EXERCISE *SYREX 2003*

Syrian National Oil Spill Response Exercise

LIFE TCY99/INT/017/SYR

2 - 3 December 2003

REPORT

The *O'BRIEN'S* Group

The Old Cider Mill North Wootton, Shepton Mallet Somerset BA4 4HA
Tel +44 (0) 1749 899131 Fax +44 (0)1749 899267
Website: www.theobriensgroup.com

DISTRIBUTION

REMPEC	3
Ministry of Foreign Affairs	2
Ministry of Local Administration and Environment,	6
Director General of Ports	5
Harbourmaster Tartous	2
Harbourmaster Banias	2
Harbourmaster Lattakia	2
Ministry of Oil and Natural Resources	2
Director Banias Terminal	2
Director Tartous Terminal	2
Governorate of Lattakia	2
Governorate of Tartous	2
Municipality of Lattakia	2
Municipality of Banias	2
Municipality of Tartous	2
Directorate of Civil Aviation	1
Ministry of Defence	2
Ministry of the Interior	2
Ministry in Charge of Customs	2
Ministry of Tourism	2
Ministry of Agriculture	2
Ministry of Transport	2
The O'Briens Group	4
Total	**55**

CONTENTS Page

ABBREVIATIONS

Endex	End of Exercise Notice
H&S	Health and Safety
HF	High Frequency (Radio)
IMDG	International Maritime Dangerous Goods Code
ITOPF	International Tanker Owners Pollution Federation
NOTAM	Notice to Airmen
OPRC	International Convention on Oil Pollution Preparedness, Response and Co-operation 1990
OSRL	Oil Spill Response Limited
P&I Club	Protection and Indemnity Insurers (Vessels)
POLREP	Pollution Report
PR	Public Relations
SAR	Search and Rescue
SAREX	Search and Rescue Exercise
SCOT	Syrian Company for Oil Transportation
TDA	Temporary Danger Area
TEZ	Temporary Exclusion Zone
UTC	Universal Time Constant (Greenwich Mean Time)
VHF	Very High Frequency (Radio)
VTS	Vessel Traffic Services

SYRIAN NATIONAL EXERCISE

EXERCISE *SYREX 2000 2nd – 3rd December 2003*

Post Exercise Report

The O'Briens Group
The Old Cider Mill, North Wootton, Shepton Mallet, Somerset BA4 4HA

1 Introduction

SYREX 2003, a Syrian national oil pollution exercise, was designed to train the Syrian authorities to respond to a major oil spill. It was held in Syrian waters between the 2nd and 3rd December 2003. The principal participants were the Ministry of Local Administration and the Environment, the Director General Ports, the Coastal Governorates of Lattakia and Tartous, the Harbourmasters of Lattakia, Banias and Tartous and the oil terminal at Banias.

2 Aim

The aim of the exercise was to exercise the multi agency integration required by the new National Plan to bring a major maritime Counter Pollution incident to a successful conclusion.

SYREX 2003 was a large National Counter Pollution Exercise, which involved both the management of a simulated spill and also the deployment of response equipment including equipment from other Contracting Parties to the Emergency Protocol of the Barcelona Convention. It was the first to be held since the publication of the revised NCP and was the final activity of the EU funded project LIFE TCY99/INT/017/SYR.

As such it was an extremely important exercise, which was designed to exercise the co-ordination of a major oil spill incident in Syrian waters and the inter-relationships between the authorities involved.

A principal aim of this exercise was to consolidate the work undertaken under the LIFE TCY99/INT/017/SYR programme, utilising the revised National Contingency Plan and the Area Plans as well as the building on the training given in oil spill response and crisis management.

3 Exercise Objectives

3.1 Overall Exercise Objectives

- To exercise, test, review and improve the new National Contingency Plan
- To train the participants in the response to a major oil spill incident at sea, as similar as possible to a real incident.
- To develop the relationships between the appropriate maritime, military and Governorate authorities in the response to the emergency in an area which has more than one civilian Governorate and Harbourmaster

3.2 Further Objectives

- Analyse the initial incident report.
- Carry out the appropriate national and international notifications.
- Set up the national response team.
- Decide on response strategies based on modelling and sensitivity information.
- Establish and develop inter-ministry, agency and industry relationships.
- Establish effective working relationships with ship and cargo owners, insurers and surveyors.
- Establish working relationships with REMPEC and the Parties to the Emergency Protocol of the Barcelona Convention.
- Implement and test the National Plan Tier 3 command structure, and procedures for the mobilisation, command and control of personnel and equipment
- Identify possible deficiencies in the organisational structure.
- Test the capability of the participants to work together under stress
- Improve the level of coordination between the relevant national authorities
- Provide the media with appropriate information concerning the incident, the developments and the response activities

4 Exercise Participants

The following authorities, organisations and companies participated in the exercise: -

Ministry of Foreign Affairs
Ministry of Local Administration and Environment,
Director General of Ports
Harbourmaster Tartous
Harbourmaster Banias
Ministry of Oil and Natural Resources
Director Banias Terminal
Governorate of Lattakia
Governorate of Tartous
Municipality of Lattakia
Municipality of Banias
Directorate of Civil Aviation
Ministry of Defence
Ministry Of the Interior
Ministry in charge of Customs
Ministry of Tourism
Ministry of Agriculture
Ministry of Transport
Cyprus Department of Fisheries and Marine Research, Ministry of Agriculture, Natural Resources and Environment
EDT Towage and Salvage Company
REMPEC
O'Briens Group

5 Outline of Events

5.1 Basic Scenario

At 0800 0n 2nd December, the oil tanker Eastchester loaded with Syrian light crude oil reported she had been in collision with the Cypriot Tug M/V Ares in position 34° 58.5 N, 35° 45E, approximately six nautical miles north west of Tartous Harbour. She reported that she had been hit on the port side, aft of the manifold and was losing oil. One seaman had suffered a broken arm as a result of the collision and assistance was requested to take this man to hospital.

Subsequently the vessel reported that the collision occurred in the way of No 3 and 4 port cargo tanks and that she had suffered a large loss of oil. The Cypriot Tug M/V Ares was not badly damaged and left the scene for Cyprus

At 0845 she reported that the ship had lost around 3000 tonnes of Syrian Light Crude Oil. The collision occurred on the bulkhead between no 3 and 4 port tanks. She was transferring cargo from these tanks and the outflow had stopped.

She was in touch with her owners and was looking at stability and hull stress. Owners were arranging for a lightering ship to take off the remaining cargo following which it was their intention to sail to Piraeus for repairs. Yokohama fenders were requested for the lightering operation.

Subsequently the spilled oil moved in a north north-easterly direction towards Banias and the first oil came ashore at Ras al Karab at 1645. Overnight with a wind change and the general northerly current, oil moved northwards along the coast impacting shorelines north from Banias and by daybreak had reached Ras Baldat al Malik. (See Fig 1.)

During the course of the morning of the 3rd December oil came ashore at Arab Mulk and was forecast to reach Lattakia later that day.

5.2 Oil Spill Response Operations

Initial response planning had concluded that dispersants should not be used. This left mechanical containment and recovery as the only option. However the initial plan was to use the very limited amount of oil boom to protect the Banias power station water intakes. Later this was changed to use the boom for recovery at sea as the intakes were not immediately threatened and then to move the boom to the power station later.

Assistance was requested from REMPEC to seek support under the emergency protocol of the Barcelona convention and in due course this was forthcoming from Greece.

On the 3rd December, with oil already ashore along a 10 mile stretch of coastline, shoreline cleanup operations were mounted, initially with small numbers of personnel, but plans were in place for a major mobilisation on the 4th.

5.3 Practical training

Simulated cleanup operations took place offshore from the Cypriot vessel *Flying Enterprise* from which booms and skimmers were deployed. 20 terminal staff were trained on board in booming techniques. Following this the boom from the terminal oilspill response vessel was deployed for the first time.

6 Overall Performance Summary

The main purpose of the exercise was to validate and improve where necessary the new plans and procedures, to develop relationships and understandings with the other organisations and agencies involved, to train staff and to demonstrate, as far as simulation allows, some of the problems that may be experienced in a spill.

This opportunity does not arise very often, due to work and cost pressures. Therefore it was most unfortunate that, for many reasons, the planning required for the implementation of the new National Contingency Plan and Area Plans had not been carried out. Furthermore it was also apparent that very little exercise planning had occurred except that initiated by the Exercise Directing Staff.

Indeed personnel were not allocated to their positions in the command structure until 1st December. This together with the lack of plans meant that no-one knew what were their roles and responsibilities. Unsurprisingly therefore, at the outset of the exercise, there was an almost complete lack of readiness to deal with a major incident and almost no knowledge of the actions required by the Unified Command. This is an unacceptable level of preparedness for a national response organisation.

What was perfectly normal was that the majority of people had not previously been involved in any kind of oil spill or exercise and many had not previously worked together. As a result, even if all plans had been present, it would have been unrealistic to expect everything to run completely smoothly from the outset.

To cope with the initial period of an incident, during which the teams are becoming established, the general principles of emergency response must be well understood. Furthermore, contingency plans and procedures must have been agreed by all the participating authorities, and be sufficiently detailed and robust to enable the initial response actions to be put in place immediately. This gives the response teams the confidence to work through the initial hiatus and understandable chaos of often limited and conflicting information to develop specific plans and priorities for the particular incident.

However, as none of these contingency plans was present, the initial actions laid down in the plans were not carried out.

The Syrian National Contingency Plan had been produced by Peter Hayward in 2001. A modification to the command structure, reflecting current international practice was made in 2002, and finally approved in August 2003. Translations of the plan had been made and there had been ample prior discussion and time to enable the various organisations to understand their roles and responsibilities.

As one would expect, there were a number of issues that arose out of the exercise, which will be discussed in this report, for example, the exercise demonstrated that there is a wholly inadequate amount of oil spill response equipment for spill cleanup and for the protection of sensitive areas. Peter Hayward advised on a means of finding such equipment purchases by means of a small levy on all oil exports. It is strongly recommended that this is implemented with some urgency.

The exercise also demonstrated that the use of and issues surrounding the use of dispersant are not well understood. In this exercise, with the incident occurring well offshore in deep water and with an oil that would have been dispersable for at least the first day, dispersant should have been the primary response strategy.

Overall, the exercise provided a valuable learning experience and demonstrated many of the problems that are likely to be experienced in a real spill. After a very poor start, a definite improvement was seen on the second day. Given the current situation regarding Contingency Planning and the woefully inadequate level of training and preparedness of both personnel and equipment, grave doubts must remain about the capability of the Command Team in its present condition to respond in a competent manner to a major oil spill.

7 Conclusions

An exercise such as *Syrex 2003* is not the end of the process of developing sound local or national response strategies and organisations. There is an enormous amount of work required to improve the national organisation and overall co-operation between authorities, some of whom did not know that the exercise was taking place.

This will require extensive follow up work to ensure that the lessons learned are not forgotten. Some of the plans may need to be modified. As a priority, additional training will be required and further exercises will be required to test the revised plans as well as to train the management teams and equipment operators.

This whole process is iterative, with the lessons learned in the exercises being incorporated into revised response plans and these plans being re-tested in future exercises. This must take place at Terminal, Area and National levels to test each Contingency Plan and train each level of the organisation. The exercises should involve all the authorities involved, and will be necessary to further develop the very basic skills acquired in *Syrex 2003*.

Only if these lessons are learned will the exercise have been a success.

Although most of the participants approached the exercise with great enthusiasm and learned a great deal, not all the exercise objectives were met. This was largely due to the absence of the National Contingency Plan, lack of knowledge of its contents, failure to inform several of the key authorities about the exercise and the almost complete absence of exercise pre-planning.

In the detailed comments in Appendix A, credit has been given for good points, but reports such as this focus more on matters which need to be improved than points which were good. The comments are intended to point out areas which may need to be improved, with constructive recommendations as to how the improvement might be achieved. Some of the recommendations were made by exercise participants, who have recognised several of the areas where improvements are required and who will hopefully take steps to implement the improvements.

It is considered that in a real oil spill, the response organisation would have had great difficulty in managing this spill in a satisfactory manner. Some of the issues noted in the exercise would have been resolved as the teams settled down and moved from the crisis to the project phase of the response, but it is considered that the initial phase was badly handled, not because of the lack of capability of the Incident Commander, but for the lack of planning and training identified above.

8 Recommendations

8.1 Major Recommendations

8.1.1 Contingency Plans

1. In order to ensure that all copies of the plans are received and amended up to date, they should be made into controlled documents with each copy being numbered and the numbered copies issued to known recipients. A receipt note should accompany each copy and be returned by the plan holder. ***(A4.1) (A10.1)***

2. There is a need for further training to ensure that all personnel are aware of the contents of the National, Area and Terminal Contingency Plans and that they understand their Section and individual roles and responsibilities. **(A3.1) A(10.3)**

3. It is recommended that a small change in terminology is required in the NCP. The On Scene Commander should be renamed the Incident Commander. The title On Scene Commander should be reserved for the person in charge at the scene of the incident. A draft amendment to the NCP and Area plans will be produced. **(A3.1)**

4. To avoid any delay in requesting international assistance from REMPEC, it is recommended that the correct official who can authorise this request, which will always be transmitted through DGP, is included in the National Contingency Plan. **(A3.1)**

5. It is recommended that specific training is given on the dispersant strategy, including National Policy, how dispersant works, advantages and disadvantages and environmental issues. **(A3.3)**

6. As it was possible to validate the Banias Power Station water intake protection plan this is still an outstanding action. It is recommended that once the new response equipment is received, this plan is tested at the earliest opportunity **(A3.4)**

8.1.2 Establishment, Manning and Facilities of the Control Centres

7. It is recommended that a portable Command Centre equipment kit is prepared to include the equipment needed for the establishment of a Command Centre in a building where the facilities may otherwise be unable to support it. **(A4.1.2)**

8. There was no separate room for the Incident Commander, nor for other meetings. This is essential in the interim, before the new Centre is completed. It is recommended that two rooms are always made available in future. **(A4.1.2)**

9. It is recommended that a Command Centre Co-ordinator is appointed to ensure that the room is functioning properly, all relevant information is displayed and brought to the attention of the relevant personnel, messages are being circulated and logged, new arrivals are briefed and outstanding matters are being dealt with. **(A4.1.3)**

10. In the early stages of a response it will be necessary to hold general briefings or timeouts about every half hour. These should only be brief updates and issues arising should be listed by the Situation Unit and Command Centre Co-ordinator and action personnel assigned by the Incident Commander to work on the issues after the timeout. **(A4.1.4)**

11. In a major emergency the Incident Commander and Section Chiefs may be absent in meetings or at press briefings conferences or interviews. It is important that designated Deputies are appointed to manage the sections during their absence. **(A4.1.5)**

12. It was agreed that the exercise would commence with all staff in their normal work locations. As a result, a full team was available in the Command Centre at the outset. As discussed above, this would not normally be the case and at a future date, once everyone is fully familiar with the plan and their roles, a full mobilisation exercise should be carried out to allow the local personnel to manage the incident prior to the arrival of the more senior staff from Damascus, Tartous and Lattakia**.(A4.1.6)**

8.1.3 Overall National Emergency Management Arrangements

13. The NCP required the Minister of Local Administration and Environment and DGP to form the Unified Command and perform the role of Incident Commander. It is understood that after the immediate emergency is over, these busy officials will wish to delegate their roles and in this case, the Tartous Harbourmaster was designated as Incident Commander. However, the Deputy Minister and DGP were still present, but did not carry out their roles. It is recommended that whilst they are there, they either carry out the function of the Unified Command and make the required decisions, with the designated Incident Commander as their deputy, or clearly delegate their responsibilities to him. **(A6.2)**

8.1.4 Counter Pollution Operations

14. It is recommended that in future, as required by the Incident Command System a Strategy Meeting should be held once the Planning Section has evaluated the initial reports. This will determine the general strategy to be employed in the incident. **(A7.2.3)**

15. It is recommended that at least three additional personnel are appointed to fill the role of Incident Commander, in case the present official is not available. These alternate personnel will also require to be trained and will need to take part in an exercise. In addition, one will always be required to act as his Deputy when he is Incident Commander. **(A7.3.5)**

16. As there is a very low level of experience at present it is recommended that consideration be given to requesting external expertise under the emergency arrangements for both the Operations and Planning Sections **(A7.3.6, A7.3.7)**

17. As a result of the general lack of co-ordination between the various sections and authorities, and also that all relevant authorities had not been invited to participate, there is a requirement not only for more specific Incident Command System (ICS) training to develop the co-operation, but also for another exercise to be held in order to include the authorities omitted in this case. **(General Exercise Comment)**

18. It is important to investigate the reason for the non-receipt of the Fax from the Greek Government offering assistance under the Emergency Protocol. **(A7.3.9)**

19. The Public Health issue was not addressed by the Command Team and this cannot be overlooked. In a real incident, it is quite likely that the Public would have been pushing for public health information **(A7.3.10)**

8.1.5 Media Matters

20. There was only minimal media role play. However, in a real incident this can become very intrusive. Once the Command Team has become more competent, serious simulated media input should be included in future exercises. **(A8.1)**

21. Neither of the media team spoke English. In these days of international media responders, this would have been a severe problem, as there would have been many requests for information from overseas journalists. It is recommended that at least one English speaker is included in the team **(A8.2)**

8.2 Live Equipment Deployments

22. It is recommended that live deployments of both at sea and shoreline protection equipment continue as appropriate in the future, as they are a very useful and important part of a National Exercise. **(A9)**

23. Overall there is a need for much more training and assistance with deployment, operation and maintenance issues. **(A9.1.1)**

24. The exercised demonstrated that equipment cannot be taken to the power station by boat. The procedure to supply the equipment by road must be written into the booming protection plan **(A9.1.2)**

25. On the second day, shoreline cleanup training was carried out for Local Authority staff at Arab Mulk. This was valuable and formed the basis for continuation training locally in the future **(A9.1.)**

26. There was discussion that pit liners would not be required for the beach. Even if the beach itself is impervious to oil and many will not be, the liner prevents

further beach material becoming polluted. These will always be required **(A9.1.3)**

27. There was a complete lack of PPE for all the practical exercises. As the Terminal advertises in the handbook issued to us that all staff are given such equipment, this is unacceptable. **(A9.1.4.)**

28. Offshore there is a need for more marine safety training, particularly the need to wear lifejackets and also the need to keep clear of the ships side and stern. **(A9.1.4.)**

29. Nor is it acceptable that shoreline cleanup staff have no PPE. Shoreline cleanup is hard and dirty work. Personnel safety must come first. The provision of PPE can be reimbursed in the event of a spill, by the IOPC Fund, so there would be no reason why this should not be provided. **(A9.1.4.)**

30. The exercise demonstrated that there is a wholly inadequate amount of oil spill response equipment for spill cleanup and for the protection of sensitive areas. Peter Hayward advised on a means of finding such equipment purchases by means of a small levy on all oil exports. It is strongly recommended that this is implemented with some urgency. **(A10.2)**

31. Proposals have been made as to the requirements for equipment required in the Command Centre Room of the new National Oil and Chemical Spill Response Centre. These are attached at Appendix C for reference **(A10.2)**

32. There is still a very low level of competence concerning oil spill response and response management. A comprehensive training and exercise programme will be required to bring this competence up to a satisfactory level. There is insufficient expertise in the country to be able to carry this out and external trainers will be required to develop and conduct the programme over a prolonged period. **(A10.3)**

33. This training is required at all levels from senior officials to the lowest equipment operator. It will cost money, but the proposed levy on oil exports will provide sufficient hard currency to pay for this. **(A10.3)**

34. In view of the general lack of national expertise, it is of real concern that as yet there are no plans to implement the recommendations of paragraph 6 of the report "Proposals for The Syrian National Oil Spill Control Centre, Banias", dated June 2003. (Appendix D). This recommended that consideration should be given to the contracting of two expatriate experts to assist the designated Syrian Base Manager in the establishment of the base, the purchase and commissioning of the equipment, the establishment of the maintenance routines and the training of the personnel. The reasons for this were fully explained in paragraph 3 of the proposals and in paragraph 4 of the Mission Report by Robin Perry and Associates dated December 2002. This exercise has only served to further reinforce these conclusions. **(A10.4)**

Appendix A
Detailed Comments

These comments are produced from the post exercise debriefs, the comments of the exercise Directing Staff and comments received from the participants. These comments were illuminating and thanks are due to their authors.

A1 Planning Issues

The detailed planning process began in August 2003. In November, two members of the Directing Staff visited Syria two weeks before Syr*ex 2003* to ensure that all arrangements had been made. On arrival it was clear that no arrangements had been made. It was therefore necessary to select somewhere in which to hold the exercise. In view of the scenario, it was agreed that the Oil Terminal at Banias would be suitable. The terminal was approached and agreement obtained for this.

Various training courses had been held in Syria to prepare personnel for their role in the national sysyem, and hence also the exercise. However, it was clear that, as personnel had not been selected for their roles in the National Contingency Plan (NCP) management arrangements, not all the correct personnel had been trained. The Crisis Management Training Course held in Lattakia, immediately prior to the exercise would have been much more useful had the Command Team attended and been able to play their correct roles in the table top exercise.

In view of this general lack of preparation, the draft programme was changed to incorporate a one and a half day training period (30 November – 1 December) on the Incident Command System (ICS). During this training personnel were allocated to their roles in the organisation for the first time. This proved to be essential in ensuring that the exercise personnel had at least a basic understanding of their roles and responsibilities.

The Directing staff commented at the end of the table top drill in the training session that National and area Contingency Plans were not in evidence. Despite this they did not appear for use in the exercise.

It is considered that the external planning for the exercise was well executed considering the extremely short time for such a major event. However, it became clear that internal national planning was almost non-existent and several naval and military agencies were not informed or invited to take part.

However, the Exercise Director would like to thank the General Manager of the Banias Oil Terminal for the use of his facilities and to commend the Training Manager for his tireless work in making the necessary arrangements

Without the considerable contribution of all these organisations the exercise could not have been run.

A2 Callout, Notification and Mobilisation

It is always difficult in a major exercise to strike the right balance over mobilisation of the Command Staff. On the one hand, a complete mobilisation in real time from normal offices, risks losing exercise time for major players coming from Damascus. On the other hand, pre-positioning personnel to achieve more exercise play time, risks unreal arrival times which may prejudice the ability of the local organisations to benefit from a period of running their own affairs.

However, as this was the first exercise, it was agreed to pre-mobilise the Command Centre staff to the area.

However, in a real incident, it must be appreciated that mobilisation will take some hours and this will require local staff to manage the incident in the new National Centre until such time as the senior personnel from Lattakia or Damascus arrive.

A3 Contingency Plans

A3.1 The National Contingency Plan

The National Contingency Plan had been completed by Peter Hayward in 2001. An amendment was made in 2002 to change the Management system from a largely UK based system to the Incident Command System (ICS) now widely used internationally. After many delays this was finally issued in August 2003, having been discussed widely in Steering Group meetings prior to that. This was the first exercise in which this final version of the plan should have been used.

However, despite having been translated into Arabic, it seemed that the plan had not been distributed to many, if any of the national authorities. If it had, it had clearly not been copied to the operational officials who would have to operate the plan. Unsurprisingly therefore there was a total ignorance of the plan contents. Furthermore, no personnel had been allocated to the various positions required by the plan. The National Incident Commander was only appointed one week before the exercise and the remainder of the personnel were appointed two days prior to the exercise during the ICS training session. Clearly this situation is unacceptable. It is recommended that once all parties have received the plan, training is given on the plan contents, section and individual roles and responsibilities

There was a considerable delay in requesting in international assistance through REMPEC. The Director General of Ports has, for many years, been designated as the REMPEC point of contact. However, DGP considered that permission to seek international assistance had to be given by the Minister of Local Government and Environment. It is recommended that the correct situation is included in the National Contingency Plan. However, in a major spill, the Minister or his representative and DGP or his representative will form the Unified Command, and therefore the issue should be quickly resolved.

It is considered that a small change in terminology is required in the NCP. The On Scene Commander should be renamed the Incident Commander. The title On Scene Commander should be reserved for the person in charge at the scene of the incident. A draft amendment to the NCP and Area plans will be produced.

It is considered therefore that the first of the exercise objectives - “To exercise, test, review and improve the new National Contingency Plan” was not achieved.

A3.2 The Tartous and Banias Area Contingency Plans

Similarly, in the early stages of the exercise, until it was clear that the incident was beyond the local capability to control, Area Contingency Plans should have been used. These were not present either and the Harbourmasters stated that they had not been issued to them.

As these plans contain the initial actions required in the event of a spill, this was a serious deficiency, which had considerable influence on the poor start to the exercise.

A3.3 National Dispersant Policy

The National and Area and Local plans contain the National Policy for the use of dispersants. This policy accords with international practice, but was not used in the exercise, despite the spill being in open water. It is recommended that specific training is given on the dispersant strategy, including National Policy, how dispersant works, advantages and disadvantages and environmental issues.

A3.4 Booming Protection Plans

A practical booming exercise had been planned to validate the Banias Power Station water intake protection plan. However, incorrect information was given regarding the depth of water and the boat was unable to deliver the boom to the site. Therefore this validation is still an outstanding action and it is recommended that once the new response equipment is received, this plan is tested at the earliest opportunity.

A4 Establishment, Manning and Facilities of the Control Centres

A4.1 The National Command Centre

A4.1.1 Future plans

The National Oil and Chemical Pollution Control Centre is being built at Banias. The shell of this building is awaiting fitting out. In the interim, the Banias Oil Terminal Conference Room was selected for use as the Command Centre. However, it was not equipped for this role and no provision had been made for the display of maps, status boards, additional telephones etc.

A4.1.2 Command Centre Facilities

There were no marine charts or land maps produced by participants and only preliminary versions of environmental sensitivity maps were available. The required cartographic and other tools would include a full set of marine charts for the Syrian Coast, a full set of detailed shoreline maps, probably from the military; pens, pencils, erasers, notepads; portable boards to display the maps; status boards to list equipment and personnel resources, communications channels to use and all contingency plans.

There was no separate room for the Incident Commander, or for other meetings. This is essential in the interim, before the new Centre is completed. It is recommended that two rooms are always made available in future.

A4.1.3 Command Centre Co-ordinator

It is recommended that a Command Centre Co-ordinator is appointed to ensure that the room is functioning properly, all relevant information is displayed and brought to the attention of the relevant personnel, messages are being circulated and logged, new arrivals are briefed and outstanding matters are being dealt with.

A4.1.4 Timeouts

.Despite many suggestions, starting at 0930, the first general room briefing or timeout was not held until 1330. It is essential that all personnel understand the latest situation. In the early stages it will be necessary to hold timeouts about every half hour. These should only be brief updates and issues arising should be listed by the Situation Unit and Command Centre Co-ordinator and action personnel assigned by the Incident Commander to work on the issues after the timeout. The Command centre Co-ordinator will ensure that these action items are not forgotten.

A4.1.5 Deputies

In a major emergency the Incident Commander and Section Chiefs may be absent in meetings or at press briefings conferences or interviews. Indeed, during the exercise, Section Chiefs frequently disappeared, often without the Section knowing where they were. It is important that designated Deputies are appointed to manage the sections during their absence.

A4.1.6 Centre Mobilisation

It was agreed that the exercise would commence with all staff in their normal work locations. As a result, a full team was available in the Command Centre at the outset. As discussed above, this would not normally be the case and at a future date, once everyone is fully familiar with the plan and their roles, a full mobilisation exercise

should be carried out to allow the local personnel to manage the incident prior to the arrival of the more senior staff from Damascus, Tartous and Lattakia.

A5 Conduct of the Exercise and Directing Staff Policy

The exercise policy was to exercise the new NCP, and review overall performance. There was no intention to stretch any organisation to breaking point, which is easy but pointless. The intention was to enable participants to enjoy the exercise and learn from the experience. Therefore it was conducted to allow actions and incidents to be properly completed and for the full learning experience to be achieved. To achieve this, the exercise was conducted in real time. After the initial pre-planned incident, the exercise continued with controlled free play. This gave sufficient flexibility to allow the exercise objectives to be met.

The participants were drawn from the principal agencies that would be involved in a real spill. Exercise players and role players were expected to respond to the situation as it unfolded, and to develop appropriate responses, as if it were a genuine major incident.

In this exercise as with others, there were some incidents, such as the movement and beaching of oil which could not be played live, and these were simulated by the Directing Staff. This was essential to ensure that suitable training was obtained. Of necessity, simulation cannot always be 100% accurate or realistic. Participants were requested not to be overly critical of these exercise artificialities, but to recognise that their purpose was to bring out particular aspects of the response.

It is difficult to integrate real equipment deployment into a paper exercise, without causing confusion. However, this is normally avoided by clearly making the deployments a separate, though realistic, exercise within the main exercise. This is what occurred. The vessel could not have responded to a request from Syria within the timescale, but it was considered that it would be useful to demonstrate the equipment and provide training for the Banias Terminal marine staff. 20 personnel were trained both on the *Flying Enterprise* and also on the terminal oil pollution vessel

There were adequate numbers of Directing Staff and role players for this relatively simple exercise. Excellent translation facilities were also available which ensured that it was possible to monitor meetings and general activities.

A6 Overall National Emergency Management Arrangements

A6.1 General Arrangements and Liaison

This was the first exercise to demonstrate the NCP management structure and the first occasion on which the Incident Command Structure was established.

The exercise demonstrated the need for a much closer liaison between all the exercise participants and also the various sections in the Command Centre. It was pleasing to note that by the end of the exercise the internal liaison was improving

However, it is believed that the regular reports which Ministers and senior agency staff would require were not being produced. This is an extremely time consuming but nevertheless important function which the situation unit would normally produce for the approval of the Incident Commander.

One of the principal purposes of the ICS is to co-ordinate the actions of many shoreline authorities, to agree the priorities and hence allocate what may be scarce resources to the authority most in need. It is essential therefore, that each Governorate and Municipality has a senior representative in both the Planning and Operations Sections who is able to plan the use of those resources, argue the case for the priority and be aware of the reasons for not receiving all that had been requested.

A6.2 Unified Command

The NCP required the Minister of Local Administration and Environment and DGP to form the Unified Command and perform the role of Incident Commander. It is understood that after the immediate emergency is over, these busy officials will wish to delegate their roles. In this case, the Tartous Harbourmaster was designated as Incident Commander. However, the Deputy Minister and DGP were present, which demonstrated very senior commitment to the exercise. However, they did not carry out their roles and it must therefore have been difficult for the Incident Commander to take charge and make decisions in their presence. It is recommended that whilst they are there, they either carry out the function of the Unified Command and make the required decisions, with the designated Incident Commander as their deputy, or clearly delegate their responsibilities to him.

A6.3 Environment Affairs

Environmental advice was provided by the Planning Section. Preliminary sensitivity maps were available and were used to advise both the Planning Chief and Operations on the environmental priorities on the coastline.

However, as stated above it is considered that the advice given on the use o0f dispersant was incorrect. The personnel in the Planning Section were members of the Ministry of Local Government and Environment. The Ministry policy is clear, is included in the contingency plans and can be found at Attachment 1 to this report. However, the policy document was not seen in the exercise. Had it been available and if these guidelines had been followed, the advice would have been to use dispersant at the outset.

A7 Operations

A7.1 Oil spill modelling

MEDSLIK 4.1 oil spill prediction model was available in the Planning Section, and this appeared to give reasonable correlation with the manual plotting of the Directing Staff. The Section staff were confident in their use if the model, which provided a useful planning tool.

Care must always be taken to treat the model results as an indication of what will happen, as all too often the models are at variance with what actually happens. Models are planning tools which will give an indication of the movement of the oil. The only sure knowledge is that gained by physical observation, preferably aircraft.

A7.2 Search and Rescue

The initial incident involved a crew member with a broken arm. The decision was taken to land him by boat. This would have involved a delay in reaching hospital of at least 2 hours and in rough weather the motion of the vessel could have made this a very painful experience.

It is not clear why the use of a helicopter that was available was not considered as this would have been the quickest and safest means of transporting him to hospital.

A7.2.1 Language

There was a suggestion that the initial reports from the ship, which were sent in English, the International Maritime language, could not be understood. If this was the case, it is important that each Harbourmaster should have English speaking watch keepers on duty to receive, translate and distribute what may be important distress messages.

A7.3 Response Operations

A7.3.1 Activation of the response

At the outset of the exercise, the Tartous Area Oil Spill Contingency Plan should have been activated. As the scale of the incident became clear, the National Contingency Plan would then have been activated. The Area plan in particular makes clear the initial actions required. As this was not available, the initial actions did not take place.

However, Operations Section did arrange for aerial surveillance to take place and Situation Reports (Sitreps) were sent by the Directing Staff after this.

A7.3.2 Initial Strategy Meeting

The Incident Commander did not hold an initial strategy meeting at which the overall response strategy should have been developed. This had serious implications for the initial action in the exercise. This should have been held between the Incident Commander and his Section Chiefs and been the beginning of proper liaison between these people. This close co-operation continued to be lacking throughout the exercise. As a result the individual sections made their own decisions. It is recommended that

in future this should be one of the first meetings once the Planning Section has evaluated the initial reports

A7.3.3 Response options

In the absence of this meeting, the Planning Section decided that dispersant should not be used and the Operations Section began to implement a mechanical containment and recovery strategy. The dispersant decision tree in the Area Contingency plan was not used. The reason why dispersant would have been the best strategy are discussed above, but there was not proper planning process to decide upon the correct strategy to use. Consider the situation. There were completely inadequate amounts of boom available (300 metres), only one very small skimmer and very limited amounts of onboard oil storage. When the storage was full it would have to transit 6 miles into the Tartous Terminal to offload the oil and return to the scene. It was located at Banias Oil Terminal some 20 miles from the spill. This would have reduced it skimming capability to about 5 tonnes on the day. The vessel was in deep water over five miles from the coast and with no special environmental sensitivities in the area. The oil would have been amenable to dispersion for about 12 hours. Vessels potentially capable of spraying dispersant were based at Tartous Oil Terminal only six miles from the spill and could have been onsite approximately 2 hours after the spill. Further supplies of dispersant could have been brought out by boat, allowing continuous operation during daylight hours. This would have allowed the spraying of the full 100 drums of dispersant in the stockpile, which, given efficient operation could have dispersed up to 300 tonnes of oil! This should have been a compelling reason for the use of dispersant.

Even when the mechanical containment and recovery strategy had been decided, it was agreed that the boom would be used to protect the Power Station water intakes. However, the booming protection plan in the Area Contingency Plan required shore sealing boom for this task. There is none in the country at present. The boat carrying the boom could of course have been employed at sea close to the intake breakwater, but the oil was not due to arrive there for at least twelve hours, but it would probably have been of more use assisting with the dispersant spraying operation until nightfall. This was not a good decision.

A7.3.4 Forward Planning, The Incident Action Plan

All the teams had to be pressed hard to develop the plans for the following day. This was achieved reluctantly, but in the end, satisfactorily.

A7.3.5 Incident Commander

The Incident Commander had a very difficult task. At the beginning of the exercise, he had no plans on which to base his initial actions. Also he had two very senior personnel in attendance who did not assume command. As he was very inexperienced in both oil pollution and the new ICS system, this made his job very difficult. However, it was pleasing to note that as the exercise progressed he became much more confident and assertive. With more training and experience, we are sure that he will become a very satisfactory Incident Commander. It is recommended that at least three additional personnel are appointed to fill this role in case he is not available. These alternate personnel will also require to be trained and will need to take part in an exercise. In addition, one will always be required to act as his Deputy when he is Incident Commander.

A7.3.6 Operations

There is still a lack of practical oil spill knowledge in this group, as was shown by the situation described in A1.6.3 above. Until such time as this in house expertise is developed, there will be a continuing requirement for experienced external assistance to support the Section Chief.

A7.3.7 Planning

The planning section fulfils a key role in the organisation. The ability to turn the emergency, which consists mainly of reactive actions into a pro-actively planned event, depends on the Planning Section. Once again, in a major event, it is considered that external expertise would be beneficial until this is further developed in house.

Planning was well in hand for the personnel and manpower resources that would be required for the shoreline cleanup on the third day. It was also decided to move to two shift working as it was felt that a nine hour working day was too long.

At one stage it was stated that there was a need to clean the rocky coast. This may have been a translation problem, but rocky coastlines should normally be allowed to self clean unless they are of extreme sensitivity. This is both because of the dangerous access for personnel and also that by their very nature, the high energy of the sea will normally do the cleaning for you.

However, many of the harbours are surrounded by rock armour breakwaters. These will contain significant quantities of the spilled oil. This does require to be cleaned by large volumes of low pressure water and it may have been this to which the plans referred.

The section also contains the Documentation and the Situation Units. These sections began to work well as the exercise progressed. More boards will be required to display the up to date information and the charts and maps mentioned in A4.3.2 above will also be required. Nevertheless these units showed great enthusiasm and performed well.

A7.3.8 Logistic and Finances

This section was frustrated at the beginning due to the lack of co-operation from the other sections. However, this did improve largely due to the perseverance and determination of the Section Chief. By the end of the exercise, the Section had begun to prepare for claims handling and also had an up to date figure for the costs incurred to date.

This included the costs for loss of the local fisheries which would be needed to support a claim for compensation

A7.3.9 Request for assistance

One serious matter should be investigated further. Operations realised that the national resources were inadequate to deal with the spill and requested through DGP and the Minister for assistance from REMPEC. A reply to this request was made by the Greek Government and REMPEC has a copy of this reply. However, it did not reach the Command Team

A7.3.10 *Public Health*

This important issue was not addressed by the Command Team and this cannot be overlooked. In a real incident, it is quite likely that the Public would have been pushing for public health information, which would have ensured that it was not overlooked.

A8 Media Matters

A8.1 Media Opportunity

It was agreed that it would be desirable to use the opportunity offered to gain exposure in the local media. This was successful and resulted in coverage on radio, TV and in newspapers.

There was only minimal media role play. However, in a real incident this can become very intrusive. Once the Command Team has become more competent, serious simulated media input should be included in future exercises

A8.2 Exercise Media Response

There were two in the media response team. However, neither spoke English. In these days of international media responders, this would have been a severe problem, as there would have been many requests for information from overseas journalists.

A8.3 Media Interview

The Deputy Minister was caught completely unawares by request from a role playing journalist from the UK.

It is reported that the Minister acquitted himself very well, was very open and forthcoming, supplying the kind of information that the journalist was seeking. This was good.

A9 Equipment Deployment

The live deployments of both at-sea and on the shoreline are a very useful part of a National Exercise. In particular, shoreline equipment deployments and cleanup training allows local authority and regulatory agency staff to take part in and therefore learn some of the problems. In addition, it is usually possible either to validate or to develop and validate a booming protection plan for a sensitive area which can be included into then local contingency plans. This was only partially successful in this exercise, but it is recommended that live deployments continue in the future where appropriate and when resources can be committed.

A9.1.1 Offshore deployment

The vessel *Flying Enterprise* had been provided from the exercise budget to demonstrate the capability of the signatories to the Emergency Protocol to the Barcelona Convention to support a neighbouring country. It was also used to train personnel from the Banias Terminal in deployment and handling techniques for booms and skimmers.

It was never the intention that this should be used for the training of the Command Team. Their role was and always will be to manage the spill, not to deploy the equipment, nice though it would have been to have given them the opportunity. However, had this been made an exercise objective, this could have been arranged.

It is clear that Terminal staff require much more basic training and deployment experience. In particular, everyone needs to understand the need to tow the booms at less than one knot, or the oil will escape from the boom. Powerful vessels such as the *Flying Enterprise* can tear the boom in half if the speed is too great. The Terminal staff should practice towing by catching orange floats or foam in the boom.

This was followed by the commissioning of the Terminal oil spill response vessel by a very reluctant crew. It would have been preferable for this to take place before the exercise to ensure that all the equipment worked properly. For example, the boom had bee loaded onto the reel upside down, with the inflation valves on the underside. This makes boom inflation very difficult. However, the deployment was carried out successfully, with some recommendations for future improvements.

Overall there is a need for much more training and assistance with deployment, operation and maintenance issues.

A9.1.2 Power Station Protection

It had been planned that shoresealing boom would be taken to the power station by road to validate the draft booming plan in the Area Contingency Plan. However, the Terminal insisted that the equipment should be taken by boat. Unfortunately this was not possible due to the shallowness of the water around the breakwaters. By the time that this was known it was too late to continue with the operation and it remains an outstanding item for the future.

A9.1.3 Shoreline cleanup training

On the second day, shoreline cleanup training was carried out for Local Authority staff at Arab Mulk. Simulated spill scenarios, supported by photographs and descriptions showing the extent of the pollution were provided. These were intended

to develop the capability of the local cleanup teams to assess the situation, carry out risk assessments, report the state of the beach, request the equipment required and decide on the most appropriate method of cleanup, to be undertaken. Directing Staff assistance was provided for this training. It was agreed afterwards that this was valuable and formed the basis for continuation training locally in the future

There was discussion that pit liners would not be required for the beach. Even if the beach itself is impervious to oil and many will not be, the liner prevent further beach material becoming polluted

A9.1.4Safety and Personal Protective Equipment (PPE)

There was a complete lack of PPE for all the practical exercises. As the Terminal advertises in the handbook issued to us that all staff are given such equipment, this is unacceptable.

Offshore there is a need for more marine safety training, particularly the need to wear lifejackets and also the need to keep clear of the ships side and stern.

Nor is it acceptable that shoreline cleanup staff have no PPE. Shoreline cleanup is hard and dirty work. Personnel safety must come first. The provision of PPE can be reimbursed in the event of a spill, by the IOPC fund, so there would be no reason why this should not be provided.

A10 Follow Up Actions Required

A10.1 Contingency Plans

There is an urgent need to ensure that all the National Area and Terminal plans the plans are rapidly translated into Arabic. The plans should then be made into controlled documents with each copy being numbered and the numbered copies issued to known recipients. A receipt note should accompany each copy and be returned by the plan holder.

An amendment procedure is included in the plans. Numbered amendments should be issued to each holder of the plan, who should return the notice of amendment once it has been incorporated. In this way, control will be exercised over the holders of the plan. It will be known who has them

A10.2 Equipment

The exercise demonstrated that there is a wholly inadequate amount of oil spill response equipment for spill cleanup and for the protection of sensitive areas. Peter Hayward advised on a means of finding such equipment purchases by means of a small levy on all oil exports. It is strongly recommended that this is implemented with some urgency.

Proposals have been made as to the requirements for equipment required in the Command Centre Room of the new National Oil and Chemical Spill Response Centre. These are attached at Appendix C for reference

A10.3 Training

There is still a very low level of competence concerning oil spill response and response management. Additional comprehensive training and exercise programme will be required to bring this competence up to a satisfactory level. There is insufficient expertise in the country to be able to carry this out and external trainers will be required to develop and conduct the programme over a prolonged period.

This training is required at all levels from senior officials to the lowest equipment operator. It will cost money, but the proposed levy on oil exports will provide sufficient hard currency to pay for this.

A10.4 Syrian National Oil and Chemical Spill Response Centre

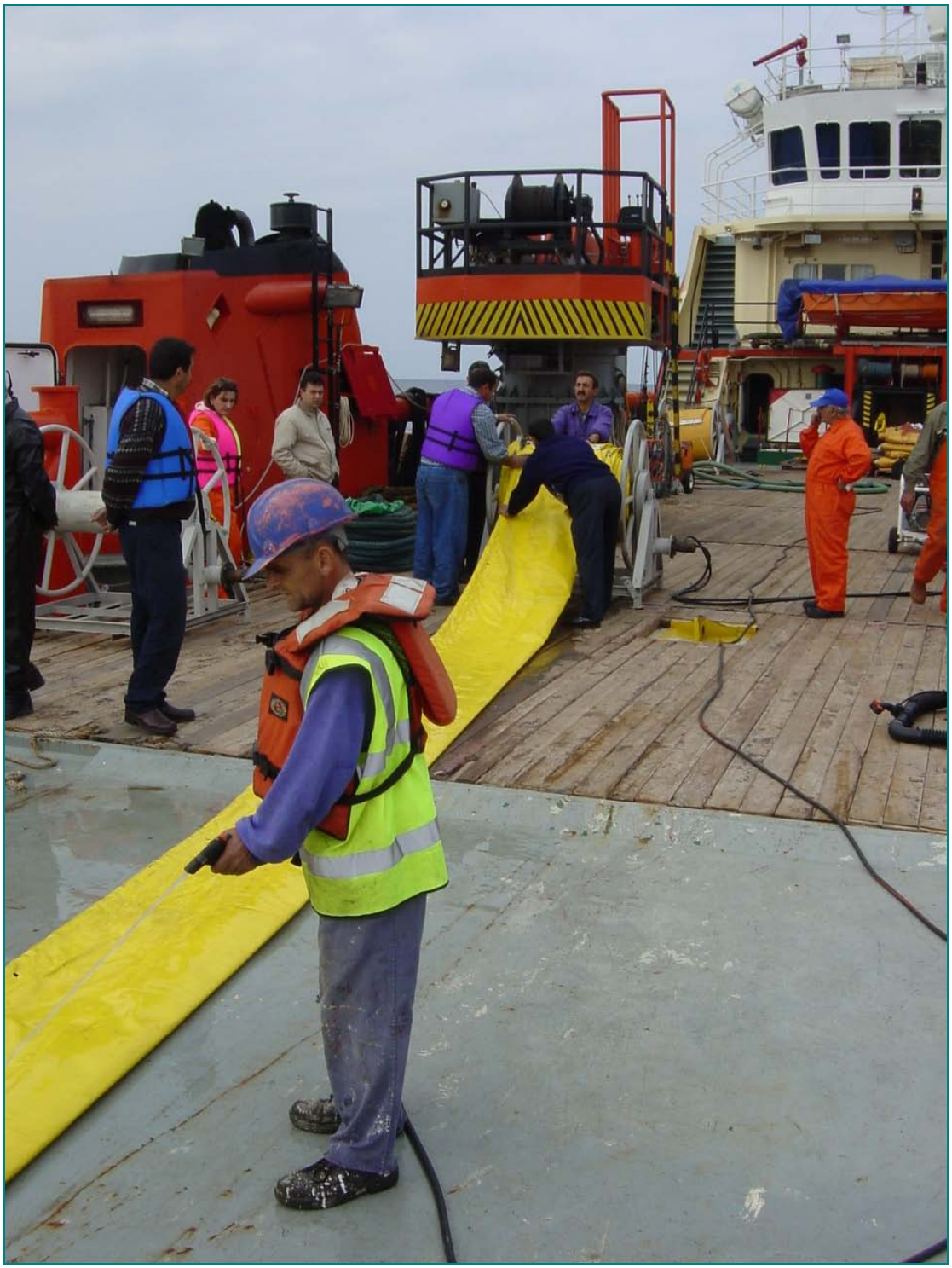
In view of this lack of national expertise, it is of real concern that as yet there are no plans to implement the recommendations of paragraph 6 of the report “Proposals for The Syrian National Oil Spill Control Centre, Banias”, dated June 2003. This recommended that consideration should be given to the contracting of two expatriate experts to assist the designated Syrian Base Manager in the establishment of the base, the purchase and commissioning of the equipment, the establishment of the maintenance routines and the training of the personnel. The reasons for this were fully explained in paragraph 4 of the Mission Report by Robin Perry and Associates dated December 2002. The exercise further reinforced these conclusions

Command Centre

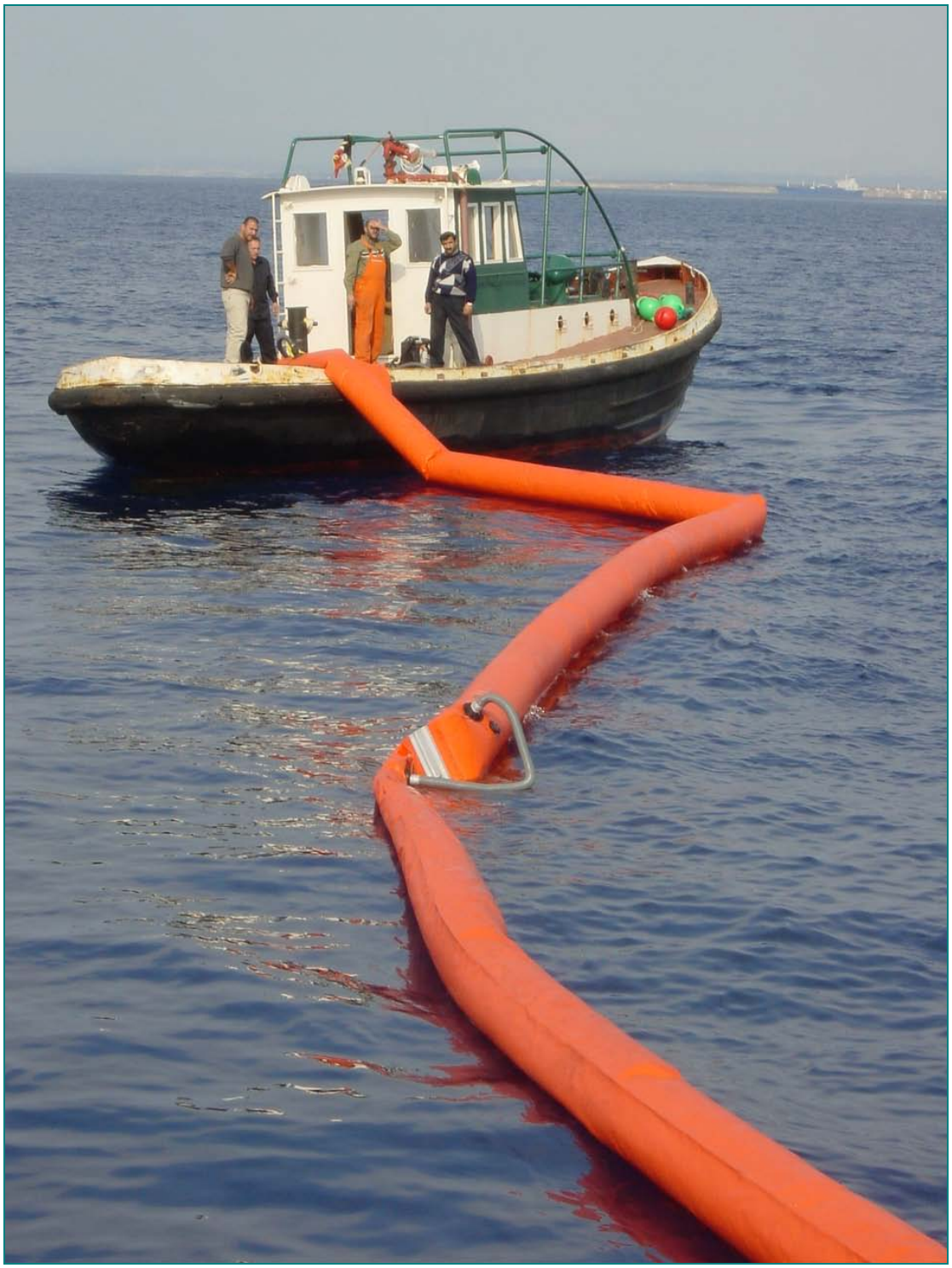
Command Team

Flying Enterprise

Eastchester



Boom deployment, Flying Enterprise



Boom Deployment, Banias Oil Terminal Oil Pollution Vessel

Shoreline Cleanup, Arab Mulk

Shoreline Cleanup Team, Arab Mulk

Appendix B
POLICY ON THE USE OF DISPERSANTS

B1. National Combat Strategy

As a general principle, mechanical containment and recovery of oil at sea is the most favoured response action on the grounds that it causes the least damage to the environment. However, it is also the option most limited by wind, current and sea conditions. In some cases, therefore, the application of dispersants may be a viable response option. The following paragraphs define those circumstances and conditions under which the use of dispersants will be allowed in Syrian coastal waters and clarifies those situations when dispersant use will be prohibited.

B2. Advantages and Disadvantages of Using Dispersants

Some of the advantages and disadvantages of using dispersants in oil spill response are listed below.

ADVANTAGES	DISADVANTAGES
• In contrast to containment and mechanical recovery, dispersants can be used in stronger currents and greater sea states.	• By introducing the oil into the water column, the process may adversely affect some marine organisms which would not otherwise be reached by oil.
• Dispersants are often the quickest response method.	• If dispersion of oil is not achieved, the effectiveness of other response methods on oil treated by dispersants *may* decrease.
• By removing the oil from the surface, dispersants help to stop the wind effect on the oil slick's movement that may otherwise push the surface slick towards the shoreline.	• Dispersants are not effective on all types of oil under all conditions.
• Use of dispersants reduces the possibility of contamination of sea birds and mammals.	• There is a limited time window when dispersants can be used effectively.
• Dispersants inhibit the formation of water-in-oil emulsions ("chocolate mousse").	• If used on shore, dispersants may increase the penetration of oil into the sediments.

B3. Environmental effects of the use of dispersants

A number of field studies on the fate of oil and dispersed oil have been carried out internationally. These indicate that hydrocarbon concentrations beneath **untreated** oil slicks measure in the ppb (parts per billion). Under **dispersed** oil slicks, concentrations can be 20 - 50 ppm (parts per million) in the top 5 metres while at depths below approximately 10 metres, hydrocarbon concentrations are reduced to < 1 ppm.

Mesocosm experiments indicate that the most significant effect of dispersants is an immediate increase in the hydrocarbon exposure to plankton. Acute effects have been observed, but many experiments involved long exposure times. In the open sea, dispersed oil would be diluted much more rapidly than it was in these experiments.

In conclusion, it can be assumed that the use of dispersants will alter the fate of oil so that there is a greater initial effect in the water column than leaving the oil alone, and dispersed oil will also induce impacts in the nearshore sub tidal zone.

B1.1. Water depth and distance limits

As a consequence, in order to minimise environmental damage in shallow waters and the nearshore zone, and in order to build in a safety factor,
The Ministry of Environment will not generally allow the use of dispersants:

- in water depths less than 20 metres;
- within 1 nautical mile (1.852 km) of the coastline or an area where the use of dispersants is prohibited.

However, the MoE reserves the right to assess each application to use dispersants on its merits.

B4. Net Environmental Benefit

MoE needs to be satisfied that the use of dispersants will give the greatest overall benefit to the environment compared with other response options. In order to carry out such a **net environmental benefit** analysis, all ecological and economic resources of Syria's shoreline and coastal waters will be analysed and the results will be mapped and stored in a GIS database in a later stage of the LIFE project and after its completion.

In preparing the present contingency plan, the environmental effects of dispersed oil compared with untreated oil for each type of shoreline activity or organism likely to be affected have been assessed on the basis of recorded international field experiments comparing chemically dispersed and untreated oil. The conclusions are summarised below for each ecological resource and economic activity (listed in alphabetical order). In addition to the restrictions on water depth and distance from the coast, they form the basis of MoE's policy on dispersant use.

B1.2. Aquaculture and Mariculture

There are currently no mariculture activities in Syria although such activities may be developed in the future. It is undesirable for either untreated oil or dispersed oil to enter mariculture or aquaculture areas. Protection for such areas in the event of an oil spill should therefore be provided by booms. Access to coastal aqaculture areas with inlets to the sea should be temporarily shut off by closing pipes or sluice gates. The oil spill response should concentrate on removing oil from near the water intakes as quickly as possible. The priority should be for mechanical recovery but dispersant spraying to prevent oil slicks from reaching aquaculture areas may be an option

provided that there is good potential for rapid dilution and removal of dispersed oil by water movements.

B1.3. Birds

It is clear that the oiling of birds is disastrous for them, either because the oil destroys the insulating and water repelling properties of their plumage, or because of the toxic effects of the ingestion of oil, or because of the indirect effects of the destruction of habitats or food resources. However, the susceptibility of various groups of birds differs considerably. It is generally assumed that dispersion of oil slicks is beneficial because it reduces the risk of direct fouling and the risk of birds ingesting oil. However, it is also known that contact with dispersants increases the "wettability" of feathers, which can lead to bird deaths by hypothermia. This suggests that direct accidental spraying of wildlife with undiluted dispersants will be harmful.

As a general rule, dispersant spraying will not be allowed within areas of national and international importance for birds. However, dispersant spraying may be the most practical response option in deep water to prevent oil slicks from reaching bird areas. Decisions will be taken by MoE on a case by case basis taking into account all the relevant factors including the season of the year. Many of the bird species in Syria are migratory and are present only on a seasonal basis.

B1.4. Fish

There is no evidence that oil slicks floating in the open sea above free-swimming fish have ever caused declines in fish populations. The net environmental benefit of using dispersants in open water conditions is neutral: dispersant spraying will not provide any advantages for the fish but neither is there likely to be any deleterious effect if the dispersed oil is rapidly diluted in deep water. In shallow water, however, dispersed oil in the water column is more likely to reach concentrations where it may harm or taint fish, particularly young ones.

Dispersant spraying may be an option in open sea conditions. Dispersant spraying will not be allowed in known shallow-water spawning and nursery areas.

B1.5. Marine Mammals and Turtles

Marine mammals are scarce in Syrian waters. There is no documented evidence of oil spill impacts on dolphins, which are rare in Syrian waters. Turtles are vulnerable to oil; eggs laid in sandy beaches and juveniles swimming in surface waters being their most sensitive stages. Depending on the season and circumstances, dispersants will not be allowed close to known turtle nesting beaches because of the increased likelihood of oil being incorporated in sediments.

B1.6. Ports and harbours

Sea conditions in ports, harbours and docks in industrial areas are generally calm. Conditions are therefore relatively good for containment and physical removal of the oil. Furthermore, most oil spills in port areas will be of marine diesel (gas/oil), heavy fuel oil (e.g. bunker 6) or intermediates. Spills of gas/oil (commonly used in new

vessels) will evaporate or disperse naturally; heavy fuel oils cannot be dispersed; and intermediate products will either evaporate or are not amenable to dispersion.

Dispersants will not generally be allowed within the confines of port areas for dealing with floating oil, although MoE may permit the use of dispersants during the final stages of clean-up to assist in the cleaning down of oiled harbour walls and jetties, etc. Consideration will be given to the use of dispersants in anchorage areas on a case by case basis, taking account in particular of the water depth.

B1.7. Salt Marshes

Salt marshes are extremely productive and are valuable habitats for many species, especially birds. Salt marshes are oil traps and recovery times from oiling vary widely, from one or two years to decades. Thus the protection of salt marshes (where they exist) is a high priority.

Most former marsh areas along the Syrian coast have become degraded. Former marsh areas on the Mediterranean coast are only connected to the sea through narrow gaps. In the event of an oil spill, the emphasis will be on booming the inlets to protect threatened marsh areas. Decisions on the applicability of dispersants as a response option will be taken by MoE on a case by case basis.

B1.8. Sea grass beds

Sea grass beds are important nursery areas for fish and shrimps and are also feeding grounds for many fish and for Green Turtle. They occur both intertidally and in shallow sub-tidal areas. However, sea grass beds occur only very rarely in Syria and have not been mapped systematically.

There is a possibility that dispersed oil in the water column could affect submerged sea grasses more than oil slicks floating on the surface above. Therefore dispersants will not be allowed in the vicinity of known sea grass beds in shallow waters.

B1.9. Shellfish

Oil slicks floating above shellfish areas are unlikely to harm them but exposure to oil - and possible tainting - are likely to increase if dispersed oil enters the water column. Dispersant application will not be allowed for the treatment of oil slicks in near-shore waters. There are no commercial shellfishery activities in Syria.

B1.10. Tourist resources and amenity areas

Recreational areas, such as bathing beaches and boat marinas, are important economically. Such areas are usually of low importance from the biological point of view. The appropriate response option, including the use of dispersants, will be evaluated by MoE on a case by case basis.

B1.11. Water intakes

Water intakes for cooling systems for power stations or refineries may be damaged by the intake of oil-contaminated water. The use of dispersants close to water intakes of industrial facilities will increase the risk of oil passing under protective booms and entering the water intakes. The use of dispersants will not be allowed within the vicinity of water intakes.

B5. Summary

A summary of MoE's policy on the use of dispersants, based on the above net environmental benefit analysis, is set out in Table B.1.1. This policy must be taken into account in this plan.

Resource at risk	Acceptability of dispersants	Resource at risk	Acceptability of dispersants
Mariculture and aquaculture (if developed in future)	Normally containment and mechanical recovery but case by case decision	Ports and harbours Anchorage areas	No except for final clean-up if approved by MoE Case by case depending on water depth
Bird areas	Generally no but case by case basis	Saltmarshes	Case by case
Fishing grounds Spawning grounds	Open sea: normally yes No	Shellfish beds	No
Sea grass beds	No	Tourist resources	Case by case
Marine mammals	Not allowed close to turtle nesting beaches	Water intakes	No

Table B1.1: Summary of the acceptability of the use of dispersants

B6. Prior Approval for the Use of Dispersants

The guidelines described above set out the Ministry of Environment's policy governing the use of dispersants in specific situations. In some cases, it will still be necessary for MoE to take a specific decision in each case depending on the actual circumstances. There will also be other occasions - not covered by the above guidelines or by specific derogations for Tier One Marine Pollution Emergency Plans - where it will be necessary for MoE to give specific approval before dispersants may be used.

The aim of MoE's spill response strategy as regards the use of dispersants is to reduce the overall environmental impact on both natural and economic resources. Despite the principles outlined above, several elements of the net environmental benefit analysis for a particular area are spill-specific and can only be assessed at the time of the spill. Factors such as the predicted trajectory of the slick, the corresponding fate of the spill,

and an assessment of the comparative effects of untreated versus dispersed oil will all need to be taken into account in order to identify which spill response method will minimise the overall environmental impact. A decision checklist which MoE will follow is at Appendix 1 of chapter B.4.

B7. Standing approvals

Due to weathering of the oil, there is a short “window of opportunity” for effective dispersant spraying. Its duration depends on a number of factors, notably the oil type, but is generally in the order of 24 hours and rarely lasts beyond 2 or 3 days. Most oils (with the important exception of heavy fuel oil) can be successfully treated with dispersants in the first 4 to 6 hours of a spill. In order that dispersant spraying can begin as soon as possible, it is essential that the dispersant response option is decided quickly. In the case of On Scene Commanders acting within the framework of a Tier One Marine Pollution Emergency Plan, this will mean obtaining a "standing approval" in advance from MoE.

MoE will grant standing approvals to those responsible for preparing Tier One Marine Pollution Emergency Plans where it can be shown to the satisfaction of MoE that dispersant spraying is a viable response option for the facility concerned. In considering applications for standing approvals, MoE will take into account such factors as:

- the circumstances when dispersants will be used instead of the preferred option of containment and mechanical recovery;
- the environmental and economic resources which are threatened;
- the facility’s own risk assessment of the “most likely” and “worst case” scenarios;
- the type of oil likely to be spilled and its characteristics (especially its viscosity and pour point);
- the adequacy of approved dispersant stocks at the site and the means of delivery within the time frame for the anticipated spill scenario.

When MoE is satisfied that the use of dispersants will be a viable response option within the context of a Tier One Marine Pollution Emergency Plan, it will issue a standing approval in writing to the facility concerned, including any conditions or limitations on the use of dispersants. This approval will specify the named dispersant which has been approved. All standing approvals will be valid for 5 years unless circumstances make a shorter period appropriate.

If a facility has not received a standing approval from MoE, it must apply to MoE for specific permission in each case where it proposes to use dispersants.

The terms of MoE’s standing approval, or the absence of an approval, does not prevent the use of dispersants in *force majeure* situations where there is an immediate threat to human life or the safety of a vessel from, for example, fire or explosion.

B8. Approval system for dispersants

MoE will normally accept documentary evidence to show that a named product has passed a recognised test procedure for both effectiveness and toxicity in another United Kingdom is shown, by way of example, in chapter C.8 of the National Contingency Plan).

Only named products which have been specifically approved by MoE may be used as dispersants in Syrian waters.

As regards detailed procedures for the approval for use of certain products within the territorial waters of the Syrian Arab Republic, reference should be made to the "Guidelines for the use of dispersants for combating oil pollution at sea in the Mediterranean region", developed by REMPEC and approved in 1993 by the Eight Ordinary Meeting of the Contracting Parties to the Barcelona Convention (UNEP(OCA)/MED IG.3/5) and reproduced in Section 2, Part D of the Regional Information System (RIS/D/2).

Appendix C
Detailed Facilities for Oil Pollution Management, Banias Oil and Chemical spill Control Centre

Space

The main requirement for a major oil spill response team is plenty of space to accommodate the large numbers of personnel involved in the response management.

Command Requirements

The Unified Command will require a separate room in which to hold its meeting and there will be a need for at least two other meeting rooms in which small operational groups may break out and discuss progress or projects in detail, without disturbance to themselves or the main response room.

The Minister of the Environment and the Director General of Ports or their representatives will require private offices and a secretarial office as they will have other business to attend to.

Main Command Centre

The main response room will need four large tables to accommodate each of the four groups. The Operations and Planning Groups, with administrative and support staff could easily each consist of up to 20 staff, dependant upon the scale of the incident.

Media Centre

In a major spill there will be considerable interest from the media, both internal and external. Facilities will be required in which media briefings can be held. It is recommended that this is kept separate from the Command Centre facilities to prevent the unauthorised access of journalists into the operations area

Equipment Room

There will be a need for a radio equipment room to house all the Directorate of Military Affairs radio and hotline equipment, as well as any computer servers.

Message Centre/Administrative Office

It would be useful to have a room in which all the fax machines, radio terminals and data link equipment is housed with the appropriate administrative staff.

Catering and Toilet Facilities

As personnel will be working long hours during a spill, there will be a need for catering facilities to feed up to 100 personnel. However, it may be possible to arrange for external caterers to provide the food, in which case the facilities may be limited to an oven to heat or keep warm already prepared food and refrigeration for cold foods and drinks. There will need to be an eating area as well as the appropriate toilet and washing facilities.

Communications Equipment

Computers

Each of the groups should be equipped with at least one computer terminal, for word processing by the Administrative Assistant and to allow connection to the national e-mail system. This computer must also be able to read the situation messages from the MRCC

Telephones

There will be a requirement for each of the subgroups to be connected to the telephone system (i.e. five telephones for the Operation Group), which should allow external direct dialling, but incoming calls should be routed through a telephone switchboard. This will allow incoming calls to be routed to the correct person. It will also allow the operator to intercept unwanted calls and prevent them reaching the operational staff.

Fax Machines

Despite the ability to send and receive e-mails, there will still be a considerable requirement for fax traffic and at least two machines, one for incoming and one for outgoing messages. These will be required for the use of Document Co-ordinator, who will distribute all incoming messages, and the Command Centre Co-ordinator who will oversee the correct functioning of the room.

Radio links

VHF Radios

When remote are taking place where there is neither telephone nor mobile coverage, it may be necessary to utilise VHF radio links to these locations, probably also using repeater stations. However, the radios should not be in the command centre itself as they are very intrusive to normal working.

Satellite Phones

In some locations there may be a radio shadow and in this case, a satellite telephone may be required. Satellite telephones are also useful for direct contact with the vessel, when messages need to be passed the content of which may be sensitive and therefore the use of Marine VHF is undesirable as it is regularly monitored by outsiders during a spill. These telephones can also be connected to fax machines for transmission of hard copy reports.

Mobile Phones

Although mobile phones are very useful, their use in an emergency can hinder the proper receipt and distribution of messages if the person receiving the call does not automatically log and distribute the messages that he or she receives. Furthermore, unwanted calls will also be received as there is no method of preventing unwanted calls.

Aircraft Data Links

The surveillance aircraft can be made capable of transmitting remote sensing data and digital photographs of the slick or evidence of illegal discharges. Reception equipment should be available in the Command Centre

Display Equipment

Display Boards

The display of up to date information is crucial to the efficient functioning of the room. Therefore, the following display boards will be required.

Charts - Marine charts of the spill area.

- Maps – Large scale maps of the affected areas of coastline
- Narrative Board - Key events will be recorded
- Situation Boards - Equipment ordered, equipment deployed, work locations manpower deployments, vessels on hire and employment, aircraft employed and tasking. Latest aerial surveillance report of the position of the oil.

Electronic Narrative Boards

It is possible to purchase electronic narrative boards which photocopy what is written on them and therefore provide a hard copy of the narrative for a permanent record and distribution.

Office equipment

The Command Centre message Centre/Administrative Office will require to be equipped with: -

- A colour laser printer
- A scanner
- Computer terminal Word Processor
- Telephone switchboard

It is understood that some of this equipment has been purchased with the funds made available under LIFE TCY99/INT/017/SYR project and will be installed in the National Oil and Chemical Spill Response Centre as soon as the current work has been finalized and the Centre becomes operational.

Appendix D
Extracts from December 2002 Proposals to Establish a Project Team to Implement the Establishment of the National Oil and Chemical Spill Response Centre, Banias

3 Discussion

3.1 Current Situation

Within Syria, at present there is very little capability to respond to oil spills. This lack of capability extends throughout the whole potential response organisation, with almost no equipment, few, if any, experienced personnel and an almost complete absence of coordinated spill management arrangements.

The various measures proposed in this programme will improve the situation. The implementation of the National and Local Oil Spill Contingency Plans, the purchase of appropriate equipment and the training of the national and local response organisations will make a major contribution to this improvement. However, because there is so little local expertise, it would not be possible to implement these plans and make the various purchases without the probability of serious mistakes being made. There would also be a very real chance that equipment manufacturers would sell inappropriate equipment and that the necessary ancillary equipment would not be purchased. Therefore, until such time as local expertise has improved, there will be a need for the appointment of an experienced contractor to assist with the implementation of the overall project under the supervision of the Ministry of the Environment, the General Directorate of Ports and the Syrian Crude Oil Transportation Company. The chosen contractor will be required to assist with the implementation of the contingency plans, advise on the purchase of the appropriate boats, booms, skimmers and ancillary equipment, commission the equipment with the manufacturers and train local personnel in its use. The contractor will also be required to co-ordinate a series of individual team, local and national response exercises to bring the spill management organisation up to operational readiness.

6 Establishment of the Centre

6.1 Establishment of a Project Team

As the introduction to this report it is considered that there is insufficient expertise within Syria to implement this ambitious project without external assistance. Therefore it is recommended that a project team be established to carry out the following tasks

- Develop plans for the integration of a Marine Rescue Co-ordination Centre into the proposed National Oil Pollution Response Centre
- Develop the proposals to share the operation of the Centre with the SCOT Terminal Banias.
- Include the National Centre Manager into the reporting system for all spills
- Commence the detailed design of the Centre
- Specify and acquire the internal equipment for the Centre including maintenance equipment

- Prepare detailed specifications and cost for the purchase of the National Response Stockpile equipment as well as the ancillary equipment (anchors chains, blowers repair kits, etc). . Equipment should not be ordered before this stage, in order that the necessary expertise is available. This is necessary to ensure that inappropriate or badly specified equipment is not supplied.
- Purchase and commission the equipment
- Train local staff in the use of the equipment
- Train the supervisory and permanent staff to a standard at which they are able to operate without supervision
- Train the Centre Manager to be able to manage a local response and act as Operations Chief in the National Response Team.

6.2 Syrian Project Team Members

It is recommended that the Syrian members of the project team should include a representative from DGP, a representative from the MoE and a representative from SCOT. Additional expertise would be brought in as required.

6.3 Expatriate Team Members

The competent Syrian authorities might consider contracting, for a limited period of time, the following external experts in order to assist the national staff during the initial phases of setting up the Centre.

An experienced spill response manager would provide overall guidance and assist in the management aspects of the project. His duties would be to assist the Syrian Manager in managing the new Centre initially, to assist with the detailed equipment specification, to assist with the commissioning of the new Centre, to provide assistance to the Syrian Centre Manager until he was capable of assuming control, and to train the permanent and backup staff.

An experienced oil spill response engineer would initially act as the advisor to the Centre Engineer, assist with the detailed equipment specification, advise on the maintenance and storage facility design, together with appropriate handling equipment, train the Syrian Maintenance Supervisor, and assist with the training of the permanent and backup staff.

Two experienced Senior Technicians would assist with the detailed equipment specification, commission the new response equipment and train of the permanent staff. These four personnel would also form the core of the response team supervising the Syrian team until they were suitably trained and experienced.

6.4 Duration of the Project

It is anticipated that front end design work, detailed equipment specification and tendering will take at least one year. The building would take about six months to complete and fit out, during which time the equipment would be delivered to temporary stores and be commissioned. Basic operator training for the permanent staff would take approximately three months, at the end of which they would have the ability to operate each piece of equipment safely under supervision and maintain it to a basic standard.

Experience has shown that progression to a fully trained technician, able to operate alone, competently and without supervision can take up to two years. Training of the backup personnel would be conducted in a progressive manner over a two to three year period. During this period, the operational and management training of the Centre Manager and the Maintenance Supervisor would also progress.

Commissioning of the new Centre is likely to take two to three months and initial training of the National Response Team would take around six months, given that personnel would only be available intermittently.

Periodic small scale exercises would be held with the intention of holding a major national and international exercise two years after the centre is commissioned

Therefore the project phase would take a minimum of three and a half years from commencement to a position where sufficient national expertise had been accumulated and transferred from the external team. Therefore, if the decision is taken to engage an external implementation team as proposed, there will be a need for a minimum of a four year contract for this team to complete their task.