management, decontamination & refurbishment of equipment and vessels and mobile command units, site accommodation, food services, vessel & aircraft chartering, logistics, admin & finance support. He emphasized that major incident response requires more than equipment and people, it requires significant logistical support for a prolonged period of time, along with many other support needs. NRC offers a unique capability by supplying all of these as an experienced single source service provider.

He concluded by giving an overview of examples where this concept has been put into practice, plus two case studies demonstrating the successful delivery of shared services during incidents.

Session 4: Oil Spill Preparedness, Capability & Integrated Response

Mr Kerem Kemerli, General Manager, MEKE Marine—Turkey, presented a communication titled "Mediterranean Sea Oil Spill Preparedness Gap Analysis". He began by emphasizing how oil majors and Countries are identifying their risks and what kind of precautions they are taken in order to mitigate the probable damages to the environment. He underlined that International treaties, National laws, Nationwide risk assessments, local preparedness, regional preparedness, world wide support systems, all above have one goal, that to minimize the effect of a probable spill. He brought to the table the snapshot of Turkey's and Mediterranean Sea's current spill response preparedness scheme. Under the light of some case studies, Mr. Kemerli highlighted the gaps and provides some improvement suggestions for discussions.

Mr Sandro Sammut, Regional Response Manager, OSRA International—Malta delivered a communication on "Oil Spill Regional Emergency Response". He began by discussing the evolution of the oil spill response requirements in the Mediterranean indicating that the last five years have seen a tremendous shift from the sudden realization that environmental response is really important (following the incident in the Gulf of Mexico) to the current scale-down, mainly forced by the drops in the oil price. He underlined that his presentation is about understanding the values of regional response with regards to cost cutting. This be it if it's required by a company across the Mediterranean, or simply in one country but with peace of mind that it can quickly scale up to cover a large incident. He motivated HSEQ managers and other company executives to consider innovative ways to reduce the operational expenditure of contingency planning, without impacting the risk profile of E&P. He emphasized that the ultimate objective of OSRA is to continue to develop a holistic, cost-effective OSR solution which is now, more than ever, needed by

E&P companies and ship-owners in the Mediterranean. He also invited responders and salvors to discussions which can see further expertise being incorporated into this regional solution.

Mr Demir Aksehirli, Country Manager, NRC Turkey presented a communication titled "M/T ATHOS I, Delaware River Oil Spill, November 26, 2004". He underlined that the Athos 1 Spill is a Tier 2/3 level spill with an integrated response between Industry and Government. He explained that the spill involved a ship with a hull breach from Government owned abandoned anchor which caused the breach in the hull of the Athos I crude carrier while the ship was transit through the Delaware River. He emphasized that the spill response involved over 200 people working in the command post and field personnel. He noted that the case described how the response grew and decon phase, wildlife, effects on the economical, historical and environmental sites.

Session 5: Oil Spill Services and New Technologies

Mr Gabino Gonzalez, Head of Office, REMPEC-Malta presented a communication titled "Developments in the Mediterranean Region in the field of Oil Spill Preparedness and Response". He indicated that with a view to facilitate the implementation of the Protocol concerning Co-operation in Preventing Pollution from Ships and, in cases of Emergency, Combating Pollution of the Mediterranean Sea, the draft Regional Strategy for Prevention and Response to Marine Pollution from Ships (2016-2021) containing twenty-two objectives to be achieved by 2021, has been drafted and is being submitted for adoption early 2016. He noted that in line with this Regional Strategy, a challenging programme of work for 2016-2017 has been prepared and should pave the way to a stronger cooperation in the field of Oil Spill Preparedness and Response in the Mediterranean Region. He emphasized that the theme "Cooperation in the Mediterranean to prevent and combat marine pollution" will guide the celebration of the 40th Anniversary of REMPEC, all along 2017, and will involve International, European and Regional Stakeholders, including the private sector. In this context, he underlined that the cooperation between the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC) and the Mediterranean Oil Industry Group (MOIG) will be of paramount importance and should contribute to the implementation of the Mediterranean Government Industry Cooperation Action Plan "MGICAP". He noted that the presentation of REMPEC at the "National and Regional Oil Spill Response Capability and Cooperation" will underlined the above and other developments, as well as open discussion on potential joint activities in 2016 and 2017.

Mr Frands Pilegaard Jensen, Vice President, DESMI Ro-Clean—Denmark, delivered a presentation on "Latest Proven Oil Spill Response Equipment Technology". He started by explaining the Speed Sweep Idea and its working principle. He then introduced the characteristics of the Ro-Boom Speed Sweep indicating that this type of Ro-Boom was developed for the Norwegian NOFO and Framo. He outlined various kinds Booms (Speed Sweep offshore Ranges, Ro-Kite, Oil Containment Boom) and Skimmers (Ro-Skim, Octopus in Line-Skimmer, Superb Giant Octopus). In addition, he presented the Aerostat and its required technical data.

Mr Javier Perez, Sales Manager, MARKLEEN-UK, presented a communication titled "New Marine Terminal Port & Harbour Protection System". He underlined that an oil spill seldom occurs when everyone is prepared, it can occur in bad weather, in the middle of the night, when nobody expects it. He explained that a robot could deploy the oil boom without any delay or the boom could be deployed in a few minutes by just pressing a button the effects of the spill would be reduced. He noted that the technology is already here: The UNIBOOM® ASV and UNIBOOM® Usubmersible oil boom are autonomous systems which deploy the oil boom around the spill and seal off the area. He emphasized that the new ASV automatic boom launcher deploys your oil boom when nobody is there! Completely unmanned and utilising DGPS-signals and a proprietary homing-in system, the ASV deploys the oil boom in any configuration and finds its docking station with awesome precision! It can pull more than 1000 meters of boom. It is available in Zone 2 and Zone 1 versions for explosive atmospheres. In the other hand, he explained that the Uniboom® U submersible booms can be deployed from their standby position on the sea bed at just the push of a button, thereby sealing off the dock or offloading terminal to be protected. He indicated that ExxonMobil has installed 1300 m of boom incorporating this technology to protect one of its terminals in Norway. He concluded saying that the Uniboom® U and ASV systems are the fastest and most modern means of tackling an emergency without the use of personnel.

Mr Kerem Kemerli, General Manager, MEKE Marine—Turkey, presented a communication titled "Marine Environmental Protection Services". He provided an overview on MEKE Group indicating that is the first professional Oil Spill Response and Environmental Services Company in Turkey, presented with milestones and real life experiences since 1980's by its founder, Mr. Mehmet Kemerli, ex-Shell downstream regional manager. He delivered a short presentation of how an environmental dream became a reality and helped people figure out the risks, and shape up the Turkish spill response system.

Session 6: National & Regional Emergency Response Exercises

Ms Dorathea Maragkopoulou, Administration Manager—OSRA Greece, delivered a presentation on "Emergency Response & Cases in the Eastern Mediterranean". She brought to life the lesson learnt that salvors and oil spill response operators must work together, and that close collaboration is an optimal formula for protection of the marine environment and lowering claim costs related to pollution at sea. She presented then four examples from the Easter Mediterranean and discussed how in each, the salvor and the oil spill response team worked together as one team. The examples brought to life each incident and lessons learnt were shared. Ms Dora made recommendations for the future of closer collaboration which hopefully can see further improvements in working practices. She underlined that the aims are firstly to prevent pollutants from even entering the water, and secondly to contain possible spills since their spread is severely damaging to ecologically and/or economically sensitive areas.

Captain Richard Byrnes, Chief Executive Officer, IEMS-Egypt, presented a communication titled "Tier 2 Oil Spill Response Exercise-Tunisia". He underlined that the Tier 2 Exercise held in 27th May 2015 in Zarzis Terminal in Tunisia was the first time an exercise sponsored by the MOIG and supported by ETAP, offered an opportunity to evaluate a Tier 2 response to a Terminal emergency triggered by an oil spill event to define the Tier 2 scenario of the exercise. He emphasized the fact that the participating companies conducted this exercise must be seen as highly positive for the industry operating in Tunisia and MOIG sponsorship and high level support from ETAP for this exercise clearly illustrated a major benefit of MOIG membership. He explained that the review of the lessons learned from the exercise, gathering of all relevant participants and stakeholders was held on 28th May 2015 in Zarzis City on the periphery of the MOIG Conference. The meeting focused on challenges in preparedness and response, with emphasis on coordination and cooperation in response to an oil spill emergency. He underlined that lessons learned, as well as recommended best practices have been submitted to participants.

He concluded saying that the exercise conduct identified areas of the Emergency Preparedness and Response Systems that need further improvements such as Tier 1 and 2 Resources, regular engagement and active involvement of Industry, Tunisian National Oil Spill Contingency Plan, Local Contingency Plans and addressing Remote Locations.

Mr Malek Kallel, HSSE Lead Engineer, SEREPT-Tunisia, delivered a presentation on "Ashtart Major Emergency Exercise". He began by emphasizing that the uncontrolled disconnection and drifting of the FSO IFRII had a potential to result in a number of simultaneous major accident events such as the loss of life on both Ifriquia II (IFR II) and Central Facilities Platforms (CPF), Oil Spill from 03 sources (Subsea pipeline, IFR II or CPF in the event of collision), loss of assets CPF and IFR II and there is also a significant business interruption and reputational risk to all the Ashtart partners. He noted that in the current situation with a seriously degraded PC1 buoy bearing, the risk of failure and uncontrolled IFR II disconnection is relatively high, more so in adverse weather conditions. He mentioned that a bearing failure (lock) could occur instantaneously or there could be an indication of imminent failure - this cannot be accurately predicted. He highlighted that both CPF and IFR II Offshore Emergency Response Teams and the SEREPT onshore Crisis Management Team know how to respond to such a situation. He underlined that the emergency exercise held on 2nd July 2015 made it possible to test the response of the SEREPT organization in the onshore and offshore to such a situation. He underlined that Emergency Offshore teams (except small improvement areas) are well trained and show professionalism when managing the incident, the onshore organization within the crisis management team need improvement to reach International best practices. He concluded by expressing that an improvement program is proposed covering the Emergency & Crisis documentation, Command Center Room, Organization, and Training.

Mr Mahmoud Kamour, Senior Advisor, NOC-Libya presented a communication titled "NOC-Libya Oil Spill Preparedness and Capability in the Region". He explained that the National Oil Corporation of Libya is the mother company and was more than forty companies of National and Joint venture companies in addition to International companies working under the Exploration Production Agreement. He underlined that all of these offshore and on shore companies works under the umbrella of NOC, with nine terminal along the Libyan coast in addition to a number of Production platforms, all these facilities need a special care regarding the Oil Spill Capability. He noted that NOC initiates a special committee to take care of Oil Spill project in the oil sector, a lot of work, communications and scope of works had been done in this regard to reach the suitable way of protection but due the instability in the country the whole project is on hold and still waiting the right time to start this very important project again to protect the Libyan and the Mediterranean sea region from any expected oil spills.

Mr Steven Sleep, Regional Preparedness Advisor, OSRL-UK, presented a communication on "Oil Spill Response Limited & A Global Company with a Strong Regional Focus". He stated that his presentation was designed to give an overriding view of how a Tier 3 organisation may be mobilised during a response in the Mediterranean Region, and how/what could be expected of OSRL should this occur. He inderlined that the vast majority of MOIG members have a membership or involvement with OSRL and it was important for them to understand, the equipment and personnel that is is available to them, and give insight into issues that may arise in terms of customs/imigration etc. He expained that many organisations already have pre existing Tier 1 and Tier 2 stockpiles/personnel but it is important to show an understanding of how if an incident developed past any existing Tier 2 capabilities, how OSRL would come in and work with existing contractors to assist in the clean up. He emphasized that the presentation was also designed to highlight the changes in industry post the Macondo incident and how OSRL has had to develop and evolve in order to keep up with these changes. He gave also an information into recent developments made by OSRL such as the 727 and SWIS capping stacks. The key focus areas presented by Steve are remind members of the mobilisation procedures for a response, ensure understanding on the activation procedures and inform members of current and any new services.

Captain Erol Mordonlu, Regional Operation Manager, NRC-Turkey, delivered a presentation on "CMT Base Introduction & Tier 2 Oil Spill Exercise". He started by providing an overview on the NRC Bases located along the pipelines and CMT Base Response Staff Information. He then introduced the CMT Base OSR Capability such as Trained Staff, River, Ocean and Sorbents Booms, Skimmers and Pumps, Temporary Storage Tanks, Response Vehicles, Response Vessels and Boats. He presented also the scenario of the Tier 2 Oil Spill Response Exercise consisting of a simulated collision between a crude oil tanker and a bulk carrier vessel. He explained in details the NRC Response Deployment Plan as well as the exercise Steps such as Offshore Response, Containment Site, Shoreline Protection, Shoreline Clean Up, Waste management and Wilde Life Response.

Session 7: Ceyhan Marine Oil Loading Terminal Visit

The third day, 19 November, was dedicated to a visit to NRC Turkey, Botas International Limited and BTC bases at Ceyhan Marine Oil Loading Terminal facilitated by Captain Erol Mordonlu and Mr Demir Aksehirli from NRC–Turkey. A Hse briefing has been carried out upon arrival to NRC base explaining to attendees the Safety instructions

and the HSE Rules about the exercise. Attendees were afforded a tour of the CMT Warehouse and the opportunity to observe a number of static and interactive demonstrations highlighting the deployment and management of oil spill resources.

The Exercise was developed simulating a collision between a crude oil tanker and a bulk carrier vessel. During the departure from the CMT offshore cargo Jetty, the tanker collides with a bulk carrier cargo vessel. The cargo tank was damaged by the impact, the crude oil spilled is quickly moving from the tanker due to currents and winds towards the Ceyhan Marine Terminal. The initial report estimated the spill volume in150 m³. Having all the information related to the oil spill as consequence of the collision between the two vessels, the NRC OSR activities were developed as follow:

- 1. NRC OSR Manager was contacted by the BIL Emergency Response Coordinator (ERC) (simulated) with an update on the incident;
- 2. Call out was completed and personnel mobilized to the base;
- 3. CMT Base and OSR Operation Manager gave a briefing (toolbox) and tasks a team under one of his supervisors to prepare and load out the required package, as identified in the contingency plan and containment site manual;
- 4. Advance party (Base and OSR Operation Manager (OSC), HSE Supervisor and 2 x responders) departed from base to CMT jetty. On arrival they made an assessment and determine if deployment is possible and if modification is required;
- 5. Upon arrival at the jetty, the team made a quick toolbox and assessment, and then four separated teams are tasked. First team took care ashore, the second team took care offshore, third team was the shoreline clean-up and the fourth team took care of wildlife response;
- 6. OSR Vessels M.Sweeper and Dogukan departed from jetty to the spill area and started a recovery operation;
- 7. Shoreline clean up team started operation, using booms to contain the oil preventing it to move towards other areas, to recover the moving or floating oil, specialized equipment (skimmer) was used, also, by hand using shovels and buckets;
- 8. Waste generated during the recovery and shoreline clean-up operations was managed under the BIL Waste Management Plan and a wild life response team started capturing the oiled animals for cleaning, treatment and transport to the veterinarian facilities.

In addition, attendees visited the BTC Control Room and BIL CMT Fire & Rescue Services. At the end of the visit, the MOIG Chairman presented a Certificate of Appreciation to HSE Manager of Botas International Limited for its contribution and support of the MOIG Regional Workshop.

Meeting Conclusions

At the conclusion of the meeting we had in Adana-Turkey over 17-19 November 2015, participants were invited to exchange views, share ideas, strategies and recommendations about the seven sessions debated during the Workshop.

The MOIG Chairman, Mr Mahmoud Kamour, concluded the workshop thanking the co-organizers, chairpersons, speakers, members, technical partners and guests. He then presented Certificates of Appreciation to NRC Turkey and BTC for their contribution and support of the MOIG Regional Workshop as well as Certificates of Membership to former and new members joining the MOIG in 2015: STIR, MEKE MARINE, AOST GROUP and MARKLEEN.

The workshop was closed at 16:15 pm on Thursday, 19th November 2015.

Workshop Key Actions and Recommendations			
Ref No	Actions/Recommendations	Action Party	Action Date/Period
1	MOIG and REMPEC will discuss the joint activities related to implementation of the MGICAP throughout 2016–2017.	MOIG-REMPEC	2016–2017
2	MOIG has been delegated by ETAP to provide 3 rd Party Auditor for 09 nominated companies in Tunisia in order to review the existing Oil Spill Response and Preparedness Capacity Tier 1 and Tier 2.	ETAP-MOIG-International organization	Q ₁ –2016
3	MOIG will solicit members and encourage them to notify MOIG of Major Oil Spill Response Exercise and where practical include Government. MOIG will provide lessons learned and direct support to member who shall host.	MOIG Management Committee–Members	Q ₂ –2016
4	Oil Spill Training in the Region to be identified by MOIG and promulgated to members.	MOIG Management Committee	Q ₂ –2016
5	MOIG will work with nominated member to prepare a Regional Workshop built on previous Workshops.	MOIG Management Committee–Members	Q ₄ –2016

Appendix 1: BIO of Speakers



Houcine Mejri
Director - MOIG

Houcine is the MOIG Director since September 2013. He has a master Degree in Environment from Science Faculty of Tunis-Tunisia. He started his professional Career in 1995 in ETAP Laboratories as a chemical Engineer in fluid analysis.

In 1997, he participated in the creation of environment laboratory and was appointed in 2003 as a head of this laboratory. From 2000 to 2011, he was involved in several multidisciplinary projects as a member and leader of projects such as water and soil treatment, hydrodynamism, formation damage, water flooding, Tunisian water classification and other projects. In 2011, he moved to Central Direction Production as a head of Health, Safety and Environment Department charged of the HSE dossiers of ETAP and Partners.



Osman Yumak

Port State of Mersin-Ministry of Transport Maritime Affairs and Communication

Captain Osman graduated in Istanbul Technical University Maritime Faculty in 2001. He has also a master degree in logistic and supply chain management. He worked in private sector during 10 years as officer, master, superintendent, DPA

and CSO. In 2011, he joined the Maritime Administration and by then still working as a port state at Harbour Master of Mersin.



Nesibe Obuz

Expert - Ministry of Environment and Urbanization

Nesibe was born in 1983 in Gaziantep in Turkey. She has 32 years old and is married. She has completed its primary, secondary education and high school in Gaziantep. She has completed her undergraduate and high undergraduate

program in Dicle University. She is currently working at the Ministry of Environment and Urbanization in Ankara as an assistant expert since 2013.



Hedi Herichi

Central Director of Petroleum Agreement - ETAP

Hedi joined ETAP in 1993 and was affected to General Direction of Energy in charge of legal affairs. Between 1996-1999, he contributed in the formulation of the hydrocarbons code and the corresponding legislation texts. From 1999 to

2003, he was a member of National Commission for the law of the sea. In 2004, he was nominated Director of legal affairs in the General Direction of Energy, then a chief of the cabinet of Ministry of youth and sports in 2009. He is currently the ETAP Central Director of Petroleum Agreement.



Yassine Mestiri

Deputy General Manager - ETAP

Yassine is a Mechanical Engineer with a Master degree in Energy. He had been in ETAP, the Tunisian National Oil & Gas Company since 1985. Since that, he was directly involved in most of ETAP's development projects. He was assigned

as base Manager of Sidi El Kilani field during 5 years; after being reintegrated to the mother company as Projects Manager. He was the Central Production Manager for 02 years, from 2013 to 2015 dealing with ETAP's projects, fields operations, operating and International opportunities. In August 2015, he was nominated a Deputy General Manager of ETAP.



Richard Byrnes

Chief Executive Officer - IEMS

Certified United Kingdom Master (STCW) with command experience on a vessels with varied service applications from modern, drilling ships through to the conventional vessel types. Shore side management positions, directly involved in

the Conoco safety case for the UKCS southern gas fields along with Shells international tripod system. His experience with Oil pollution spans 20 years, He has managed several major incidents, conducted training in various countries, assisted in the development of Oil Spill Management Systems, latterly founding IEMS. He is fully conversant with International legislation and has consulted a verity of companies on compliance with the relevant legislation.



David Cook

Vice President - NRC International

David is the Vice President Technical Services NRC International. He has more than 30 years of emergency response experience, mainly related to Oil & Chemical Incidents in numerous locations worldwide, working mostly with

multinational workforces often in remote and challenging locations. He began working in emergency response for the regulatory authority, in the United Kingdom, before being employed by a National Oil Company in the Middle East, where he was tasked with creating and managing an oil spill response organization serving offshore E&P, plus export needs, then as the emergency response manager for the newly established company owned tanker fleet. Following his time working in the Middle East, he worked for private and publically owned companies, engaged in the design, development, set-up, management and operation of response centers, many being Tier 2 capacity, in Brazil, Nigeria, the United Kingdom, Azerbaijan, Republic of Georgia, Turkey, Kazakhstan Middle East, Egypt, Northern Iraq and the Middle East. During this career in emergency response, he has responded to and or managed numerous incidents of different scale and complexity. These events have included offshore flow line ruptures in the Arabian Gulf, sabotage of oil wells in the Middle East, tank ship grounding, collision and sinking of oil and product carriers in the USA, Europe and the Middle East, pipeline spills in swamp & delta areas of Africa, pipeline rupture in Siberia, explosion and total loss of offshore platform in S. America, pipeline ruptures in proximity to housing communities, plus numerous incidents in remote, challenging and environmentally sensitive areas, in S. America, Europe, the FSU and Africa.



Kerem Kemerli

General Manager – MEKE Marine

After studying Civil Engineering, Kerem obtained both an MBA and a Masters in Construction Physics and Materials. He is the CEO of MEKE Group, founded in 1984, which is the leading Regional Response and Engineering company on the

Oil and HNS Spills and the Regional Response and Engineering Company on the Oil and HNS Spills and the founder of MEKE Academy and also Hydra, the first HNS response company in Turkey. He's the executive committee member of International Spill Control Association (www.spillcontrol.org), also a GA member of the Turkish Marine Research Foundation (www.tudav.org). He was the first elected Chairman of the European Spill Response Organization, EUROSPILL and held this position between 2009-2012.

Kerem fluently speaks Turkish, French and English.



Sandro Sammut

Regional Response Manager – OSRA International

Sandro is the mind behind the logistics of the AOST Group, including the setting up of the OSRA Tier 2 bases in Malta, Greece and Tunisia. Since 2005 he is a fully OPRC certified on scene commander and has managed a number of oil spill

response operations which were entrusted to the abovementioned Tier 2 centres, as well as in Libya. Sandro is also a seasoned OPRC trainer and has delivered courses in Malta, Greece, Tunisia and Italy. He has participated in contingency planning for Oil and Gas companies and also two National preparedness projects in the Mediterranean. Sandro joined the AOST group in 1997. He headed large logistics projects such as the movement of 140,000 tons of pipeline intended for Green stream as well as the construction and movement of concrete mattresses intended for the Bouri field. Earlier, he headed the formation of the group's door-to-door logistics division: Pony Express.



Demir Aksehirli

Country Manager - NRC Turkey

Demir is the Country Manager of NRC Turkey. He has more than 20 years of emergency response experience, mainly related to oil incidents that include Tier 3 and 2 in numerous locations within the different ports throughout the United States

and throughout Turkey. He began working in emergency response for NRC in the USA as the Northeast Regional Manager before being transferred to NRC Turkey for the management of the 4 Tier 2 Response Centers for the BIL and BTC pipeline in Turkey. He's a graduate of Industrial Engineering from the New York Institute of Technology and is married with two wonderful sons.



Dorathea Maragkopoulou

Administration Manager - OSRA Greece

Dorethea is the Quality and Administration Manager of OSRA Greece. She has obtained a Bsc in Economic from the Athens University of Economics and Business Administration in Greece. She has also a Master Degree in Environment

and Sustainable Development from the University of Glasgow. She has attended various Salvage and Anti-Pollution Operations and helped the on Scene Commander in the preparedness of operational documents.



Gabino Gonzalez

Head of Office - REMPEC

Gabino who joined REMPEC in June 2006 as Programme Officer (OPRC), assumed the duties of Head of Office of REMPEC as from 01 February 2015. He holds a Master's Degree in Material Engineering from the European School of

Materials Science and Engineering, Nancy-France. After two years as IMO Consultant for the RAC/REMPEITC-Carib in Curacao, Netherlands Antilles, where he implemented the Centre's technical co-operation programme for the Wider Caribbean Countries. He joined the Operations Department of Oil Spill Response Limited, before taking the role of Project Manager of the IMO/IPIECA Global Initiative Project for the Western and Central Africa (WACAF) region.



Frands Pilegaard Jensen

Vice President – DESMI Ro-Clean

Frands has 24 years' DESMI experience in oil spill response business. He is Specialist in oil spill equipment response and wide equipment design experience from tests and actual hands on experience in a large number of worldwide oil

Spills. His very high quality demand together with his technical background as graduated Marine Engineer, Diesel/Hydraulic Technician in the Industry together with year's worldwide tanker vessel experience, Chief Engineer position in major Tug & Salvage company together with 24 years sales experience worldwide, 19 years as Vice President, keeps him in the lead of the business, always ready to secure the optimal equipment solution in close cooperation with DESMI's many clients.



Javier Perez

Sales Manager – MARKLEEN

Javier has a background of Exploration Geologist. He worked for several years offshore projects all around the world. He joined MARKLEEN 15 years ago where he's working as a Regional Sales Manager with focus on Offshore and Special

Technology Projects. In his presentation, Javier introduced the latest developments in Marine Protection Systems.



Malek Kallel

HSSE Lead Engineer – SEREPT

Malek is a Health Safety Security and Environment Lead Engineer within SEREPT. He is SEREPT Emergency and Crisis Team member. He participated actively in the updating and the development of Emergency Response Plans and

specially the Offshore Oil Spill Contingency Plan. He assisted the operational teams Offshore and Onshore to the emergency preparedness by coaching and organizing drills and exercises. He was nominated as Environment Technical Authority within SEREPT and is also the SEREPT Representative in the MOIG Management Committee.



Mahmoud Kamour

Senior Advisor - NOC

Mahmoud graduated in 1977 from Tripoli University Bsc in Petroleum Engineering. He has a Msc degree in Environment and Safety Engineering obtained in 1983 from University of Wisconsen in USA. He joined the Occidental

Oil Company in 1978 and was transfered to National Oil Corporation in 2004 as an Environmental Ddepartment Manager. From 1989 to 2000, he was elected as General Secretary of the Arab Federation of Oil, Chemical and Mining. During this time, he was an observer in the International Labor Organization and observer member in the International Federation of the Arab Workers. From 2006 to 2009, he was member of Climate Change Committee. In 2008, he was the Chairman of preparation Committee of the First International Environmental Petroleum Conference in Lybia. He is currently working as Senior Advisor in NOC.



Steven Sleep

Regional Preparedness Advisor - OSRL UK

Prior to joining OSRL, Steve gained a 2.1 Bsc (hons) in Applied Geography after which he worked as a Highways Engineer for the County Council where he was selected as a Beach Master. He joined the Operations Department of OSRL 7

years ago. He gained valuable experience on a variety of oil spill incidents globally, including Montara (Australia) and most notably Macondo where he performed a variety of roles over a 4 months period. Towards the end of the response, he was then seconded to BP in order to help build their response capability for operations in Angola and in particular In —Situ Burning.

After the BP secondment, he moved to the Training Department, where he worked for two and a half years delivering a variety of courses globally.

Steve was then selected to represent OSRL on another secondment working for Chevron Australia for a period of 16 months as an Oil Spill Advisor/Trainer. He has now returned to the UK and taken on the role of Regional Preparedness Advisor for North Africa and Caspian region.



Erol Mordonlu

Regional Operation Manager – NRC Turkey

Captain Erol is a graduate of Marine Sciences from Black Sea Technical University Karadeniz Tecnic University. He also has a Master degree in Marine Sciences. He began working for mercant ships in 1996 as an officer and chief

Officer then to Master. He is currently the NRC CMT Base and Regional Operation Manager. He has more than 10 years of Emergency Response Experience, mainly related to marine oil incidents that include Tier 3 and 2 in numerous locations in Turkey and on vessels.

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Appendix 3: List of Documents

- 1. Workshop Agenda
- 2. MOIG Flyer
- 3. Support document in English Version of the presentation on Legal Framework for the Protection of the Marine Environment from Exploration and Production Activities in the Mediterranean Sea/Case of Tunisia (Hedi Herichi, ETAP)
- 4. MOIG & NRC Turkey CMT Base Programme

Appendix 4: Workshop Photos











































































































