

**ROPME**

# SEA KAPS



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## AERIAL SURVEILLANCE WORKSHOP/ EXERCISE



BAHRAIN, 6th - 8th MAY, 2001

## INTRODUCTION

In accordance with Decision CM 11/19 of the Eleventh Meeting of the ROPME Council (December 2000), a Workshop/Exercise for Aerial Surveillance was convened at Bahrain, during 6th - 8th May, 2001.

For the first time our Organization is conducting a Aerial Surveillance Exercise as it is also for the first time such exercise is conducted in the Region. Most of the data available in this regard is executed from an experiment carried during cold weather.



The main objectives of the Workshop and its Exercise:

- The Role of Surveillance Aircraft
- Oil Observation by different device and differentiation
- Eye Observation from different altitude
- Satellite Observation
- ROPME/MEMAC Trajectory Model Test
- Aircraft Surveillance, Background legislation and regulation.

## ATTENDANCE

The Workshop was attended by delegates from ROPME Member States, GAOCMAO Members, UNEP/ROWA, MEMAC Consultants as well as the Professional Staff of MEMAC.

## OPENING OF THE WORKSHOP/EXERCISE

The Course was opened at 09:00 a.m. Sunday 6th May, 2001 where on behalf of H.E. Dr. Abdul Rahman Al-Awadi, Executive Secretary of ROPME, Captain A. M. Al-Janahi, MEMAC Director, welcomed the participants to this workshop. He stated that this Workshop and its Exercise is conducted for the first time in a tropical weather, where the oil behaviour is different from other climates. Further, he emphasized the importance of the Workshop and its Exercise which gives us the great opportunity to test our capabilities and different observation devices.

Finally, he thanked all the parties involved in supporting this exercise and wished the participants a positive and constructive training workshop and wished them a pleasant stay in Bahrain.

## ORGANISATION OF THE WORKSHOP/EXERCISE

FOR More than 20 months MEMAC has been planning this Workshop and its Exercise. Many Experts were consulted and many Organizations regionally and internationally have been contacted in order to arrange and obtain a useful reliable data for future guidance.

The events were divided into two parts, classroom and field exercise where specialised parties with MEMAC professional staff proceeded on the first day to the middle of the ROPME Sea Area in order of starting the exercise. The team started the exercise about midnight of the 7th and completed by the end of the 8th May.

The Workshop contents were covered in detail by Regional and International Experts in the field ;

- Rear Admiral Michael Stacey who was involved as Chairman of the Workshop.
- Mr. Alun Lewis, who was involved as an Expert with a similar exercise carried out three years back in the North Sea.
- Mr. Olov Fast, from Sweden who works as Manager on the aerospace surveillance.
- Dr. Peter Petrov, ROPME Expert in the field of surveillance, GIS and Satellite receiving station.
- Dr. Nabida Al-Majed, ROPME Scientific Expert .
- Dr. Richard Perry, Environment Research and Wildlife Development Agency (ERWDA), Expert in the field .
- Col. Suleiman Al-Busaidy, Advisor to H.E. at the Ministry of Regional Municipalities & Environment.

On the second day of the Workshop, participants were divided into two groups to fly by the helicopter and a fix wing aircraft DC-12 to observe the real oil slick from different altitude.

On the second and the third day all the images from different height taken by different devices by the aircraft and the satellite were brought to the table for discussion.

#### **Equipments involved in the exercise**

- T 56-A-14 turbo prop aeroplane
- Two helicopters
- Supply tug
- Two small tug boats
- Canadian Satellite
- Digital Camera/Video
- Advanced Imaging Multi-spectral sensor
- Spectrometer
- Infra-red
- Normal camera
- ROPME/MEMAC Trajectory Model

## **WORKSHOP SUMMARY**

**T**he Workshop subject has been covered and information shared between the International and other Regional Experts, where participants were introduced to the subject as follows:

- An Introduction to the oil sources, type, composition and analysis as well as the physical and chemical behaviour of spilled oil and the assessment of oil and hydrocarbons in the Region.
- Explanation given on the visual observation of spilled oil and the role of aircraft and satellites and other techniques used in the remote sensing of spilled oil.
- The theoretical side of the Workshop followed by a practical side by flying over the spilled oil in different altitude. An infra red, normal digital camera and satellite images obtained during the exercise and made available for the participants discussion.
- Further, a data analysis on oil pollution surveillance and modelling techniques have been introduced along with the laws and regulations concerning the oil pollution and the co-operation needed among the States with an introduction to the Bonn Agreement.



Some important notes and result from the exercise;

All the delegates and Experts noticed;

That the sea team who were involved with the oil slick and its combating operation, did not notice the size of the slick, even with an extra boat going through the spilled area.

The accurate size of the spill was found only with the aircraft, which makes the role of the aircraft of high importance in discovering the size and guiding the combating team on the site.

The behaviour of Arabian light crude oil in warm weather is highly different such as :

- It evaporates fast
- Difficult in mechanical combating
- Its degree of threat is less than heavy crude.

The Trajectory model, was very useful to tract the oil path and plan the combating strategy.

## **WORKSHOP RECOMMENDATION**

**A**t the end of the Workshop, Experts, Consultants and Participants expressed their views with the following important general suggestions and recommendations:



**T**he Meeting encouraged and suggested Member States to establish an accurate sensitivity mapping in co-operation with ROPME /MEMAC or to update the data in this respect and to be forwarded it to ROPME/MEMAC.

**R**OPME/MEMAC to make these sensitivity mapping available to Member States.

**A** Satellite receiving station to be established in complete and data to be utilized and made available to Member States.

**S**tudy of the possibility of preparing procedures and guidelines for aerial surveillance.

**T**o prepare a small booklet containing an aerial image of the Oil Pollution as a reference Guide.

## **CLOSURE OF THE WORKSHOP**

**O**n behalf of H. E. Dr. Abdul Rahman Al-Awadi, ROPME Executive Secretary, Captain Al-Janahi expressed the Organizations sincere thanks and appreciation to the Government of Bahrain for their support in giving the permission for the live exercise and combating equipment, to Bahrain Petroleum (BAPCO) for participating with the equipment, the crude oil and the dispersant, United States Coast Guard for participating with the aircraft, and to all the Regional and International Experts for their efforts in preparing the Workshop subject. The Workshop was declared closed at 15:30 hours on Tuesday 08th May, 2001.

## LIST OF PARTICIPANTS

### MEMBER STATES

#### STATE OF BAHRAIN

Mr. Essa A. Yateem  
Environment Protection

Mr. Mirza Salman Khalaf  
Environmental Affairs

#### STATE OF KUWAIT

Captain Ali Haider  
Environment Public Authority

Mr. Ali A. AlMerri  
Environment Public Authority

#### SULTANATE OF OMAN

Mr. Mahmood Mohammed Al-Zakwani  
Ministry of Regional Municipalities and  
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Mr. Salim A. Al-Suqri  
Ministry of Regional Municipalities and  
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Mr. Ali Jassim Al-Saigel  
The Supreme Council for the Environment and  
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#### STATE OF QATAR

Capt. Ali Rajab Al-Ashkanani  
Qatar Petroleum

#### KINGDOM OF SAUDI ARABIA

Mr. Yasser S.D. Al-Otaibi  
MEPA

Mr. Ziad Daghistani  
MEPA

Mr. Aziz W. AL-Omari  
MEPA-Eastern Province

## REGIONAL AND INTERNATIONAL ORGANIZATIONS

### ARAMCO Gulf Operation Co.

Mr. Dhaifallah Ali Al-Shamrani  
Mr. Fahad Al-Junaidi

### BAPCO

Mr. Mohammed Rashid Buhaila

### Emirates American Environmental Science Center

Mr. Ismail A. Al-Housani

### Qatar Petroleum

Mr. Mohammed H. Al-Malki

### SAUDI ARAMCO

Mr. Mohammed A. Al-Twejry  
Mr. Khalifa Said Al-Hussaini

### UNEP/ROWA

Dr. Mahmood Y. Abdulaheem

### MEMAC Consultant

Rear Admiral Michael Stacey

### Speakers

Mr. Alun Lewis  
Col. Suleiman Al-Busaidy  
Dr. Peter Petrov  
Dr. Nahida B. Al-Majed Bu-Tayban  
Mr. Olov Fast  
Dr. Richard Perry

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