
Enhancing hazard and crisis management and cross border cooperation between The Republic of Moldova, Ukraine and Romania in the Danube Delta

Colonel Vitali MUTAF
Head of Security Regulations Directorate
Length of Danube river = 2600 km
Outflow in Danube Delta
Delta is important biological filtering system for the Black Sea
Oil terminals with high risks of spills
Oil terminals on 135 km of Delta
Risks for negative impact on Delta by spills

Effective cross-border cooperation on industrial safety in the Danube area is crucial, because hazardous industries are located at transboundary watercourses with an outflow through the Danube Delta into the Black Sea.
CONTRIBUTION OF THE ACCIDENTAL POLLUTION

Petroleum product
Chemicals
Farming
Others
Transboundary impact contribution compared to all accidental pollutions recorded by the AEWS-Danube
UNECE Danube Delta project
Why it started

Analysis done by The Republic of Moldova, Ukraine and Romania shows that:

- Cross border cooperation is insufficient
- Information and notification on hazard sources needs to be improved
- Insufficient preparedness and response mechanisms to emergency situations
  Hazard and crisis management needs improvement
- Cooperation needs to be formalized

Project carried out under the UNECE Industrial Accidents Convention's Assistance Programme
The general objective of the project was to improve cooperation between the three Danube area countries (Republic of Moldova, Ukraine and Romania) on hazard and crisis management.

Therefore the project was focused on:

- Improving the cooperation between authorities and private sector
- Enhancing industrial safety
- Enhancing the hazard and crisis management
- Reducing the risks of spills (oil and chemicals)
- Reducing the threat of a negative impact on the quality of the (aquatic) environment
Hazard Management

- harmonising procedures on prevention and safety standards
- drafting an agreement on hazard and crisis management
- drafting safety guidelines for oil terminals
- training of inspectors
- a seminar for exchange of information
- a joint visit to major hazardous facilities
- workshops to discuss and draft documents
- joint training sessions
- development joint contingency plan

Crisis Management

- working on cooperation in case of an emergency
- working on requesting and receiving mutual assistance
- reviewing emergency plans
- a seminar to compare emergency plans
- a top-table exercise to test procedures
- an in-field exercise to test procedures and mutual assistance
- a workshop to evaluate and work on improvement
- development agreement cross border cooperation
Checklist “history”:

Under the Convention-s Assistance Programme and with the financial support received from the German Federal Minister for the Environment:

- February 2010, Belgrade, Serbia - elaboration of a first version of the checklist;

- March 2011, Zagreb, Croatia – second version of the checklist (shorter and more user-friendly)
ADVANTAGES to USING THE CHECKLIST-METHOD:

- Consistent procedure;
- Systematic method;
- Base for documentation;
- Thread for inspection of complex installations;
- Quality control;
- Tool for beginners.
1. Dividing the factory into smaller units

2. Choosing the relevant checklists for the selected installation

3. Result of using the checklist:
   - Catalog of defects which are detected;
   - Possible measures for rebuilding;
   - Assessment the risk-level of the installation
1. Description of the safety requirements of installation (and parts of it) according to the recommendations

2. Questions catalog

3. Examples of measures

4. Assessment of the risk up to date
CHECKLISTS:

- Substances
- Overfill safety systems
- In-plant pipeline safety
- Joint storage
- Sealing systems
- Wastewater split flows
- Transshipment
- Fire protection strategy
- Plant monitoring
- Internal alarm and hazard control planning
- Industrial plant in areas with a risk of flooding
- Structure of Safety reports
- Storage
- Equipment of tanks
Focus on oil terminals

Reni (Ukraine)
Giurgiulesti (Moldova)
Galati (Romania)
Activities Danube Delta Project

- Technical workshop on hazard management
- Joint Visit to the ports of Galati, Odessa and Giurgulesti
- Hazard and crisis management week
- Technical workshop on crisis management
- Field and Table Top exercise on the Danube Delta
- Development and testing Joint Contingency Plan
- Development trilateral agreement
<table>
<thead>
<tr>
<th>ref nr</th>
<th>GIP - Construction - Installation – Commissioning</th>
<th>Specific requirement</th>
<th>ASSESSMENT</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>* Stakeholder mapping and analysis of stakeholder needs to enable effective communications (para 48).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Prior to construction to obtain permits, approvals, licenses and other documents in state and local authorities.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Internal Emergency Plan (para 46) (4.1.1).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Hazard and Risk Assessment during construction and commissioning, including Pre-start up safety reviews (para 45) (1.5 &amp; 2.5.1).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Purchasing of equipment &amp; materials according to GIP (para 43) (1.4).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Ensure an adequate level of quality control of purchased equipment and related construction work (incl. nondestructive testing of piping according to planned arrangements) (1.4).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Ensure inspections are carried out as required / planned in accordance with legal requirements, including material certificates testing, (para 41, 44, 55).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Proof-testing overfill protection systems to ensure a reliable operation (1.3.3 &amp; 2.3).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Ensure adequate involvement of specialized construction and commissioning companies where needed.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Ensure that contractors work only with trained, qualified personnel (para 4 &amp; 5).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Monitor the conditions of temporary storage of equipment at construction site and follow-up the level of pollution, while respecting the ALARP principle.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Monitor performance and compliance with all contractor work.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Performance monitoring making use of leading &amp; lagging indicators (2.10).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Internal audits of the OTMS (para 13) (2.12).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Lessons learned and feedback mechanism (2.13).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Notification of the CA when leakages or significant irregularities occur during construction or commissioning of the OT.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NO</td>
<td>WEAK</td>
<td>GOOD</td>
<td>EXCEL</td>
</tr>
<tr>
<td>-----------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
</tr>
<tr>
<td>No management activity</td>
<td>Guidance in place but limited application</td>
<td>High degree of conformance to internal standard</td>
<td>State-of-the-art</td>
<td></td>
</tr>
<tr>
<td>No formal guidance</td>
<td>Formal guidance / procedures available</td>
<td>High level of implementation ( &gt; 75% realized)</td>
<td>High level of implementation ( &gt; 90% realized)</td>
<td></td>
</tr>
<tr>
<td>No evidence or auditable results</td>
<td>Implementation started but in limited areas</td>
<td>Management Performance standards available</td>
<td>Best Practice and showcase for other units</td>
<td></td>
</tr>
<tr>
<td>Anecdotic information</td>
<td>Results measurable, but ad hoc</td>
<td>Internal controls &amp; audits in place</td>
<td>High Added Value</td>
<td></td>
</tr>
</tbody>
</table>
Joint Contingency Plan testing:  
Field and Table Top Exercise

- Joint training and exercise of the response organizations
- To test and practice:
  - emergency procedures for notification, communication, preparedness and emergency response
  - procedures for requests for mutual assistance
  - the Joint Contingency Plan, provide feedback and to finalise
  - command and control and decision making mechanisms
  - the assessment capacity and capabilities
  - cross-border cooperation
Evaluation results

Notification and communication

- Response to the notification of the accident was in some cases not sufficient. Information flow was slow.
- Some problems with (international) communication (phone, internet, different frequencies, language).
- Notification systems (PIAC and UNECE IAN) were activated with delay.
- Insufficient communication between the countries about sampling, assessments, analysis, forecasting on potential risks etc.
- No recording/logging of relevant information (as decisions, measures)
- Acoustic warning and alarming signals were not sufficient
- A train passed the accident! Authorities were not informed
Evaluation results:

**Deployment**

- Dedication of all staff was admirable.
- Response teams reported that there is a shortage of response forces and trained/certified staff who are permanently available for operations. Example: full equipped boat but not sufficient and trained staff to operate the boat.
- Procedures and rules of governance in the emergency response in the Joint Contingency Plan seemed not to be clear for the key players.
Recommendations and lessons learned

- Develop a training program for the response services and their key experts and professionals to various types of accidents and execute the program systematically.
- Integrate in such a program as well the exercises and trainings with the neighboring countries.
- Investigate opportunities for mutual assistance and support regarding sampling and analysis of hazardous substances as well the exchange of expertise, and train the mutual exchange and cooperation.
- Develop a set of rules and an action plan to ensure the implementation of the joint declaration as agreed by the 3 countries.
- Review the evaluation report, discuss it at the national and international level between the 3 countries and develop an action plan.
- Revise the current Joint Contingency Plan based on the findings and actions to be taken.
- And: train, train and train !!
Some impressions
Thank you for your attention!

Colonel Vitali MUTAF
Ministry of Internal Affairs
Republic of Moldova
General Inspectorate for Emergency Situations
Deputy Head of Security Regulation Directorate
vmutaf@mail.ru