Slajd 1

Experience from an ongoing project for Bulgaria, Romania and Serbia on joint management of transboundary emergencies from spills of hazardous substance into the Danube River

Mr. Neil Manning ICARO, Italy
Mr. Septimius Mara Ministry of Environment of Romania

Slajd 2

- Handling, transport and storage of hazardous substances is a key element in the management of the risk in the Danube river basin
- The events of accidental pollution recorded in the past stress the need for clear definition and design of the management of an emergency due to spill of a dangerous substance

Slajd 3

In the event of an accidental spill of dangerous substances into the river, following considerations apply:

- The substance is driven by water flow downstream the release point;
- The substance may react with water, air and soil and can be progressively transformed;
- The substance may travel along the river, causing transboundary effects.

Slajd 4

Project: Joint management of transboundary emergencies from spills of hazardous substance into the Danube River .
Objectives: Assist the authorities responsible for crisis management in Bulgaria, Romania and Serbia in taking steps aimed at further strengthening their effectiveness in organizing emergency preparedness and response.

Slajd 5

Project phases

The project follows four main phases Year 2009

- March K.O. Meeting
- June Tech Workshop
- September Premeeting; in field exercise
- October Final Workshop

Slajd 6

Kick off meeting - 17-18 March 2009 - Bucharest, Romania

Activities

- Discuss project implementation;
- Define actions for preparation of following steps
- Discuss approaches to modeling consequences of spills into rivers;
- Exchange experience in managing real emergencies of dangerous substance affecting international waters

Participants

- UN/ECE;
- IMET;
- Technical experts;
- Representatives of three Countries

Slajd 7

Main elements for the definition of emergency plan in trans boundary context are the following:

- Notification of the emergency through local/national/international channels;
- Emergency management at local/national/international level;
- Modeling of the spill for forecasting possible impact and alerting the potential involved areas.

Slajd 8

Technical Workshop - 16-18 June 2009 - Dobreta Turnu Severin, Romania

Activities

- Discuss procedures for notification of emergency in each country;
- Discuss procedures for emergency management in each country;
- Define the reference scenario for the spill into the river;
- Preparation of in field exercise.

Participants

- UN/ECE;
- IMET;
- Technical experts of different Countries;
- Representatives of three Countries

Slajd 9

SITE OF PRAHOVO, SERBIA

- Combustible tank farm
- Loading jetty to unload naval tanker into the storage tanks
- Operator on site controls each operation
- The circuit is provided with automatic and semi-automatic preventive measures

Slajd 10

REFERENCE SCENARIO

Source terms

- Sudden rupture of loading arm (diameter of 200 mm)
- Release of 118 kg/s of diesel oil on the Danube river

Mitigating measures

- Continuous presence of operators in the jetty
- Possibility to stop the pumps and isolate the line

Release time = 3 minutes

Total released amount = 21250 kg of diesel oil

Slajd 11

ENVIRONMENTAL FATE

Elements that influences dispersion

- Water flow rate (speed, turbulence, variability during the year, etc.)
- River characteristics (depth, presence of tributaries, etc.)
- Meteorology: Wind speed and temperature

Border with Romania → less than 800 m

Border with Bulgaria → 12500 m

Slajd 12

Technical Workshop - 16-18 June 2009 - Dobreta Turnu Severin, Romania

NOTIFICATION

- For severe emergencies on waters with transboundary consequences, in each country it is formed a body like Ministerial Operative Centre (MOC) that is taking the response decisions as well as decides on the notification to the neighboring countries;
- In Serbia no effective work on MOC;
- Countries use both the PIAC (ICPDR) and IAN (UN/ECE Convention) systems for notification;
- International notification is managed only at national level;
- Due to difficulties in languages and procedure notification not really exercised in the past.

Slajd 13

Technical Workshop - 16-18 June 2009 - Dobreta Turnu Severin, Romania

EMERGENCY MANAGEMENT

- Main discussion on the availability of manpower and technical tools for containing the spill (floating barriers, oil dispersant, boats, scuba divers);
- Particular concern in the logistic for transportation of such equipment since this operation might require several hours;
- no equipment for response action during night;
- Unavailability of External Emergency Plan in the Prahovo site;
- no existence of immediate procedures for issues like:
- stopping of navigation on the Danube;
- closing of water intakes (drinking, agriculture, and industrial);
- banning fishing.

Slajd 14

Technical Workshop - 16-18 June 2009 - Dobreta Turnu Severin, Romania

MODELING

- For modeling purposes of the dispersion of the oil spills only Romania was using a dedicated tool Danube Basin Alarm Model (DBAM) provided by ICPDR. Romania noted that the only available version of the software can be run at the computer with Windows 3.1;
- Upon request, ICPDR made available the updated version of the software running in Windows, which will be tested during the in field exercise (training needed);
- At the moment modeling software is not used or only very limited use during crisis management.

Slajd 15

Technical Workshop - 16-18 June 2009 - Dobreta Turnu Severin, Romania

DEFINITION OF IN FIELD EXERCISE

- the exercise would start with notification from the operator of the petroleum storage to the local authority in Serbia that it came to a rupture of the loading arm and that a release of diesel oil could not have been controlled by the operator forces.
- Time to respond in Serbia up to 6 hours since the floating barriers have to be transported from Belgrade to the Negotin region.
- Bulgaria and Romania could in the meantime start operating at border with floating barriers.
- In field exercise will last at maximum 7 hours and will be monitored by international team.

Slajd 16

In field exercise pre-meeting - 2 September 2009 - Negotin and Prahovo, Serbia

TECHNICAL ASPECTS OF THE IN FIELD EXERCISE

- Exercise will start at 8.30 a.m. from the Prahovo site on 24 Sept;
- The spill will be simulated with a floating material (possibly wood);
- 4 evaluators will be following the spill on a boat; one evaluator in each side of the bank (Serbia, Romania and Bulgaria);
- Serbia will notify from Belgrade at international level (IAN and PIAC);
- Romanian will organize the intervention after notification or in case pollution was identified in field;
- Bulgaria will intervene after notification at international level.

Slajd 17

In field exercise - 24-25 September 2009 - Prahovo and Danube region

SCOPE OF THE EXERCISE

- Monitoring the behaviour of the spill with a team of expert evaluators;
- Verify the effectiveness of the procedures for emergency notification and management;
- Verify the preparedness of people and means available for intervention;
- Workshop on the immediate results of the exercise.

Slajd 18

Final Workshop - 28-29 October 2009 - Sofia, Bulgaria

Activities

- Discuss the analysed data;
- Sharing of experience with other Assistance Programme countries;
- Draft blueprints for improving crisis management
- Development of External Emergency Plan for Prahova-Negotin region

Participants

- UN/ECE;
- IMELS;
- ICARO;
- Technical experts of different Countries;
- Representatives of three Countries;
- Observers

Slajd 19

Expected project results

IDENTIFY MEASURES TO IMPROVE PREPAREDENESS OF THE COUNTRIES STRANGHTENING THE JOINT MANAGEMENT IN TRANSBOUNDARY CONTEXT

- Contingency and response Plans evaluation;
- Oil spill response activities:
  - Containment
    - Recovery
    - Disposal
    - Recycle Hazardous waste

- Equipment
  - What and where located
  - application and use
  - Use of additives

Slajd 20

Romanian perspective

LEGISLATION

- In Romania, at transboundary level, issues of the accidental problems were taken legally into account after 1990, by promoting **International Convention**, such as:
  - (i) Convention on the Protection and Use of Transboundary Watercourses and International Lakes done at Helsinki on 17 March (Law 30/26.04.1995),
  - (ii) The 1992 Convention on the Transboundary Effects of Industrial Accidents, Helsinki 1992 (Law 92/18.03.2003, in the Official Gazette 220/02.04.2003)
  - (iii) Danube River Protection Convention in Sofia, Bulgaria on June 29, 1994 (Law 14/24.02.1995).
  - (iv) ESPOO 1991 (Convention on Environmental Impact Assessment in a Transboundary Context - (Law no. 22/2001, M.Of. no.105/2001);
- Even before 1990's, were indicated into the framework activity of the **"Bucharest Declaration (1985),** the information exchange between the countries, in case of the accidental pollution within the Danube River hydrographical basin.
  - the implementation of the Water Framework Directive, regarding the improvement of the water quality state, is a condition for assuring a better standard of water services for population and environmental preservation, for a safe living into a Common European space**.**

Slajd 21

Romanian perspective - ORGANIZATION

Primary information flow in case of a local accidental pollution (with local effect) at the level of a hydrographical basin (Romania)
Dispatching Center Ministry of Environment
"ROMANIAN WATERS" NATIONAL COMPANY
TERRITORIAL UNIT

a. identified pollution
b. unidentified pollution (initial moment)

is not initiated information transmission
is initiated information transmission (a) and (b)
Water management system from the local level (SGA) – counties
Water users
accidental pollution

Slajd 22

Romanian perspective

Danube Basin Alarm Model experience

- The efficiency of the Romanian PIAC was firstly proved during the Kosovo war, in spring of 1999, when communicated the state of the Danube at the entrance in Romania, due to contradictory news about the NATO bombardments on economical objectives and refineries on the Danube banks (Novi Sad, Pancevo); The Romanian PIAC maintained the contact with the downstream transboundary countries, and by simulations on DBAM-model for a potential oil spill, took the necessary measures for preventing any contamination, being noticed that finally no any visible negative affects were recorded on Danube water quality;
- Following the technical accident involving the tailing dam nearby Baia Mare in January 2000, the Romanian PIAC announced in due time the population and the transboundary countries, using the DBAM-model, and transmitting more than 200 accurate information messages about surface water quality status, in order to take the necessary measures for preventing any contamination, being noticed that no any affected persons were recorded;
- The feasibility studies shows that the investment and operating costs of AEWS-PIAC system are less than the potential damages occurred due to accidental pollution with transboundary impact.

Slajd 23

Romanian perspective – Communication system for water pollution

HUNGARY; UKRAINE; ROMANIA
Water management Dispatching centers of the Somes-Tisa basin

Slajd 24

Romanian perspective - Danube Basin Alarm Model experience

Danube Basin Alarm Model used during 1999 Kosovo War (preview)

Slajd 25

Romanian perspective – accidental pollutions

Fig: The efforts for clean up the accidental oil pollution during 2-9 October 2006, on the Romanian part of the Danube (km 800-865), accounted almost 275000 Euro's (of which 50000 Euro's for absorbents supporting the competent authorities from Bulgaria).

Slajd 26

Romanian perspective – accidental pollution

October 2006

CRITICAL ISSUES:

- Missing the international Notification from Serbia;
- Lack of communication and co-operation with Serbia;
- Equipment and manpower not well dimensioned for fighting the emergency.

Slajd 27

Romanian perspective

Project expectation

NOTIFICATION

- Increase co-operation with Serbia and Bulgaria in case of revealed pollution into the Danube;
- Apply international Notification through two different systems (IAN – UN/ECE system and PIAC – ICPDR), among different institutions which are responsible at national level.

Slajd 28

Romanian perspective

Project expectation

MANAGEMENT

- Identification and sharing of the potential pollution sources at international level, especially with the pollutant that might come from upstream the Romanian course of Danube;
- In field verification of the effective behaviour of a potential spill of oil in order to alert most vulnerable areas and provide the most suitable equipment for emergency management.

Slajd 29

Romanian perspective

Project expectation

MODELLING

- Share experience with other Danube Countries on the use of common available models (DBAM, developed by ICPRD);
- Use information from real outcome of the in field exercise in order to improve capability of the modelling tool as a useful instrument during the emergency development. (from Danube stations)

Slajd 30

Thank You