

**UNECE Convention on the Transboundary
Effects of Industrial Accidents**

Project under the Assistance Programme



Workshop Proceedings

Technical Workshop on Crisis Management

13-14 December 2011

Chisinau, Republic of Moldova

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Overview and findings of the Workshop

In the framework of the Danube Delta Project (DDP) Romanian, Moldavian, Ukrainian and Belarusian experts participated in a two-day technical workshop on crisis management that was held in Chisinau, Republic of Moldova, from 13 to 14 December 2011. The first technical workshop on crisis management allowed for a good and necessary exchange of information on national procedures for contingency planning and response to industrial accidents. It was the first step to advance the cooperation under the crisis management component of the project between the three project countries Republic of Moldova, Romania and Ukraine, under the participation of Belarus.

The workshop was facilitated by experts from the Netherlands, Poland and France that held a presentation on examples for good practices, facilitated the work in groups during the break-out sessions and moderated or participated respectively in the panel discussion at the end of the workshop. Through their guidance, the workshop participants described the procedures for emergency preparedness and response in their countries and identified areas for further improvements in the national and transboundary context.

During the first day of the workshop the project countries informed each other about their national legal basis for adequate emergency preparedness and response, including for effective transboundary cooperation. They gave each other further an overview of their existing mechanisms and procedures for emergency preparedness, in particular of their on-site and off-site emergency plans for the ports in Galati, Giurgiulesti, Izmail and Reni. Based on that, the workshop participants – that were divided into three mixed groups – discussed in a break-out session deficiencies of the existing mechanisms for emergency preparedness and identified areas for improvements, in accordance with the Convention's indicators and criteria.

The participants found that their national procedures and principles for emergency plans are similar and are, besides some irregularities, working well. However, the analysis also revealed that there is insufficient transboundary cooperation between the relevant authorities of the project countries, in particular with regard to the exchange of data, the joint use of resources as well as the coordination, testing and compatibility of emergency plans.

During the second day of the workshop the participants informed each other about the existing national procedures and mechanisms for emergency response and learned about the experience in, for instance, the Netherlands or the Black Sea Commission. Based on that, the participants that were again divided into three mixed groups discussed in a break-out session deficiencies of the existing mechanisms for emergency response in case of an accident with transboundary effects and identified areas for improvements, in accordance with the Convention's indicators and criteria.

The participants found that there are good-working procedures and mechanisms for emergency response on the national level, however, that there is no sufficient transboundary cooperation due to (i) a lack of procedures for transboundary notification on the operator level, (ii) the absence of protocols or procedures for transboundary cooperation or the request of assistance in case of an emergency, (iii) the existing inflexible provisions for visa and customs between the countries and (iv) language barriers.

Taking into account the findings of the two-day workshop, the project countries emphasized the need to harmonize the existing procedures and mechanisms for emergency preparedness and response. They concluded further to establish a joint contingency plan for the Danube Delta that should be given priority to by all three project countries. Therefore, they agreed to draw up detailed national reports about the outcome of the workshop in order to use them as a basis for the elaboration of the joint agreement.

The technical workshop on crisis management was closed with an expert presentation and plenary discussion on exercising scenarios that showed the rationale for exercising the response to emergency situations, such as oil spills on rivers, and that helped the project countries to set the goal, scope and plan for the foreseen table-top exercise in 2012.

The purpose of the technical workshop was to initiate the discussion on crisis management among the project countries Republic of Moldova, Romania and Ukraine. As a result of the workshop, the project countries have (i) acquired clear knowledge of each other's legislation, similarities and differences, (ii) got an overview of gaps in their legal frameworks and ideas for improvements, including for the transboundary cooperation and (iii) reached a basic agreement on how to develop and evaluate a scenario for the upcoming table-top exercise in 2012. By this, the technical workshop on emergency preparedness and response helped the project countries to set the basis for the future work under the DDP crisis management component.

1 LEGAL BASIS FOR ADEQUATE PREPAREDNESS AND RESPONSE IN THE PROJECT COUNTRIES, INCLUDING FOR EFFECTIVE TRANSBOUNDARY COOPERATION

1.1 Presentation of the Republic of Moldova

Presented by Liudmilla David, Ministry of Internal Affairs, Civil Protection and Emergency Situation Department

1.1.1 The Government Resolution no 1076 from 16.11.2010 “On the classification of the emergency situations and the way of collection and submission of the information in the field of protection of population and the territory in case of emergency situations”

Technogenic emergency situation – the case when after occurrence of the technogenic emergency situation at an object or on a territory, the normal living and working conditions of population are interrupted, a threat for their life and health is noticed and the economy, the population goods and the environment are damaged.

Emergency situation area is the territory on which the emergency situation occurred.

Liquidation of the emergency situation consequences– activities of rescue-release and other emergency measures that are undertaken in case of emergencies and that are oriented towards saving population lives and health, reducing the damage caused to the environment and reducing the material losses, as well as location of the of the emergency situation areas and interruption of the dangerous factors action.

According to the level of extent and severity of the consequences, the following types of emergency situations exist:

- Object emergency situation;
- Local emergency situation;
- Territorial emergency situation;
- National emergency situation;
- Transboundary emergency situation.

Transboundary emergency situation is the situation when the destructive factors exceed the boundaries of the Republic of Moldova or the emergency situation that occurred abroad, but it affects the territory of the Republic of Moldova.

1.1.2 Liquidation of the emergency situations consequences

The consequences of the emergency situations are liquidated with the aid of forces and means of the organizations, institutions and economic agents, regardless of the legal form of organization, and the local public authorities on whose territory the emergency occurred, under the coordination of emergency situations commissions.

The liquidation of transboundary emergencies consequences is carried out on the basis of the Government Resolution according to the provisions of the international law and international agreements of the Republic of Moldova:

1.1.3 Law on the civil protection, no 271-XIII from 09.11.1994

- Art. 5, e) „Parliament declares emergency state in case of threat and occurrence of an emergency”;
- Art. 7, h) „The Government informs the Parliament and the President of the Republic of Moldova about the threat of occurrence and the occurrence of emergency situation”;
- Art. 8, The Civil Protection and Emergency Situation Service of the Ministry of Internal Affairs a) „undertakes the direct coordination of the Civil Protection in the republic and is responsible for the liquidation of the emergency situations effects”; c) „informs the local public authorities about the threat and the occurrence of the emergency situations”; f) „organizes the realization of the rescue activities and of other urgent activities by the Civil Protection subdivisions in case of an emergency”;
- Art. 9, f) „The ministries and other central authorities ensure the realization of the rescue measures and of other measures in case if an emergency”
- Art. 10; The local public authorities d) „organizes the realization of the of the rescue measures and of other urgent measures in case if an emergency”; e) „ensures the timely notice of the population in case of threat or occurrence of an emergency and informs about the rules of conduct and actions in case of an emergency”;
- Art. 11, The rights of the civil protection personnel: „The civil protection personnel takes part in the prevention and liquidation of the emergency situation effects on the territory of other countries in accordance with the intergovernmental agreements”;
- Art. 13 , 6 e) „The Republic of Moldova citizens, the foreigners and the stateless population that live on the territory of the republic are required to participate actively in the liquidation of the emergencies effects and to assist the affected people”;
- Art. 16, f) „The administrators of the local public authorities and of the economic units are required to carry out rescue activities and other urgent activities in case of emergencies”.

1.1.4 The Resolution no 249 from 04.05.1996 for the approval of the Regulation on the non-military formations of the civil protection

The non-military formations of the civil protection (CP) are the forces created for the liquidation of the consequences of the natural disasters, accidents and catastrophes, as well as for the realization of the civil protection prevention measures in order to mitigate the population losses, to reduce the economic damages and in case of military actions.

The CP formations PC are composed of detachments, teams, groups, stations and subdivisions of different purposes that are created, equipped and trained according to the territorial production principle. They are established in the republic, municipalities, cities (sectors of Chisinau municipality), districts, villages and ministries, departments, institutions, associations, organizations, education institutes, economic units, regardless the legal form of organization, subordination and membership.

1.1.5 Regulation of the National Observation Network and Laboratory Control on the contamination (pollution) of the environment with radioactive, poisonous and very toxic substances and biologic agents

The observation and the laboratory control is organized in order to determine in a timely manner the radioactive, chemical and biological contamination (pollution) of the soil, air, food raw materials, fodders and other environment objects, as well as in order to undertake in a timely manner the population, civil protection, animals, plants and water protection measures de protecție a populației, against the radioactive, poisonous and very toxic substances and biologic agents (2 p. Government Resolution no 961 from 21.08.2006). In case of emergency situations, the observations network and the laboratory control involve in their activity the research and observation teams of the local public authorities and of the economic units.

When an emergency occurs or on a basis of a special decision of the Government, the scientific research institutes in the field of epidemiology, toxicology and ecology of the Ministry of Health, Ministry of Agriculture and Food Industry, Ministry of Environment and Academy of Sciences of Moldova form, on the basis of their own laboratories, centers for determination of the biologic agents and chemical-toxicological substances, for identification of microorganism strains and for the methodological assistance of the district, municipal, central and local institutions of the national network (4 p. Government Resolution no 961 from 21.08.2006).

1.1.6 Law of the Civil Protection and Emergency Situations Service, no 93-XVI from 05.04.2007

Civil Protection and Emergency Situations Service of the Ministry of Internal Affairs organizes and carries out the rescue activities, as well as other urgent activities, in case of an emergency or conflagration, and liquidation of their consequences. (art. 8 pct. 1 b).

1.1.7 Law on the toxic products and substances regime, no 1236-XIII from 03.07.1997

The estimation of the forces and means needed for the prevention of the accident situations during the transportation and use of the toxic substances and products, as well as for the liquidation of the consequences of the eventual accidents, is developed and approved by:

- Civil Protection and Emergency Situations Service of the Ministry of Internal Affairs in cooperation with the Ministry of Environment, Ministry of Transports and Roads Infrastructure, Ministry of Health and other subdivisions at republic level (art. 4 pct. 4 e);
- Local public authorities in cooperation with the health and environment territorial authorities on the relevant territory (art. 5 c);
- Civil Protection and Emergency Situations Service of the Ministry of Internal Affairs in cooperation with the Ministry of Environment coordinates the measures foreseen by the local public authorities in order to prevent and liquidate the consequences of eventual accidents and conflagrations (art. 4 pct. 4 g, Law on the toxic products and substances regime, no 1236-XIII from 03.07.1997).
- The individuals and companies are required to undertake measures for prevention and liquidation of the toxic effects on population and environment (art. 8 pct. 1 a, Law on the toxic products and substances regime, no 1236-XIII from 03.07.1997).

1.1.8 Law on the environmental protection, no. 1515 from 16 June 1993

- Art. 49 – The port administration is required to insure the establishment of specialized subunits for operative interventions in case of accidental water pollution and for decontamination measures.
- Art. 71 – The economic agents, regardless the legal form of organization, are required: c) to establish necessary conditions for prevention of the accidental pollution of environment with any type of chemical substances, and in case of its pollution to liquidate urgently the consequences and to repair the caused damage.

1.1.9 Law on industrial security of the hazardous industrial objects, no 803-XIV from 11.02.2000

The economic agent that performs activities on an industrial hazardous object is required:

- To cease the exploitation of the industrial hazardous object, on its own initiative or on the basis of the recommendation of the relevant authority in the field of industrial security, in case of an accident, incident or in case of occurrence of any circumstances that may affect the industrial security (art. 10 pct. 4 n);
- To undertake measures for location and liquidation of the accidents effects at an industrial object, to assist the public authorities in the technical research of the accident's reasons (art. 10 pct. 4 lit. o);
- To take part in the technical research of the accident's reasons at the hazardous industrial objects, to undertake measures for the liquidation of these reasons and for accidents prevention (art. 10 pct. 4 p);
- To analyze the reasons of the accident that occurred on the hazardous industrial object, to undertake measures for the liquidation of these reasons and for accidents prevention (art. 10 pct. 4 q);

To ensure the adequate level of preparedness for activities related to location and liquidation of the accidents effects at the industrial hazardous object, the economic agent is required to establish, on legal basis, reserves of financial and material resources for the location and liquidation of the accidents affects (art. 11 c).

The relevant authorities in the field of industrial security coordinate the regulations on the performance of the activities in the fields of industrial security, the plans for location and liquidation of the eventual accidents during the works in industrial security, the personnel training and retraining programmes in the field of industrial security (art. 17 pct. 2 i).

1.1.10 Other normative acts

- Government Resolution no 672 from 28.05.2002 "On the transportation of the hazardous goods on the territory of the Republic of Moldova";
- Government Resolution no 45 from 24.01.1994 "On the regulation of the hazardous loads transportation on the territory of the Republic of Moldova and liquidation of the consequences of an eventual accident";
- Directive no 2/500 from 15.11.2000 "On the organization of the personnel and population protection against the effects of the radioactive and very toxic substances";
- Directive no 120d from 10.12.2004 "On the improvement of the personnel, officers and population protection against the radioactive and very toxic substances".

1.2 Presentation of Romania

Presented by Cristina Pintilie, General Inspectorate of Emergency Situations

1.2.1 International legal framework for adequate preparedness and response in case of industrial accidents with transboundary effects

1985 – Bucharest Declaration (1985) – The first important agreement regarding the Danube protection – introduces system for water quality monitoring in the transboundary context the quality of border-line waters;

1987 – Montreal Protocol for ozone depleting substances – an international treaty for the protection of the ozone layer by gradual shutdown of manufacturing ozone depleting substances;

1989 – Basel Convention regarding transboundary transport of dangerous waste materials and their elimination, establishes certain kinds of waste materials to be transported, be in transit, exported, imported or notified;

1991 – ESPOO Convention – The convention for transboundary environmental impact assessment, establishes a coherent methodology for assessing transboundary environmental impact, requiring the member-states to take firm prevention actions, reduce and control the transboundary impact of industrial activities on the environment.

1992 – The Helsinki convention for the protection and use of transboundary waterways and international lakes. The stakeholders` actions are governed by precaution, the “polluter pays” principle and the principle of sustainability;

1992 – The Helsinki Convention on transboundary effects of industrial accidents – unitary legal framework aimed to prevent and mitigate industrial accidents with potential transboundary effects;

1994 – The Convention regarding cooperation for the protection and sustainable usage of the Danube River, mandated in Sofia, Bulgaria establishes the objectives, principles and ways of cooperation for riparian member states, measures for the protection of water resources, mitigation of emissions, monitoring programs, reporting and information exchange obligations for the effective management of emergency situation in the Danube river basin.

1.2.2 National emergency management legal framework

- Governmental Decision. no. 21/2004 – referring to the National Emergency Management System
- Governmental Decision. no. 1489/2004 – referring to the organization and functioning of the National Committee for Emergency Situations;
- Governmental Decision no. 1490/ 09.09.2004 – Regulations of organization and functioning of the General Inspectorate for Emergency Situations;
- Governmental Decision 1491 / 28.09.2004 – Regulations on organization, functioning, tasks and endowment of operative committees and emergency situation centers;
- Governmental Decision 1492 / 28.09.2004 – organization principles, functioning and tasks of the professional emergency services;
- Civil Protection Law no. 481 / 08.11.2004;
- Governmental Decision no. 2288/ 09.12.2004 – allocation of the main support function for the ministries, central public authorities and non-governmental organizations considering the management of the emergency situations.

1.2.3 Specific national legal framework

- Law no. 92/2003 for acceding to UNECE Convention on the transboundary effects of industrial accidents adopted on 17 March 1992 in Helsinki;
- Ministerial Order no. 811/2010 regarding the approval on publishing the acceptance of the amended Annex I of the UNECE Convention on the transboundary effects of industrial accidents adopted on 17 March 1992 in Helsinki;
- Governmental Decision no. 804/2007 on the control of major accident hazards involving dangerous substances;
- Ministerial Order no. 1084/2003 concerning the notification procedure for activities with major – accidents hazards involving dangerous substances;
- Ministerial Order no. 647/2005 regarding methodological norms for the elaboration of emergency plans;
- Ministerial Common Order no. 520/1318/ 2006 for approval of the major accidents investigation procedure.
- Convention on the transboundary effects of industrial accidents - Law 92/2003
- Emergency preparedness measures have to be established and maintained and must mitigate transboundary effects of accidents;
- On - site duties are undertaken by operators;
- On - site and off - site contingency plans have to be prepared and implemented;
- Contingency plans are reviewed regularly;
- The parties concerned shall inform each other of their contingency plans;
- Adequate information is given to the public in the areas possibly affected by industrial accidents;

- The public of the possibly affected country is given the same opportunity as the public of the origin country to participate in relevant procedures.
- Governmental Decision (GD) no. 804/2007 on the control of major - accident hazards involving dangerous substances—transpose in national legislation Directive 96/82/EC-Seveso II and Directive 2003/105/EC of the European Parliament and of the Council amending Council Directive 96/82/EC (replace Governmental Decision no. 95/2003) is aimed at the prevention of major accidents which involve dangerous substances, and the limitation of their consequences for man and the environment, with a view to ensure high levels of protection throughout the Community in a consistent and effective manner.

1.2.4 National water pollution legal framework

- No. 107/1996 Water Law;
- Ministerial Order no. 278/1997: Framework methodology for the development of pollution prevention and mitigation plans for water users;
- Ministerial Order no. 84/1995 for the organization of the Principle International Alert Center (PIAC) in case of pollution of the Danube River;
- Ministerial Order no. 485/1995 – regarding the regulations for the organization and functioning of the Alert System in case of Romanian waterways accidental pollution, SAPA-ROM;
- Ministerial Common Order no. 420/638/2005: Regulations for the management of emergencies due to floods, dangerous meteorological phenomena, hydro dam constructions and accidental pollution;
- Emergency Ordinance no. 152/2005 regarding integrated pollution prevention and control;
- Ordinance no. 195/2005 for environmental protection.

1.2.5 NO. 107/1996 Water Law

Romanian Waters” NA (11 Water basin Administrations) – main attributes:

- Preventing accidental pollutions and mitigation of effects (distinctive plans developed according to the water basins` particularities and polluting substances which might be released);
- Identifying the pollutants and causes
- Early warning of users and public authorities for downstream localities in order to take protective measures or equip and use mitigating measures and
- Intervention (whichever the cause of the pollution phenomenon).

Water users and other dependencies:

- Developing pollution prevention and mitigation plans;
- Application of the plans in case of need;

- Ministerial Order no. 278/1997 – Framework methodology for pollution prevention and mitigation plans;
- Water users who have produced an accidental pollution: (i) Urgent mitigation measures; (ii) Immediate notification of the nearest water management system; (iii) Endowment and use of distinctive intervention mean (whichever the cause of the pollution phenomenon).
- Potential polluters, maritime, fluvial and navigable waterways ports administrations, other water users: Endowment and use of distinctive intervention means (whichever the cause of the pollution phenomenon);
- Individuals and companies which have suffered economic losses caused by upstream pollution or destruction of an upstream water retaining structure: Are entitled to compensations from the polluter, according to the law;

Polluter pays – for: (i) Consequence mitigation; (ii) Monitoring the pollution; (iii) Identifying of the pollutant; (iv) Acknowledge the effects of the pollution.

1.2.6 Ministerial order no. 278/1997: framework methodology for the development of pollution prevention and mitigation plans for water users

Prevention and mitigation plan: any potential water pollutant use or one which can lead to events which imply accidental water pollution.

Lack of plans or not enforcing them leads to sanction.

1.3 Presentation of Ukraine

Presented by Serhii Obodovsky, Department of Civil Protection, Ministry of Emergency Situations in Ukraine

1.3.1 Laws of Ukraine on management of emergency situations involving filling, leakage, spillage and release of hazardous for water substances, including the transboundary issues

- “On the civil protection of Ukraine”;
- “On the legal framework of the civil protection”;
- “On the rescue services”;
- “On the legal regime of the emergency situations”;
- “On the protection of population and the territory against the technogen and natural emergency situations”;
- “On the high risk objects”.

1.3.2 Decrees of the president of Ukraine

- On the concept of the population and territory protection in case of threat or occurrence of an emergency;
- On the measures for increasing the level of protection of population and the territory in case of threat or occurrence of natural and technogen emergencies;
- On the status of the Ministry of Emergency Situations of Ukraine.

1.3.3 Resolutions and order of the chamber of ministers on the unique state system for prevention and response to technogen and natural emergency situations

Provision of security and of protection of the population, economic units and national patrimony of Ukraine against the effects of an emergency is considered an integral part of the national security and state construction policy.

The Law of Ukraine №1809-III from 8 June 2000 «On the protection of population and territory against natural and technogenic emergency situations» (article 3) establishes the directions, objectives, tasks and main measures on the protection of the population and territory. The Article 32 of the Law establishes the responsibilities of the local public authorities as regards the population and territory protection and regime of such protection system operation. The Article 35, 36 of the Law establishes the order of the financial and material provision of the protection measures, the Article 8 of the Law establishes the order of the publicity and information provision in the field of population and territory protection.

1.3.4 Preparedness of forces and means for response in case of emergency situations involving filling, leakage, spillage and release of hazardous for water substances, including the transboundary issues in Odessa Region.

In the Odessa Region there two risks related to 2 large European rivers – Danube and Nistru. A risk for the environmental compounds is the gold and silver deposits “Rosia-Montana” (Romania), located within the catchment tributary of Danube and Tisza River. A risk of chemical contamination (first of all of air and water) are the chemical enterprises located in the border areas of Romania – fertilizers factory (Roznov city), oil refinery (Gheorghe-Gheorghiu-Dej city), Rosia Montana factory (Romania), chemical fiber factory (Iasi city), complex fertilizers factory (Turnu-Magurele city) organic fertilizers factory (Codlea city).

In October 2006 on the territory of Republic of Moldova, near the Giurgiulesti village, located close to the Odessa region (Reni district), there was build an oil terminal. It is necessary to underline that the hydrological conditions of the terminal location (of Prut to Danube) will contribute to spreading of the oil products exactly along the Ukrainian part of Danube.

On the territory of Odessa region it is located the Cuciurgani reservoir, on whose shore there was built in 1964 the Moldavian hydro power plant .Yearly the Moldovan HPP realizes the water exchange in the Nistru river are flowing ca. 20 million cubic meters with high salt concentration. The Cuciurgani reservoir is located in the second stripe of sanitary protection zone of Odessa catchment.. The actual situation represents a risk for the water quality in the catchment area. In order to ensure the necessary water reserves, along the Cuciurgani reservoir, there was build a dam. Because of this dam, the water level has raised by 3,5 m. together with the reservoir, a drainage system is build that is part of Moldovan HPP. The drainage system is working unsatisfactory that leads to the flooding of the neighboring localities Cuciurgani and Limansk.

The entities responding to emergency situation in Odessa region are the following:

- The main departments of MES in Odessa;
- Special detachment of the operative rescue service of the civil protection service of MES of Ukraine (Jerebkov village);
- The department of emergency situations and population protection against the effects of the Chernobyl accident of the Odessa state administration;
- The department for the Danube basin management;
- State administration for environmental protection of Odessa;
- State sanitary-epidemiological service of Odessa;
- State ecological inspection for environmental protection of the North West region of the Black sea;
- The department for health and medicine of catastrophes of the Odessa state administration;
- Security service department of Odessa;
- The main department of the Ministry of Internal Affairs in Odessa;
- The South regional administration of the state border guard service of Ukraine;
- The department of sea managements, transport and communication of the Odessa state administration;
- The main department for the infrastructure development and energy supply of the Odessa state administration;
- The main financial department of the Odessa state administration;
- The main department of the capital buildings of the Odessa state administration;
- «Ismail Sea commercial port»
- «Reni port».

The planning of the operative response activities as regards the predicted threats or already occurred natural or technogenical emergencies is realized on the basis of: (i) expert assessment, forecast or outputs of the models, qualified experiments; and (ii) multilateral analyses of the extend and consequences of emergencies that occurred in the region in the past, taking into account the observations on the changes environment and technogenical circumstances. Depending on the obtained results, the response plans for each emergency are developed. The main task of the plan is preservation of human life and health, minimization

of the possible material losses. The following plans related to response in case of emergency situations involving filling, leakage, spillage and release of hazardous for water substances, including the transboundary issues, are developed in the frame of the MES of Ukraine :

- Emergency response plans at regional level in case of accidents on hydraulic works or in case of dangerous hydrological events (floods, high waters) on the territory of Odessa;
- Operative response plans of the authorities and of the civil protection departments of Odessa region in case of emergencies related to the pollution of the Ukrainian part of the Danube River.

The notification and communication system in case of emergencies is defined by the Regulation of the Chamber of Ministries of Ukraine from 15 February 1999 №192 «On the approval of the Regulation on the notification and communication system in case of emergencies». According to the Article 8 of the Regulation the notification system is organized taking into consideration the national authorities, the type and level of emergency, availability and location of the forces, which may be involved in the process of emergency effects liquidation. The notification is carried out by the relevant civil protection and emergency situations authority that is established by the head of the civil protection from the respective level.

In case of occurrence of an emergency, according to the notification system, the information is received by the operative officer on duty of the MES territorial subdivisions, where the level of emergency is determined and the decisions regarding the need of enabling means and forces is taken. One of the main methods of liquidation of oil leakage is the mechanical collection of oil. It is the most efficient in the first hours after the leakage. It is due to the fact that the thickness of the oil layer is still big. (When the thickness of the layer is small, the area of its spread is large and the upper layer of the water is permanently moving due to the wind it is very difficult to separate the oil from water). Besides this, some difficulties may occur during the cleaning of the harborages and shipyards, which are very often polluted by different garbage, chips, boards and other objects floating on the surface of the water.

1.3.5 Rehabilitation of the environment affected by the impact of technogenic factors

The complex oil bio preparation-destructor ДНЗ

It is produced according to the TY Y 24.1-32813696-006:2006 standard and has the sanitary-epidemiological expertise of the Ministry of Health of Ukraine. When using the ДНЗ for liquidation of the old oil patches, the ДНЗ preparation is applied using the technologies along with the License of the Ministry of Nature of Ukraine.

The ДНЗ preparation is composed of specially processed associations of natural strains of hydrocarbon oxidizing bacteria and ecological appropriate organic-mineralogical complexes, including macro and micro elements. The usage diapason of ДНЗ is for:

- Liquidation of accident oil spills into the soil, water, road, metal and concrete layers;

- Water bodies decontamination from oil and almost all kinds of (accident spills, sewage and ballast water);
- Cleaning of oil collectors, storage tanks and tankers;
- Destruction of the surface hydrocarbon layer in the mud and sludge pits;
- Cleaning of the territories and airport sewers, military bases, rail road depot, tank farms, washing and filling stations;
- Bio-destruction of tank farms and fuel fillings industrial pollution (oil traps, spills, contaminated equipment);
- Bio-usage of oil wastes (barns, settling tanks);
- Bio-remediation (curing, rehabilitation) of contaminated soils until the standard agro-biochemical, microbiological and python characteristics.

Slick Bars

An efficient method to locate of the oil spills is the establishment of fast unwrapping slick bars that are brought by the high speed boats. Their aim is to prevent the spread of oil on the water surface, mitigation of oil concentration to prepare for the cleaning process, as well as for sweeping the oil from the most ecological vulnerable areas. Depending on their destination, the bars are divided into three classes:

- Class I – for the protected water bodies (rivers and reservoirs);
- Class II – for the coastal area (to block entrances and exits into the harbor, harbors, shipyards area);
- Class III – for the open water bodies.

The usage of slick bars during favorable meteorological conditions allows the collection of up to 70-80% of oil products using the oil collectors.

Oil collector systems

These systems are used to collect the spilled oil from the water surface. They allow the collection of oil products from the surface of the water providing in the same time the separation of the phases (oil-water). Oil collector systems can be used for the collection of the accident oil spills, as well as for cleaning the settling tanks, oil traps, barns and other objects, where the successive removal of oil is needed. For the improvement of the existing emergency response system, prevention and liquidation of the ecological transboundary accidents effects, it is necessary to:

- Improve the management and cooperation of the emergency response forces in the areas with possible transboundary effects;
- Simplification of the border transition requirements of the neighboring countries rescue detachments in case of a transboundary accident;
- Development and implementation of joint plans of rescue activities by the relevant authorities of the countries;

- Realization of joint trainings and exercises, workshops, conferences in the field of ecological security;
- Development of a joint informational-monitoring network;
- Providing the mutual assistance in case of emergencies and transboundary threats;
- Compensation of prejudices in case of a transboundary accident by the guilty country.

In conclusion it could be mentioned that the human approach of the environmental protection against pollution means primarily not only the provision of a fast cleaning effect but provision of its long term action. In this case, the most optimal solution is the inclusion in the complex of activities, related to the liquidation, the biotechnological measures for the rehabilitation of the environmental compounds. The most perspective are the microbial biotechnologies, which are very close to the natural processes.

1.4 Presentation from a Western European country on the legal basis for adequate preparedness and response (good practice)

Presented by Lukasz Wyrowski, UNECE Secretariat

1.4.1 Requirements for emergency preparedness in the Convention on the Transboundary Effects of Industrial Accidents (TEIA)

Article 8 – emergency preparedness:

- On-site plans;
- Off-site plans;
- Cooperation between neighboring states.

Annex VII – emergency preparedness measures pursuant to Art. 8:

- Coordination of on- and off-site plans;
- Specific requirements concerning the information to be included in on- and off-site plans.

1.4.2 Emergency Preparedness in the UK and Germany – Legal Basis

United Kingdom – 1999 Control of Major Accident Hazards Regulation (COMAH)

- Operational principles: identification, prevention and control, mitigation:
 - Reg. 9 – OnEPs;
 - Reg. 10 – OfEPs;
 - Reg. 11 – Review and testing of EPs;
 - Reg. 12 – Implementation of EPs;
 - Reg. 13 – Charging for testing of OfEPs;
 - Reg. 21 – Provision on information by the competent authority;

- Civil Contingency Act 2004;
- Focuses on assessment and preparation;
- Creates duties to share information, assess the risks of emergencies and plan to prevent and deal with them;
- Establishes Regional and Local Resilience Forums.

Germany – Bundes-Immissionsschutzgesetz, BImSchG, in particular the VO accident (Stoerfallverordnung) of 26 Sep 2002

- OnEPs, OfEPs, Reviewing and testing of EPs, training of staff, information to the public;
- Additional requirements to Art. 8 TEIA Convention in the national law (VO accident):
 - Requirement to harness the effects of accidents: operator's obligation to take appropriate construction, technical and organizational measures;
 - Additional requirements: operator's obligations for e.g. maintenance and repair (in keeping with technical condition) and staff training;
 - Remaining obligations: operator must nominate a person responsible in case of an accident;
 - Regional exercises.

1.4.3 More detailed example from the UK legislation – COMAH

OnEP – COMAH Sch. 5, Part 2: Contents

- Persons in charge of coordinating on-site actions;
- Description of strategies for dealing with foreseeable incidents, including available equipment and other resources;
- Persons who will liaise with local authority over off-site measures;
- Type of information to be provided to the local authority.

OnEP – COMAH Reg. 9(3) & 9(4): Consultation

- Employees at the establishment;
- UK Environment Agency;
- Emergency services – fire, police, ambulance (and coastguard);
- Health authority;
- Local authority (where an OfEP is required).

OfEP – COMAH Sch. 5, Part 3: Contents

- Persons authorized to instigate and coordinate off-site actions;
- Incident alert procedures;
- Arrangements for coordinating resources and assisting with on-site actions;
- Arrangements for providing information to the public;
- Arrangements for providing information to other member states in the event of possible transboundary consequences.

OfEP – COMAH Reg. 10(5): Consultation

- Major hazard site operator;
- Competent authority;
- Emergency services – fire, police, ambulance (and coastguard);
- Health authority;
- Members of the public, where appropriate.

OfEP – Responsibility

- Local authority => preparation of OfEPs;
- Site operator => to provide appropriate information to the local authority;
- Reviewing and testing of EPs – COMAH, Reg. 11 => suitable intervals, min. 1 a year;
- Notification of the EC in case of a relevant major accidents – COMAH Reg. 21 & Schedule 7 => by the UK Competent Authority.

1.4.4 Requirements for Emergency Response in the TEIA Convention

Article 11 – Response

In the event of an accident (or a threat of) Parties must:

- Take adequate response measures asap to minimize the effects;
- Assess any possible transboundary effects, jointly where appropriate, and endeavor to cooperate.

1.4.5 Emergency Response in the UK and Germany – Legal Basis

United Kingdom

1. Control of Major Accident Hazards Regulation 1999

- COMAH, Reg. 12 => person who has prepared an EP shall put it into effect without delay when (i) a major accident occurs; or (ii) an uncontrolled event occurs which could reasonably be expected to lead to a major accident;
- COMAH, Reg. 19(4)(b) => Competent Authority shall ensure that any urgent, medium and long-term measures which may prove necessary are taken.

2. Civil Contingency Act 2004

- Response structure: Identification of Lead Government Department
- Identification of Category 1 & 2 responders:
 - Category 1 – local authority; police; fire and rescue; NHS and ambulance services; Environment Agency; Coastguard;
 - Category 2 – water, electricity, communications and transport providers; HSE.

Germany

1. Bundes-Immissionsschutzgesetz, BImSchG, in particular the VO accident (Stoerfallverordnung) of 26 Sep 2002

- Application of mitigation measures (in accordance with the EPs) if an accident occurs;
- Technical and organisational protective measures;
- Involvement of appropriate administration offices and resources in the response.

2. Zivilschutz- und Katastrophenhilfegesetz (ZSKG, 25 Mar 1997)

Competence for civil protection lies with the Federation; competence for disaster response with the Länder => each Land had to adopt own provisions.

3. Bilateral agreements

Between Germany and (1) its 9 neighbors and (2) other countries, such as Hungary, Lithuania, Russia. Between German Lands and a neighboring country. => Approx. 60 agreements altogether, including bilateral agreements on protection of waters (ex. Danube protection agreement of 1994, 10 participating states).

1.4.6 Crucial terms of Preparedness and Response

Preparedness: Measures aiming at consequence reduction through emergency planning, land use planning and risk communication.

Response: Are actions following an accident for the limitation of adverse consequences, providing immediate relief as well as taking steps towards clean up and restoration.

Basic elements for emergency preparedness development:

- On-site and off-site emergency plans are key elements in every major hazards control system;
- Must be prepared by industry and public authorities respectively, but in close co-operation
- Planning and exercises must include all parties involved ;
- Plans must be based on realistic scenarios;
- Plans must be flexible;
- Plans must be modified whenever necessary;
- Involvement of media is essential.

2 EMERGENCY PREPAREDNESS BY THE AUTHORITIES AND INDUSTRY: ON- AND OFF-SITE EMERGENCY PLANS

2.1 Presentation of the Republic of Moldova

Presented by Sergiu Junea, Emergency Department, Ministry of Internal Affairs, Civil Protection and Emergency Situation Department, Republic of Moldova

2.1.1 Law no. 271 from 09.11.1994 on civil protection

Article 17

In order to meet the public authorities of executive functions and available for emergencies prevention and liquidation of their actions the Commission for Emergency Situations (CES) was created. The president of CES is prime minister of Moldova. The CSE is for object oriented performance measures to minimize the risk of developing SE oriented, and for developing – liquidation of their consequences to the organization.

The main operational documents of the Commission for Emergency Situations are:

- At the national district and municipal level: "Plan of Civil Protection in Emergency situations“;
- At the local level: “Staff and population protection plan in case of emergency situations“; and “The operational plan for responding and liquidation of the exceptional situation’ consequences (fire)”.

2.1.2 Plan of Civil Protection in Emergencies

Chapter I

- 1 . Geographical location and economy indicators;
2. Possible situation in the Republic in case of emergency release:
 - Exceptional case based on natural disaster;
 - Exceptional case based on tehnogen disaster;

Chapter II

It includes measures for the liquidation of emergency situations and natural and technogen character.

Annexes

- Plan schedule of intervention measures;
- Forces and facilities;

- Possible situation scheme;
- Scheme of organization of notification and communication
- Civil protection Units;
- Level of intervention in case of nuclear accident or radiological

2.1.3 Personnel and population protection plan in case of emergency situations

Chapter I: It includes general characteristic of the object.

Chapter II: Protection measures in case of emergency situations initiation:

- The notification of the facility's personnel and of the adjacent objects;
- Research and delimitation of the polluted area;
- Protection of the facility's personnel;
- Aid to the affected people;
- Liquidation (localization) of the damage;

Annex: Actions of the management herd, of the personnel and of the population in case of emergency;

- List of parties;
- List technical resources and equipment;
- Notification scheme and communication ;
- The scheme of the possible situation.

Actions of the management herd, of the personnel and the population in case of emergency:

- President of the Emergency situations Committee;
- Chief engineer;
- Specialist in the civil protection department;
- The service dispatcher;
- Head of the tour;
- Personnel;
- The actions of the population which lives nearby the hazardous facility.

2.1.4 The operational plan for responding in order to liquidate the consequences of exceptional situation (fire)

Chapter I: The characteristic of the object.

Chapter II: Calculation of forces and resources.

Chapter III: Forces and resources trained to liquidate the consequences of the emergency situation (fire).

Chapter IV

1. Recommendations:

- To the head of fire extinguishing;
- To the chief of the operational staff;
- To the chief of the logistical services to fire;
- Recommendations on fire extinguishing at oil terminal;

2. Security provisions to the actions of firefighting

2.2 Presentation of Romania

Presented by Ion Toma, County Inspectorate for Emergency Situations

2.2.1 Emergency planning at the operator level

Seveso type operator – On-site Emergency Plan (OnEP)

- Planning actions for mitigation of all on-site accidents involving dangerous substances taking into consideration the protection of employees, population, the environment and property;
- OnEPs are developed based on the specific identified hazards of the operator's activity;
- The personnel employed and the long term subcontractors are consulted for drawing up and update the OnEP.

Seveso type operator – On-site Emergency Plan (OnEP)

- Is approved by top management;
- Is updated based on changes of the:
 - Risk characteristics
 - Cooperation
 - The organizational structure of the operator
 - Lessons learnt from accidents and the evolution of the knowledge
- Is tested several times per year, in different ways:
 - Table-top exercises
 - Communication testing (on-site and off-site)
 - In-field accident simulation with complete / partial management of the intervention
- At least one type of scenario (fire, explosion, toxic emission) shall be tested each year;
- Chapters of the OnEP include:
 - Updates, approvals, distribution
 - Foreword
 - Plan activation / stand down
 - Emergency classification
 - When the plan will be activated

- Persons with responsibilities
- Ways of activating the plan
- Information flow
- Information to be provided in case of accident
- Emergency stand down
- Scenario classification
- Description of emergency actions
- Cartographical section

2.2.2 Non-Seveso type operator – Accidental Pollution Control and Prevention Plan (APCPP)

- Is drawn up by each operator which potentially can pollute the water;
- Setting up the prevention, mitigation and control actions for accidental pollution of surface waters;
- Is approved by top management;
- A copy of the plan is sent to the Water Management System (WMS);

Content

- Explanatory Report (ID data, presentation of the critical points and the action mode)
- Tables (1-10)
 - 1: List of the accidental pollution control teams
 - 2: List of the critical points
 - 3: Potential pollutant datasheet
 - 4: Programme of accidental pollution prevention measures and workings
 - 5: List of intervention teams
 - 6: List of necessary equipment for accidental pollution ceasing
 - 7: Annual training programme for critical points employees and intervention teams
 - 8: Executives' responsibilities
 - 9: List of supportive units
 - 10: List of potentially impacted water use operators (downstream located)
- Situation plan - scale 1:10.000 or 1:25.000 (with sites location)
- Technological plan with marked critical points

Warning

- Procedures for:
 - Notification of the pollution:
 - Known / unknown source
 - First observer
 - Notification / warning of:
 - Top management
 - Personnel

- Intervention teams
- External entities
- Warning devices and signals.

Intervention

- Action for:
 - Eliminating the causes
 - Limiting and reducing the spread area
 - Removing the pollutants
 - Collection, transport and intermediate storage in safe environment in order to be neutralized
- Force majeure: stopping the operation of production facilities or departments
- If pollutant present to water intake:
 - Additional water treatment (if pollutants are removed in this way)
 - Running-out, collection, neutralization or destroying the pollutants
 - Limitation of the internal water use for certain activities, sectors or production facilities
 - Intensification of recirculation to industrial users.

Communication

- Internal communication
 - Between forces
 - With dispatch
 - With the top management
- With external entities
 - During the acute phase of the pollution
 - After eliminating the causes and cessation of phenomenon
- Communication protocols
 - Request support of collaborative units
 - Periodical information on ceasing operations.

Investigation

- On WMS request: determining liability and the guilty
- Laboratory analysis with necessary frequency depending on the pollution wave
- Monitoring of the pollutants concentration in water resource until the pollution wave passes away
- Laboratory analysis for checking the additional treatment efficiency
- Compliance checking
- Damage assessment caused by polluted raw water in own unit and other units

2.2.3 Emergency planning at the authority level – River Basin Accidental Pollution Prevention and Control Plan (APPCP)

APPCP was prepared at:

- ☐ The WMS level (county) - on which territory the potential polluter is located
- ☐ The Water Directorate level (managed river basin)

Technically revised every 4 years (when necessary – organizational changes)

2.2.4 APPCP – Emergency classification

Level I emergency phase

Level I emergency phase – there is NO impact outside the plant perimeter. The emergency situation can be handled by the working personnel from the plant site, without the intervention of specialized teams (Environmental Protection, HAZMAT, and Environmental Management). Breaching of the storage containment – example of I type emergency.

Level II emergency phase

Level II emergency phase – there is NO impact outside the plant perimeter. The emergency situation can be handled by the working personnel from the plant site, with the intervention of specialized teams (Environmental Protection, HAZMAT, Environmental Management).

Level III emergency phase

Level II emergency phase – there is NO impact outside the plant perimeter. The emergency situation can be handled by the working personnel from the plant site, with the intervention of specialized teams (Environmental Protection, HAZMAT, and Environmental Management). It is necessary the emergency evacuation of the working personnel from the plant perimeter because of the pollution contamination secondary effects.

Level IV emergency phase

Level IV emergency phase – there is a significant impact outside the plant perimeter. The emergency situation can be handled by the working personnel from the plant site, with the intervention of specialized teams (Environmental Protection, HAZMAT, and Environmental Management). The emergency evacuation of the working personnel from the plant perimeter, the emergency intervention team outside of the plant perimeter (civil protection, firefighters, etc.) and their action correlated with the Plan specifications are necessary.

2.2.5 County accidental pollution defense plans

The plans for accidental pollution defense are drawn up at the hydrographical basin level, by each Basin Water Authority. Also the Plans for each water user, including those for the possible water polluters, are drawn up under the direct technical advice of the Basin Water Authorities. The specific section of the accidental pollution defense activity, at the county

level, it's a separate part of the APDAFDCP – accidental pollution, dams' accidents, floods, ice blockage, drought and dangerous meteorological phenomena defense county plan.

Pollution prevention activities undertaken periodically at the Water management county level
Checking up by the Water Management Authorities:

- The drawing up and periodically actualization, by the potential polluters plant, of the prevention and control Plans and the Programs of controlling the accidental pollutions, according to the methodology stipulated by the Ministerial Order. 278/11.04.1997.
- The decisions regarding the teams with established attribution regarding the prevention and control of the accidental pollutions at the level of the potential polluters.
- Appliance of the instruction for the working person from the critical points and intervention teams, in case of accidental pollution.
- Specialized containing materials and the endowment with specific intervention means.
- Internal communication flow and the operatively information transmission regarding the pollution occurrence according to the established accidental spill scenarios.

2.2.6 Seveso type operator – Off-site emergency plans (OfEP)

When planning actions for the mitigation of on-site accidents involving dangerous substances with off-site effects it is important to take into consideration the protection of population, the environment and property. This should be based on the scenarios with off-site effects described in the Safety Report and the On-site Emergency Plan.

Aims:

- The coordination and management of specific activities in case of an accident with off-site effects;
- Early warning and notification procedures for the intervention forces and local authorities responsible for emergency management;
- Planning for evacuation / shelter in place of the exposed population
- Establishing the general framework for action of the intervention forces outside of the establishment;
- Establishing cooperation with neighboring countries in case an accident scenario has transboundary effects;

Is designed by CIES in cooperation with local authorities, exposed population and teaching / research institutes;

- Is approved by the prefect;
- Is revised, at least every three years, or upon the following modifications:
 - The characteristics of the risk sources
 - The risk analysis
 - Scenarios with off-site effects
 - The concept of cooperation

- The conception of applying the plan
- The structure of near-by urban developments
- Specific knowledge in this domain
- The vicinities of the site
- Copies are distributed to the authorities / institutions involved in the intervention;
- An extract from the plan is made available, on request, to the general public

Testing

Is tested several times per year, in different ways:

- Table-top exercises
- Communication testing
- In-field accident simulation with complete / partial management of the intervention

Least one in-field exercise involving all the forces shall be carried out every three years. There is an evaluation of each exercise, based on the conclusion of all the participating structures.

Content

- Updates, approvals, distribution
- Foreword
- Plan activation / deactivation
 - When
 - Who
 - How
 - What
- Emergency planning zones
- Notification / Alarm / Evacuation / Sheltering
- Accidental scenarios
- Intervention procedures
- Information for the public and mass-media
- Cartographical section

2.2.7 Compatibility of the emergency plans in the transboundary context

The guiding parameters taking into consideration for transboundary contingency planning compatibility

- Intervention thresholds
- Accident scenario
- Pollution modeling
- Intervention capabilities
- Intervention procedures
- Communication aspects

- Mutual assistance request and offer

Responsibilities allocation

Is envisaged establishing of:

- ☐ Command and control structure/persons
- ☐ Cooperation
- ☐ Water action forces
- ☐ In-land action forces
- ☐ Mission for each Parties

Take into account:

- ☐ Specific equipment endowment
- ☐ Intervention time limit / state of efficiency
- ☐ Personnel preparedness and training on specific incident type

Data exchange

Is established by the on-site commander

- Who and to whom (persons and structures)
- When (to the present time, e.g. 06.00 or after each 60 minutes from the beginning of the mission; in special situations)
- How (fix/mobile phone, radio – with establishing of the radio frequency and network, fax, e-mail)
- What (data and information needed and in which form)

Can cover

- Official / formal aspects (notification, assistance request / offer, Information report)
- Routine (mission reports, measuring data, mission orders, coordination information, meteo data)

Reviewing and testing on contingency plans

Reviewing

- To the present time
- Current updating
- Following an accident or lessons learnt
- Following a common exercise

Testing

- Table top exercise
- Communication exercise
- In-field exercise

2.3 Presentation of Ukraine

Volodymyr Demchuk, Emergency and Preparedness Services of the Department of Salvage Forces of Civil Protection

2.3.1 The legal framework of the emergency response planning at national level

1. The Resolution of the Chamber of Ministries № 1567 from 16.11.2001 «On the approval of the emergency response plan at national level»;
2. Law № 1859 from 24.06.2004 «On the legal framework of the civil protection»

2.3.2 The main tasks of the emergency response plan at national level

1. Organization and realization of the jointly approved complex of organizational and practical activities related to liquidation of the technogenic and natural emergency's consequences at national level by the Technogenic-Ecological Security and Emergency Situations Commission, central authorities, enterprises, institutions and organizations;
2. Provision of the operative response of the authorities, forces and means of population and territory civil protection functional and territorial subsystems, prevention of population death, mitigation of material losses and organization of first-priority life support of the affected population;
3. Systematized and timely assistance of the affected population.

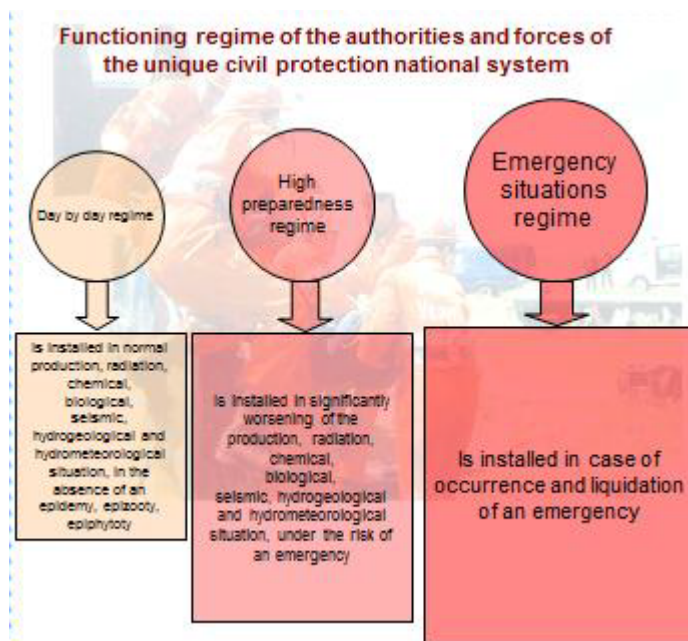
The plan establishes the organizational and practical measures, as well as their procedure, terms, procedures of authorities, forces and means of the System, the necessary financial, material and other resources, including the responsible entities for emergency response at national level, as well as the main activities for liquidation of the consequences. The ground for putting into operation the plan is the threat or occurrence of emergency situations, that refer to national level.

2.3.3 The main objectives of the emergency response plan at national level

1. To determine the deployment procedure of the authorities, forces and means of the System that is involved in the emergency response, in case of threat or occurrence of an emergency;
2. To provide the timely and equitable assistance to the affected population and local authorities.

2.3.4 Emergency response planning at national level

The planning is realized by developing separate emergency response plans, taking into consideration the territorial particularities, the object's sector of activity, on the basis of forecasts and experts assessments. The separate emergency response plans should be jointly coordinated and approved by the relevant authorities of the system.



2.3.5 Practical application of the emergency response plan at national level in the period 2006-2011

- Liquidation of the emergency related to accidents in Alcevsck city, Lugansk region in January 2006;
- Liquidation of the bird flu seat in Sumsck region in July 2006;
- Liquidation of freight train (transporting yellow phosphorus) accident consequences in Lvov region in July 2007;
- Liquidation of disaster consequences in Volnsk region in July 2007;
- Liquidation of forest fire consequences in two districts of Herson region in August 2007;
- Liquidation of the flood consequences in the Western regions of Ukraine in July 2008;
- Liquidation of explosion consequences in a five floor hospital in Lugansk city in January 2010;
- Liquidation of disaster consequences in Cernauti region in June 2010.

2.4 Presentation on planning for emergency response in Poland (good practice)

Radoslaw Czapla, Polish Headquarter of the State Fire Service, Presentation on good practice for emergency preparedness

2.4.1 Polish competent authorities

The competent authorities for the realization of requirements of the Convention on the Transboundary Effects of Industrial Accidents in Poland are:

- Chief Inspector for Environmental Protection;
- Chief Commandant of the State Fire Service

The Inspection for Environmental Protection and the State Fire Service are charged with the responsibility of inspections, and reviewing documentation, investigating major accidents and identifying establishments capable of causing major accidents. The inspections rules, involving various aspects of health, environment and safety, are established by the Inspectorate for Environmental Protection, State Fire Services and Labour Inspection.

The emergency plans include organizational, technical information on:

- Procedures concerning the alerting and notification of major accidents to the on-site and off-site emergency services and to the people in the area affected by the accident's consequences
- Ensuring the quick and reliable information for the rescue services and authorities responsible for the safety in a given area
- Determination of the proper rescue procedures for all predicted accident scenarios in a given establishment.

2.4.2 Data used for the preparation of on-site emergency plans (OnEPs) and off-site emergency plans (OfEPs)

- Description of the establishment, taking into account its geographical location and characteristics of weather conditions
- Characteristic of the plant's activity and determination of the organizational structure of the plant
- Description of the technological systems including their surroundings
- Description of technological processes
- List of dangerous substances that may be in the facility, specifying the maximum number and an indication of the numbers assigned to data sheets

This data is the base for the risk assessment. Emergency procedures and scenarios are prepared on the basis of the results of the hazard/risk assessment.

- The list of forces and measures of rescue services and supporting services responsible for rescue actions and liquidation of accident's effects
- Description of the system of providing the public with the information on hazards connected with the establishment's operation, preventive measures and activities which will be taken in case an accident occurs
- Procedures for providing the information to the public and competent authorities about accident's hazard or its occurrence
- Procedures for people's evacuation
- Procedures concerning the possibility of transboundary effects of accidents

2.4.3 Sharing of capacities – OnEPs

- Indication of the persons authorized to direct the rescue operations on the site and interact with the provincial commander of the SFS
- Procedures for plant employees how to act during failures of installation and equipment
- Procedures for the plant's emergency service or the plant's firefighting and rescue service in case of failures of installation and equipment
- Cooperation procedures for experts and management supervising installation, equipment etc. with officer in charge of rescue operation
- Cooperation procedures in case of rescue operation including large number of victims and the participation of other entities outside the plant
- Procedure of exchanging of information between services, which are located in close proximity of the plant that may increase the likelihood of an accident or increase its effects

2.4.4 Sharing of capacities – OfEPs

List of forces and means of rescue services

- Forces and means of on-site and off-site services in relation to the probable accident's development including the area outside the plant
- Alarming and disposal procedures for emergency and supporting services
- Organization of communications
- Division of tasks and principles of cooperation during the rescue operations
- Procedures for dismissal of the alarm
- Procedures for providing assistance in disaster recovery within the plant

2.4.5 Consultation and coordination of OnEPs and OfEPs

Emergency plans are elaborated in cooperation with off-site rescue services:

- Units within the National Firefighting and Rescue System (state and volunteer fire services)
- Ambulance service
- Gas service
- Energy service

Moreover Provincial Commandant of the State Fire Service enable participation of the public in the development of external emergency plans.

2.4.6 Procedures for coordination of OnEPs with authorities responsible for the preparation of OfEPs

Operator of the upper tier establishment is obliged to:

- Draw up an OnEP and send it to the proper provincial commandant of the State Fire Service,
- Supply to the proper provincial commandant of the State Fire Service the necessary information to enable to draw up OfEP.
- Environmental Inspection:
- Issues opinions for upper tier establishments, which are necessary for the provincial chief of the State Fire Service to approve safety reports or their amendments.
- State Fire Service:
- Approves OnEP of upper tier establishments, upon receiving the opinion of the voivodship inspector for environmental protection, as well as approving the amended versions of these documents,
- Draws up OfEP for upper tier establishments where the effects of industrial accidents pose a threat to the territories and people located outside the establishment's premises.

2.4.7 Review and revision of OnEPs and OfEPs

The operator is obliged to carry out the analysis and exercise the execution of the OnEP at least once every 3 years to update it and make reasonable changes in it, in particular, it should take into account changes in the plant, changes in the functioning of fire protection units, the state of knowledge regarding the prevention, control and disaster recovery, as well as scientific and technical progress.

Provincial Commandant of SFS is obliged to carry out the analysis and exercise the execution of the OfEP at least once every 3 years.

2.4.8 Tests and inspections of OnEPs and OfEPs

The inspection regime/mechanism assumes that:

- the Inspection for Environmental Protection and the State Fire Service perform annual inspections in the upper and lower tier establishments,
- Criteria for carrying out tests of emergency plans:
- Necessity to carry out an analysis and exercise the execution of an internal and external emergency plan at least once in 3 years and in case introducing changes,
- Testing the systems and methods for alarming and notifying to the public,
- Testing cooperation with other institutions in the course of liquidation of effects,
- Testing alarm connectivity and availability of forces and means contained in the plan.

2.4.9 Transboundary cooperation in preventing major accidents

Poland has signed intergovernmental agreements with the neighboring countries (Czech Republic, Germany, Lithuania, Russia, Slovakia, Ukraine) on cooperation and mutual assistance in case of catastrophes, natural disasters and other major accidents.

The Chief Commandant of the State Fire Service carries out tasks on behalf of Minister of Interior and Administration.

Moreover, with some neighboring countries (Czech Republic, Slovakia, Lithuania), there have been elaborated technical instructions for the Fire Services taking part in mutual assistance.

2.4.10 Compatibility of emergency plans in the transboundary context

Provincial Commander of the SFS, who states, according to the information received from the operator, that a potential consequence of an industrial accident may have cross-border range, immediately gives relevant information to the minister responsible for environmental issues relevant to the case, in particular the safety report and an internal and external emergency plan.

The Minister responsible for the environment after obtaining the above mentioned information immediately notifies the State whose territory could be affected by the accident, about the location of the plant. The notification shall be accompanied by information concerning the safety report and an external emergency plan in the section on cross-border threats.

2.4.11 Bilateral agreements with neighboring countries on cooperation in the area of prevention/preparedness of major accidents, natural disasters and liquidation of its effects

- Information on the competent authorities on national and regional levels
- Requirements for exchanging information on technological and natural hazards
- Description of modalities for notification and information on accidents and for applying for assistance
- Description of conditions for crossing borders by rescue team members, and their equipment
- Information on sharing costs of assistance actions and on regulations on liabilities

2.4.12 Reviewing, revising and testing of emergency plans

Within the bilateral transboundary cooperation there are joint exercises of the possible emergency scenarios performed which include joint rescue actions carried out by rescue services from neighboring countries.

2.5 Presentation of the oil terminal in Giurgiulesti, Republic of Moldova, on planning interventions in case of an oil spill

Veaceslav Scripluc, representative from the oil terminal in Giurgiulesti, Republic of Moldova

2.5.1 Giurgiulesti International Free Port – system of internal operating procedures

OIL TERMINAL – STORAGE CAPACITY: 64 000 m³

In order to ensure the industrial security at national and international level GIFP has developed a system of internal operating procedures:

- GIFP port regulations are elaborated according to the stipulations of the International Code regarding Safety Management, the ISPS Code (International Ship and Port Facility Security), and MARPOL Convention. It establishes several provisions intended to reduce the potential risks of occurrence of accidents.
- EMERGENCY RESPONSE PLAN is developed on the basis of the International Safety Guide for Oil Tankers and Terminals (ISGOTT) provisions, coordinated by the Emergency Situations Service of the Republic of Moldova and establishes the actions, procedures and responsibilities in case of any emergency situation in the port.

- THE PORT FACILITY SECURITY PLAN is prepared based on the stipulations of the International Code on Ship Security and Port Facilities (ISPS), approved by the Ministry of Transport of the Republic of Moldova and establishes the Procedures of Port Facilities Security.
- OIL TERMINAL EMERGENCY LOCATION AND LIQUIDATION OF PLAN is coordinated by the Ministry of Economy of the Republic of Moldova and establishes the analysis of all possible emergency scenarios during the exploitation of oil terminal facilities, as well as the measures and procedures for their liquidation.
- OIL SPILL RESPONSE PLAN is coordinated by the Emergency Situations Service of the Republic and approved by the Captain of the Giurgiulesti International Free Port. It represents the basic regulation that establishes the responsibilities and actions to be undertaken by the Danube Logistics company, by the competent state authorities and private sector in case of oil spills.

The objective is to provide a detailed and systematized response of a timely, efficient and well-coordinated safe intervention in case of a possible oil leakage and therefore to minimize the potential negative impact on the environment.

2.5.2 Security policies, operational procedures

For the elaboration of the Oil Spill Response Plan, the Danube Logistics company has consulted several national and international institutions and relevant authorities, including:

- The Captainship of the Giurgiulesti Port;
- The Ministry of Transport and Road Administration of the Republic of Moldova;
- Cahul District Council;
- Civil Protection and Emergency Situations Service of the Ministry of Internal Affairs of the Republic of Moldova;
- The Department of Operational Civil Protection and Emergency Situations of the Cahul district;
- The State Ecological Inspectorate;
- The Ecological Agency Cahul;
- The Republican corporation “Apele Moldovei”;
- The Ministry of Economy of the Republic of Moldova.

The Danube Logistics SRL made considerable investments to purchase equipment for oil leakage prevention and for intervention in case of oil spill (ICSP). The majority of the equipment was purchased from the company Elastec, USA - one of the largest companies in the world that provides ICSP equipment.

Port operators have been multilaterally trained by international experts from International Maritime Organization (IMO) in the field of prevention and intervention in case of oil leakage, use of the equipment in case of oil spills.

2.5.3 Prevention and intervention equipment in case of oil leakage

“OPTIMAX II” – Retention dam for oil products – 240 m in 30 m sections

- Is an obstacle that looks like a flexible cuff for the retention of oil products and floating substances for the protection zone and quick action;
- The diameter of the floating surface is 18 cm and of the cuff 30 cm;
- It is made of polyurethane (military standard), trailed by a high voltage stainless steel cable of 6 mm braided in metal and a galvanized ballast chain, coated by a 8 mm hot plunge;
- Is provided with standard connectors with universal floating devices and accessories.

SKIMMER 118/E -150Y collection system

- Is composed of two collector reels with hydraulic motor located on anodized aluminum housing for shipbuilding.
- The collector shall be placed on water to collect the spilled oil. At their turn, they are discharged through pipes into a storage tank located on shore.
- Is powered by a diesel engine. The system consists of: (i) suction centrifugal pump; (ii) set of flexible hoses with a diameter of 50 mm with a fixing armature; (iii) 15m of hydraulic hoses; and (iv) power block.

Absorbent material

- Multipurpose absorbent cloths that can be used on water and in the area of oil terminal in case of small oil leaks.
- Granular absorbent material
- An entirely separate dam which will be installed inside the main dam in case of oil spills for the absorption of the overflowed petroleum products.

The construction of berth ensures the collection of storm waters or accidental spillage of petroleum products from the platform, by endowing it with an inclined bottom plate, in which the pollutants are accumulated and are leaking through a pipe set in a united collection tank, with a total volume of 25m³. A special armed concrete platform was built on the territory adjacent to the berth. It is covered with a special film of horizontal polyethylene of 2mm thick (HDPE), for the discharge on the shore of the equipment for preventing and collection of oil spills during their unloading on ships.

2.5.4 Operational Procedures – Services and Equipment

Support Services of towage, mooring of ships, pontoon installation, leaving ships from the GIFP is made by an international company of towage and rescue services "Multraship Romania" through the tugboat Multratug21.

The port operators have been multilaterally trained on the operation of the protection dam and other equipment in case of oil leakage. The **training** is provided, by the producing company, that is an independent Danish company, expert in training regarding the use of intervention equipment in case of oil spills.

GIFP has signed a contract with Seacor Environmental Services from USA in order to provide services of intervention in case of “3-rd Level“ oil spills. In case of a major oil leak Seacor will immediately intervene with specialized equipment, on behalf of the Danube Logistics from their base located in the Black Sea. **Seacor** is one of the three main companies of this kind recognized in the world and serves well-known oil companies. **GIFP** is also being negotiating with neighboring port administrations on issues related to **possible mutual assistance in emergencies**.

ICSP Plan provides a system of intervention in case of oil spills, its format being internationally agreed classifies the magnitude of the leakage in accordance with “**The pollution degree**”, determined by analyzing the oil layer thickness. As reference points for expression of thickness serve the following:

- Silver gloss 0.0001 mm
- Multicolored gloss 0.003 mm
- Brown / black gloss 0.1 mm
- Dark brown / black gloss > 1mm

Formula used to determine the approximate quantity:

$$L \text{ (meters)} \times W \text{ (meters)} \times \frac{\text{Thickness(mm)}}{1000} = \text{m}^3$$

2.5.5 Scale for assessing the accidents used by GIFP

The scale for assessing the accidents used by GIFP is as follows:

- **Rank 1 < 1m³**
Small operational leakage, when some immediate measures can be taken with local resources without any outside interventions
- **Rank 2 (between 1m³ and 10m³)**
Medium leak which would require using external and the authority’s services
- **Rank 3 >10m³**
Large size leak which should be removed by authorities and services of external agents.

The head of the shift should report immediately any oil leakage to the Director of the GIFP. The Director, together with technical officers, shall make a visual assessment of the oil leakage in accordance with “Assessment form in case of oil leakage” and determine the category of leakage. Depending on the degree of oil leakage, the following measures will be taken by the General Director of GIFP.

If the accident is considered of the “1st rank”, the Director of the GIFP takes the following measures:

1. Informs the 1st Level Notification Points (GIFP)
2. Establishes the intervention team
3. Initiates measures to prevent oil spills in cooperation with the intervention team in case of oil spill
4. Organizes sampling from the contaminated areas
5. Takes measures to clean contaminated areas
6. Organizes safe storage and evacuation of the oil products and of the contaminated water/soil.

If the accident is considered of the “2nd Rank” the Director of the GIFP takes the following measures:

1. Informs the 2nd Level Notification Points that are
 - ✓ Danube Logistics
 - ✓ The Ministry of Transport and Road Management (the Captain of the Giurgiulești International Free Port)
 - ✓ Civil Protection and Emergency Situations Service of the Ministry of Internal Affairs of the Republic of Moldova
 - ✓ The State Ecological Inspectorate(AE Cahul)
 - ✓ The Ministry of Economy and Commerce of the Republic of Moldova (IPSSTOIP)
 - ✓ Information and Security Service of the Republic of Moldova
2. Prepares the Assessment of the Accidental Leakage
3. Takes measures to prevent oil spills in collaboration with the intervention team for oil spills
4. Organizes sampling from the contaminated areas
5. Organizes cleaning actions of the contaminated areas in collaboration with the Ministry of Environment
6. Organizes safe storage and evacuation of petroleum and contaminated soil in collaboration with the Ministry of Environment

If the accident is considered of the “3rd rank” the Director of the GIFP takes the following measures:

1. Informs the 3rd Level Notification Points
 - ✓ Danube Logistics
 - ✓ The Ministry of Transport and Road Management (the Captain of the Giurgiulești International Free Port)
 - ✓ Civil Protection and Emergency Situations Service of the Ministry of Internal Affairs of the Republic of Moldova
 - ✓ The State Ecological Inspectorate(AE Cahul)
 - ✓ The Ministry of Economy and Commerce of the Republic of Moldova (IPSSTOIP)

- ✓ Information and Security Service of the Republic of Moldova
 - ✓ Lower Danube River Administration
 - ✓ The Zonal Captaincy Galați
 - ✓ The Captaincy of the Reni Port
2. Prepares the Assessment of the Accidental Leakage
 3. Takes measures to prevent oil leakage in collaboration with the intervention team for oil spills, the authorities and the national and international agencies
 4. Organizes sampling from the contaminated areas
 5. Organizes cleaning actions of the contaminated areas in collaboration with the national and international authorities
 6. Organizes safe storage and evacuation of petroleum and contaminated soil

2.5.6 Key elements of assessment of the accident

Key elements of assessment of the accident are:

- Assessing the size of spill, estimating the approximate volume of leak.
- Movement of leakage, and an approximate estimation of the direction of leaked oil movement;
- Tracking the leakage will be performed regularly during this period to provide the latest information in order to facilitate the control of the incident;
- The environmental monitoring, the regular monitoring after the incident until it comes to understanding that the remediation is completed, providing information on the progress of the recovery situation.

The Captain of the Port, as a supervisor of every nautical operation, has the following responsibilities:

- To establish the type and the volume of the pollution caused by the ship or operator and to determine the cause of pollution;
- To receive alarm signals, to centralize and transmit them through the vessels coordination system
- To liaise with the administrations of all levels by sending current information related to the situation in the port
- To participate in assessing the costs and effects, the causes that led to the accident or pollution of the Danube or Prut Rivers in the areas of competence.

2.6 Presentation of Unicom Oil Terminal, Galati, Romania

Fanica Badescu, Unicom Oil Terminal, Galati, Romania

2.6.1 S.C. “UNICOM OIL TERMINAL” S.A. Galati

The S.C. “UNICOM OIL TERMINAL” S.A. Galati has:

- A park of reservoirs for white products (diesel-gasoline) that include 2 reservoirs of 3000 m³ each and 4 reservoirs of 1000 m³ each;
- A park of reservoirs for liquid viscous products (oil, petrochemical products, vegetable products, biomass) that includes 3 reservoirs of 10000 m³ each;
- A park of reservoirs that serves the CHP that includes a reservoir of 1000 m³ and one of 200 m³;
- A park for petrochemical and chemical liquid products that includes 2 reservoirs of 3000 m³ each;
- A park of reservoirs of 2x50 mc. and 1x200 mc. for storing road bitumen.

Each reservoir park is provided with a pumping petroleum products station. This oil are carried by normal or large rail tank cars or ships and are unloaded, taken by technological pipelines with centrifugal pumps for white products and screw pumps for black products respectively in order to store these products in storage tanks where from they will be loaded later in normal or large railway tank wagons, ships or tankers or a direct unloading can be made (no storage).

The object of this plan is the ensemble of measures for prevention, intervention and operative recovery in case of disasters - natural disasters and other catastrophes, to reduce the social, economic and ecologic effects.

A disaster means:

- Destructive natural phenomena of geological or meteorological origin or sudden illness of a large number of terminal employees. This category includes: earthquakes, landslides and collapses, floods and epidemics and dangerous weather phenomena.
- Events with very serious consequences on the environment caused by accidents. This category includes mass fires and major accidents at facilities and technological equipment.

The defense against disasters means:

- Measures to prevent and prepare for response;
- Urgent operative intervention measures after the occurrence of dangerous phenomena with very severe consequences;
- Further intervention measures for recovery and rehabilitation.

2.6.2 General and specific objectives

In order to achieve the security policy adopted by the SC UNICOM OIL TERMINAL SA administration, in conjunction with significant environmental impact there are established the general objectives and targets. As stated in the Security Policy, a general goal of society is that the transport / storage should be done avoiding significant adverse impacts on the environment and preventing major accidents. By implementing the repair and investment actions related to the available equipment and machinery, the SC UNICOM OIL TERMINAL SA aims at reducing environmental impact, identifying and eliminating all risks.

The responsible individuals of the SC UNICOM OIL TERMINAL SA facilities that can influence environment and security have separate tasks within their job description and specific technical instructions, which are regularly updated. The general security objectives of SC UNICOM OIL TERMINAL SA are identified, maintained and monitored so that any measures can be taken to avoid risks. Major accident prevention policy of Unicom SC Oil Terminal SA represents a commitment to ensure continuous security in operation of facilities and equipment, to reduce risks of incidents and accidents caused by dangerous substances storage and handling on site.

In the frame of the Terminal there will applied specific measures to maintain the safe operation, helping to achieve the following objectives:

- Minimizing the potential environmental risks by assessing specific security needs ranked by “type and extent of expected danger”;
- Ensure compliance with legal rules and regulations;
- Training all staff in order to know the risks and environmental problems that their work involves;
- Continuous communication with all stakeholders to ensure transparency as regards the possible negative consequences of their activity in the external environment;
- Ensuring social responsibility at community level through active involvement, as a strategic objective of Unicom SC Oil Terminal SA;

The general policy for prevention, preparedness and responsibility in case of industrial accidents is based on the following principles:

- Prevention, which involves operation so as to prevent the uncontrolled development of abnormal operations,
- Results of any accidents to be minimal and consistent with security best available techniques;
- Identification and evaluation of major hazards through systematic studies of hazard and operability and detailed security analysis for each identified individual cases;
- Assessment of the security needs ranked by “type and extent of danger expected” based on the quantities of hazardous substances and activities relevant to industrial accidents.

2.6.3 Organization and personnel

Unicom Oil Terminal S.A. is aware of the importance of use of adequate and appropriate resources and of direct involvement and leadership at all levels to successfully meet the safety objectives. With this objective, the company management certifies and communicates the roles and responsibilities, provides the necessary means and ensures that each member of management is aware of its responsibility for safety. The administration develops and maintains continuously updated the company organizational chart, the list with responsibilities (job description) for each function involved in ensuring the safety and relevant list of responsibilities for these functions and also any possible instrument of organization (committee, working group, etc..) that will participate in implementing and maintaining security systems.

The responsibilities of the personnel involved in emergency situations are added to the operational responsibilities of this staff structure, the emergency intervention is integrated in the organizational chart of the society. Operation of facilities is carried out in accordance with the duties, internal rules and Internal Technical Instructions (ITI). For proper functioning of the installations and for preventing accidents and major accidents, the on-site staff has delineated areas with specific tasks concerning the operation and supervision of installations. All events that occur are recorded in a special report and sent the head. The organization scheme in case of emergency includes the Emergency Cell and the 2nd degree private emergency service, organized under the SC Oil Terminal SA Unicom.

2.6.4 The Emergency Cell

Formation

The Emergency Cell is made up of a chairman, a vice president, a secretary and three members, with the following obligations:

- Establishes fire protection plan and submits it for approval to the head of unit;
- Supports the training of the heads in the field of defense against fire;
- Establishes the training program in the area of defense against fire, the themes and training schedules;
- Checks on the status of the maintenance and operation of fire protection facilities;
- Organizes exercises and practical applications, and joint training of civil firefighters formations together with military firefighters subunits involved in extinguishing fires at the object, organizes practical alarm and firefighting exercises with all staff;
- Follows the compliance of the instructions and measures on fire protection at work and make proposals to punish those guilty of violations;
- Organizes the regular training of heads and participates in their final examination;
- Ensures the solving of other problems for the smooth conduct of educational actions in defense against fire of the entire staff.

Tasks

In case of an emergency, the Emergency Cell has the following tasks:

- The Emergency Cell mobilizes and acts after reporting the event likely to trigger a state of emergency;
- Determines the type and the parameters of the accident and the response teams;
- Determines the characteristics and severity of the accident situation, such as:
 - The exact location of the accident;
 - Quantity of dangerous substance involved;
 - Size of affected areas;
 - Predicted evolution of the accident.
- Analyzes the situation and has alarm trigger;
- Orders and ensures the bringing unit staff teams;
- If necessary, supplements intervention teams to liquidate consequences of the situation;
- Depending on the severity of the emergency the following alarm scheme is activated:
 - Competent public authorities in civil protection
 - Local authorities on whose jurisdiction the accident occurred;
 - Volunteer emergency services on the basis of collaborative agreements;
 - Companies with existing contracts and agreements for cooperation in emergency situations;
 - Population and neighboring companies.
 - SGA Galați, Galați AFDJ if there is danger of contamination of surface water or groundwater.
- Coordinates, via the Emergency Cell, the actions of the members of the unit of intervention groups involved in liquidation and / or limit its effects;
- Provides through cooperation with specialized companies the additional equipment required for intervention;
- Sets the evacuation directions and evacuation of the staff according to need from affected areas;
- Provides the means of transport available in society, evacuation of injured personnel and transportation to the nearest health unit;
- Disposes the total or partial ceasing of plants in particularly serious cases, when there are expected delays in liquidating the consequences of the accident;
- Coordinates their own teams activity with the external one in case of an emergency;
- Disposes, after removing the emergency situation, the staff return to their work places, re-entry into normal working hours and bring to normal operating facilities;
- Notifies about the occurrence of a major accident to the territorial authorities with responsibilities in the areas of civil protection, environmental protection, labor, government and health, in accordance with Order MAPAM 1084/2003.

The private emergency service of 2nd degree is established by the decision of the Director General consists of firefighters and volunteer firefighters that work under the PSI technical framework and structured in intervention and firefighting teams, rescue and assistance group and intervention group.

In cases of emergencies all Terminal employees are required to participate in the intervention actions that are required by the administration of SC UNICOM OIL TERMINAL SA Galati. The storage, use and circulation of big quantities of hazardous materials, under certain conditions, can lead to situations of risk and the risk is determined by the coexistence of several risk factors.

2.6.5 Possible Risk Factors

For risk identification and assessment there was taken into account the contribution of external factors such as: (i) Abnormal climatic conditions (precipitation, temperature, seismic activity, wind, flood, etc.); (ii) Transport networks; (iii) Civil engineering; or (iv) Public and neighboring industrial activities.

2.6.6 Emergency Plans

All the sectoral emergency plans are integrated into a unified and coherent approach of the risk management control of major accidents as stipulated in legislation - Order No. 647/16.05.2005 for approving the methodological norms of developing contingency plans in case of accidents involving dangerous substances. It also envisages the need for periodic review (whenever necessary), taking into account:

- Advance of technical knowledge;
- Knowledge gained as a result of any accidents on site or elsewhere;
- Lessons learned during the implementation of emergency plans;
- Significant changes;
- Human behavior in response to crises.

Also there are conducted periodic inspection of the resources, equipment and systems for emergency intervention in order to be in good working order when necessary. Emergency plans take into account the systematic identification of the consequences of any major accident that could occur, they are in writing form and contain:

- Description on the organization of intervention in an emergency;
- Provision of evidence on opportunity of the necessary measures;
- The possible emergencies that may occur in all scenarios of accidents;
- The coordination and communication during an operation in an emergency;
- Arrangements made with other companies or institutions for providing the necessary resources in an emergency intervention if their intervention systems are not sufficient;
- Description of internal and external resources that can be mobilized to limit the consequences of a major accident for people and the environment;

- The assurance of sufficient personnel in reasonable time, to direct and act in the internal emergency plan;
- Providing appropriate intervention equipment available at any time and in perfect working order;
- Providing resources for monitoring and sampling during a major accident;
- How to mobilize the necessary emergency services when responding to an emergency

Major accident scenarios can be categorized in different types, according to the places of production, causes, severity, and probability. Generally, there was identified several categories of major accidents that can occur:

- Spillage of liquid fuel tank and forming a fluid (dammed by construction or security systems) which lights (pool fire). It may be due to poor maintenance, failure of operating procedures and other human errors. It may be accompanied by ignition of tank itself, the appearance of clouds of fire, explosion of vessels, the appearance of boiling liquids and expansion vapors in the tank that may explode;
- Overloading and lighting of the spilled fluid as a result of poor operating conditions (human error) or blocking of protection / prevention systems - also due to human error;
- Rupture or perforation of pipes, hoses or fittings (valves, flanges, valves, connections, meters, etc.) because of failure to comply with operational procedures or human error. As result here occurs a fluid flow, often with pressure caused by pump to which is connected the pipe. The leakage remains on the oil deposit platform that is surrounded by a retaining wall. The consequences include possible ignition caused by drainage basin or ponds, the appearance of jets of flame, clouds of fire, detonations, explosions, vapor accumulated in ditches, ;
- Rupture of connections or damage of connections at unloading and loading ramps. In this case, human errors are a possible immediate cause of these events.
- Accidents caused by flammable / toxic substances that are in tanks or generated by the combustion of these substances. Failure of the staff working procedures (e.g., weld on a fuel tank, even empty but still filled with gas fumes);
- Leakage in streams, groundwater, soil, caused by the failure of pipes, AMC, connections or due to staff negligence;
- Domino effect on the tanks, due to external causes.

2.6.7 Measures of protection and intervention to limit the consequences of an accident

The company is equipped with a network of water for fire, fed directly from the Danube by two electro pumps with LOTRU type vertical axis with $Q = 320\text{m}^3 / \text{h}$. Because retention tank walls must have fire resistance limit of 4 hours, they are made of 15 cm thick concrete (to resist fire limit is 5 hours). In case of a fire in one of the storage tanks, the liquid in tank fire is transferred by pumps to the buffer tank.

The distance from the burned tanks and the one used for decanting the oil products is about 50 m. The drain pipes are fitted with slope throughout their length, with an inclination towards the storage tanks. All along the drain pipes there will not be installed valves, excepting the tap from the technological facility it serves. The pumps and all their equipment are explosion-proof construction, appropriate to the working environment. Metal construction for equipment and machinery support, which contain combustible liquids, are protected with at least 5 centimeters layer of concrete or combustible materials lining with brick or equivalent, from foundation to the machine itself, all metal parts of the plant are grounded.

For protection against fire caused by atmospheric lightning, gases or vapors discharged into the atmosphere by the safety valves of the tanks or facility there can be foreseen a project that can provide a steam pipe to be opened before the storm for dilution the combustible gases. All tanks have closing valves on the transport pipelines and are equipped with links to allow the decanting of products in other tanks if necessary. For fire suppression it is provided a fixed fire extinguishing foam and a water spray extinguishing installation of storage tanks.

Firefighting facilities consist of:

- Sprinkler installation (cooling) for each tank;
- Mechanical foam producing station for firefighting, with a capacity of 8000 liters of foam generator;
- Mobile foam generator;
- Fixed fire posts for each fire compartment with the following facilities:
- 6 foam extinguishers SM 50;
- 5 dust and CO₂ extinguishers– P50;
- 39 portable foam extinguishers SM6;
- 29 portable dust extinguishers P6;
- 8 cannon fire extinguishers with water and foam TFAS 3000;
- 5 external hydrants;
- 3 water distributors.
- A self-contained breathing apparatus equipped with two air cylinders;
- 2 hose mask respirator equipped with adduction
- -2 aluminized suits ;
- 20 gas and smoke masks.

Monitoring equipment:

- - Own laboratory of physic-chemical analyses;
- -Portable Explosimeter : CAP EX DRÄGER.

Rescue equipment:

- First aid kits;
- Resuscitation kit;
- Rescue stretchers;

- Aluminized suits;
- Self-contained breathing apparatus equipped with two air cylinders;
- Breathing masks equipped with adduction;
- Short circuit, equipment (overalls, boots, gloves, eye protection, helmets).

Alarm means:

The local alarm can trigger from two points: Remiza PSI and the security post at the access gate – alarm siren.

Communication means:

- Fixed and portable radios;
- Fixed and mobile telephones, fax, e-mail;

2.6.8 Organization of the alert and intervention

The alarm scheme is made according to the type of emergency: An A Class Emergency (local emergency) is that an emergency involving a single area of the site; A B Class Emergency (emergency on-site) is when the local emergency persists or worsens and therefore affects / can affect other areas (e.g. neighboring compartments); and a C Class Emergency (emergency off-site) is a severe incident that involves or may involve a huge part of the site and affect/can affect people and the environment outside the site.

When reporting an accident, the intervention team is getting equipped and moves on-site accident. Depending on the service functions, first will act the operators, afterwards the service electrician:

- Work in the affected area and in the access ways to determine the situation on the ground and transmit information to trigger the alarm;
- Investigate the potential damage and evacuate the injured offering the first aid before taking over the rescue crew;
- Helps to evacuate personnel present at the scene of the accident and who is not involved in the intervention;
- Operates the equipment to stop fuel supplying : stop compressors, closes valves, changes seals, armoring, stop electric power;
- If necessary clear the facilities, equipment, tanks routes where necessary or provides the evacuation to the baskets of dispersal
- Stop or switch off the equipment that may create or exacerbate a dangerous situation;
- Take away the combustible materials away from affected areas;
- Use means of first intervention: extinguishers, shovels, sand, absorbent substances, etc.;
- Use the means of intervention: fire, water hydrants, fixed installations suppression, steam fixed water spray;
- Cooperate with external teams to perform the response actions;

- Team members will keep in touch with the head of exchange reporting any anomalies occurred;
- Leaving the sector is only in severe cases when personal security is directly threatened and only after fulfillment of tasks assigned in the alarm plan;
- After removing the causes and immediate effects an on-site research to assess damage is carried out and cessation of the emergency state is asked;
- When the alarm stops, the head of the exchange shall report his intervention.

Service dispatcher

It centralizes information on emergency situations that require alarms within the company. In case of necessity is one that promptly announces and mobilizes members of the emergency cell and of intervention teams; Alarms the emergency services by phone. 112; Alarm according to the alarm scheme and transmits information:

- Public authorities competent in civil protection
- Volunteer emergency services that are collaborative agreements;
- Companies with existing contracts and agreements of cooperation in situations of emergency;
- Population and neighboring companies.

Keep in touch with other structures of the scaffold to coordinate the technical actions to be taken in the state of emergency; Keep in touch through any means with intervention teams and emergency cell members to retrieve and submit information required under state of emergency.

Duties and tasks of individuals who are not included in the emergency formations

In case of an audible alarm or any other kind, there proceeds as follows:

- Orients on the field towards the meeting place which was indicated;
- Respect the guidelines and orders of the leader of the meeting and/or makes the evacuation elsewhere;
- Do not run, leaving the area in ways unknown;

The staff of other companies carrying out work within the site on the basis of service contracts that do not have responsibilities in case of emergency as well as persons staying temporarily in the company (delegates, practicing students, visitors, etc.) are grouped and comply with the orders of the emergency situations heads.

2.6.9 Actions of the response team in case of specific scenarios

Intervention group actions in case of leakage of petroleum products

In case of oil leaks, measures to stop its extension are taken:

- Insulation of broken pipe sectors and emptying them;

- Stopping, insulation and repair of machinery, equipment or damaged routes;
- Emptying the damaged tank;
- Replacing the damaged seals and valves.

If leakage products can meet:

- Leakage of small and moderate loss of product - in this case the chemist operator does the following:
 - Check immediately if leakage goes to the infested waters pipeline;
 - Decides, together with the head of the exchange, where to decant the product to avoid losses;
 - Prepares the tank for repair after removing loss, according to instructions.
- Leakage of big product losses - in this case the operator chemist does the following:
 - Close to leaking oil separator , announces the store chief;
 - When the trap allows, open the valves so that the sewage (or part of it) reaches the separator. The operation is repeated until all the product reaches the reservoir tank through the oil separator and pump;
 - Along with the collection operation, the decanting operation is carried out.

After emptying, there begins the preparation for repair operations. If the leakage is major, then it is kept in retention tanks, additional dams are used, sewages are closed and the leakage is collected in tank, reservoirs, barrels, etc.

Petroleum products must not be discharged into drains, if necessary (WWTP overload) the leading out of the station should be closed using any means at the disposal and alert authorities. The two pump houses near the petrochemicals and chemical liquid storages, the retain tank of the petrochemicals and liquid chemical deposit, and unloading ramps of petrochemical and chemical liquids have a single system of sewage-contaminated waters by petrochemical and chemical liquids, which are routed to a collecting underground basin made of concrete, where they are loaded into an appropriate transport (railway or car) and taught to authorized companies.

During the interventions, the staff will act as possible on side where the wind blows so that not to be at risks of poisoning. In the affected by leak area and surrounding areas there will be stopped the motor vehicles circulation (immediately stop their engines), there are delimited areas and car access is prohibited. Generally, any activity generating sparks is prohibited, only explosion proof equipment is used (tools, devices) and antistatic clothing.

The mode of action in case of an earthquake

The effects of an earthquake are mainly related to possible cracks in the routes of pipelines, storage tanks and equipment that can be followed by severe fires and explosions. Specific actions of the intervention team for this scenario are:

- Research the entire site to save injured and assess the damage;
- -First aid;

- Disconnection of electricity in the risk areas, recoupling is made carefully after a thorough search. In case of total interruption of electrical power in case of fire, the motor pumps are used;
- Closing the supply routes and products flow paths;
- Check the extinguishing installations and fire water supply if they were damaged;
- Emptying the tanks affected by the earthquake;
- Unlock access roads;
- Combating panic through calls for calm and communicate with staff;
- Opening doors and security measures to escape;
- Evacuation of personnel not involved in emergency management;
- Removal of earthquake effects on equipment and technological equipment: spills, fires and explosions, according to specific interventions such scenarios.

The mode of action in case of heavy rain, flooding

In this case the drum may fill with water, it is proceed as follows:

- Closing of the valves on their network connection between the tank and sewage;
- After the rain stops, opening successively, checking at the oil separator level;
- In case of breaks or cracks of tanks or pipes, the steps will be identical as in 1 and 2.

Buildings and facilities that may be affected in case of floods are: Remiza PSI, pumping oil stations, boiler, and in case of snow: fire roads, roofs, culverts on tanks, warehouses.

2.6.10 Instructions for general alarm

Security measures

- All the employees must travel to their jobs to fulfill their role in organizing the intervention, leaving free telephone lines for communications during emergency;
- All workers and employees should stop working, stop devices and equipment and leave them safely. Then execute the evacuation in accordance with instructions, the operations of loading / unloading must be stopped immediately and equipment left safety;
- Trucks, road trains and other vehicles not involved in intervention operations must immediately leave the site, to be parked outside, but to allow free access roads for circulation;
- Any access of unauthorized persons and means will be strictly prohibited.

Security rules

- Traffic rules are established throughout the site, the speed limit is 5 km / h;
- Drive cautiously and obey all traffic signs;
- Follow the only route that you were given;
- In the event of an emergency get the vehicle on the road and put engine off;
- Do not smoke, do not use naked flames;
- Do not park on roads;

- Do not perform any operation that was not authorized;
- Do not use roads that are not listed on the map without explicit permission;
- Do not bring video or photo cameras within the site;
- Keep the mobile phones switched off in work areas;
- Follow strictly the instructions of emergency staff;
- It is strictly forbidden during the running alarm the disordered evacuation, panic and other lines than those laid down;
- When you hear the siren signal contact a staff member in the area where you are and follow its instructions;
- In case of evacuation, head calmly to emergency exits, keeping the wind in front;
- For notification of an emergency dial no. 112 (single emergency number).

Evacuation

Evacuation to the site is organized in accordance with order no. 1184/2006 for approving the work on organizing and providing emergency evacuation. In case of a major accident when personal safety is endangered it is necessary to evacuate people not participating in intervention activities. Evacuation of the objective can be achieved by the two main gates of the objective: (i) Gate 1 on the east side; and (ii) Gate 2 on the north side.

The staff that is not included in the structures of intervention will have to leave their places that and move to the meeting places that are the sites of the gates of access and evacuation.

The evacuated staff at the meeting place will receive instructions on how to further act: whether to remain on hold or leave the area. Inside the site, the evacuated staff will be directed by voice on the direction in which to proceed.

In light of intervention evolution, the commander may decide on a partial evacuation of the area (visitors and staff subcontractors) or total (visitors, contractors and personnel staff, the only remaining site intervention teams).

Evacuation Rules

The evacuation is made on the access roads that are not in the risk area, the evacuees will be directed to most favorable ways, follow guidelines:

- Avoid panic, evacuation is performed in order;
- The speed of the evacuated vehicles shall not exceed 5 km / h;
- Do not block PSI cars, give them priority;
- For emergencies with toxic dispersion (smoke and gases) do not move on the wind, look for side exits or if possible go with the wind in face, avoiding the risk area.

2.6.11 Provisions relating to the timely alarm of the authorities responsible for combating risks

Any event whose effects can go beyond its objective and cannot be controlled with its own forces should be reported to the authorities. In obviously severe cases, the preliminary information will be sent immediately, later they will be confirmed and detailed upon arrival on site. There will be reported information on:

- Identification data (name, address, who shall make the notification);
- Time, date, place and cause of the accident;
- Nature and quantity of substance released or burned;
- Quantities of dangerous substances in the affected area and the total quantities on the site;
- The number, mode of action and own intervention forces;
- The probable duration of damage removal;
- Existing reserves, facilities and existing resources at the site;
- The meteorological situation: wind direction and speed, aggravating weather phenomena (wind);
- Probable limits of affected areas, dangerous and fatal;
- The evolution of events, possible risks;
- Routes, the recommended location for external intervention forces;
- Situation of injured: dead, wounded, hospitalized, etc.

2.6.12 Actions taken after the cessation of the emergency

The state of emergency ceases with immediate removal of the causes and effects of the accident over the entire site and surrounding areas. After cessation of the alarm the Emergency Cell will dispose through all possible media the return of the personnel to their jobs.

Since during an emergency the response teams will perform only urgent operational activities, after cessation the emergency state there will be carried out final remedial works by specialized teams. After the cessation of emergency state, Emergency Cell will prepare a report that will be submitted to local authorities.

2.6.13 Description mobilized internal and external resources

To prevent and remove causes of an emergency, the company is provided with a range of facilities and equipment as follows:

- Private Service for Emergencies provided with foam agent reserves - 8000 l, protection means (2 special suits, insulation masks);
- The intervention teams equipped with extinguishing means for first intervention: portable and fixed fire extinguishers, fire pickets;

- For firefighting it is provided a fixed foam fire extinguishing installation and water spray extinguishing installation.

Firefighting facilities consist of:

- Sprinkler installation (cooling) for each tank;
- Mechanical foam producing station for firefighting, with a capacity of 8000 liters of foam generator;
- Mobile foam generator;
- Fixed fire posts for each fire compartment with the following facilities: foam extinguishers SM 50; dust and CO2 extinguishers– P50; portable foam extinguishers SM6; portable dust extinguishers P6; cannon fire extinguishers with water and foam TFAS 3000; external hydrants; water distributors.
- Alarm Points
- Siren alarm;
- Treatment plant with sludge and oil separator.
- Means of radiotelephone communications, and mobile telephones, fax, e-mail.

In case of a major accident there may be alarmed and mobilized for support actions: external emergency services 112 (police, ambulance, fire).

3 EMERGENCY RESPONSE BY AND OUTSIDE OF THE PROJECT COUNTRIES

3.1 Presentation of the Republic of Moldova

Vitalii Mutaf, Emergency Department, Ministry of Internal Affairs,
Civil Protection and Emergency Situation Department, Republic of Moldova

3.1.1 National network of observation and laboratory control

Main tasks of the network of observation and laboratory control (in case of chemical contamination):

- Establishes the fact of contamination with poison-toxic substances;
- Determines the types of poison-toxic substances in the air, water, natural reservoirs, soil;
- Determines the quantity of poison-toxic substances in the food-stuff, potable water, edible raw material and forage etc. and assesses its threat for population and animals;
- Carries out the expertise of food-stuff, potable water, and forage;
- Determines the contamination level with toxic substances of the environment in the heavy traffic transportation areas.

Main tasks of the network of observation and laboratory control (in case of biological contamination)

- Establishes the fact of biological contamination;
- Determines the types of pathogen biological agents;
- Makes the examination of food-stuff, potable water, edible raw material and forage;

3.1.2 Civil protection units acting in case of radioactive, chemical and biological pollution

- Chemical and Radiological Prospecting Service in the frame of the Emergency Rescue Detachment – 1 (Chisinau, 9 pers.);
- Chemical and Radiological Prospecting Service I in the frame of the Emergency Rescue Detachment – 2 (Balti, 5 pers.);
- Chemical and Radiological Laboratory (Chisinau, 7 pers.);
- Chemical, Radiological, Medical and Biological Protection Section in the frame of the Civil Protection and Emergency Situations Service (Chisinau, 6 pers.).

3.1.3 Capacities and means of the territorial CP divisions

- The personnel of the CP department Cahul;
- The operative response boat in case of accident oil leakage KC – 110 – 37 with sorbent reserve;
- Fire boat KC – 110 – 39;
- The personnel of the CP department Gagauzia;
- In case of emergency, all the personnel of the CP Service of other districts of Republic.

3.1.4 Nonmilitary formations of the civil protection

- CP formations of the economic units;
- CP formations of the local public authorities (villages, cities, districts);
- CP formations of the ministries and other agencies;
- Other formations of the relevant organizations.

Location of oil leakages “A”

- Establishment of the slick bar on the oil patch way in order to restrict its spread and accumulation for its further collection,
- Application of the sorbent on the coast and slick strip in order to prevent the pollution,
- Application of the sorbent on the oil patch,
- Application of the sorbent on the coastal strip using the autonomous device АУНС-Р,
- Wash off the oil rests of the coastal area using the wash machine "Сибитек" and the reagent "Биоклин".

Location of oil leakages “B”

- Unwrapping and establishment of the slick bars,
- Launching of the oil skimmer,
- Transferring on the coast of the diesel-hydraulic power device for the storage of the collected oil products,
- Installation of the oil skimmer using a boat (assemblage it with the slick bar, connect to the hot-metal-slag separator and the vessel).

Location of oil leakages “C”

- Location of the oil leakage using the emergency response system,
- Establishment of the slick bars on the way of the oil patch in order to restrict its spread and accumulation for its further collection,
- Application of the sorbent on the coast and slick strip in order to prevent the pollution,
- Application of the sorbent on the coastal strip using the autonomous device АУНС-Р -Р,
- Installation of the oil skimmer on the oil patch,

- Installation of the oil skimmer and of the vessel for the temporary storage of the oil products based on the coast.

3.2 Presentation of Romania

Presented by Francisc Senzaconic, County Inspectorate for Emergency Situations

3.2.1 Evaluation Criteria

- Presence of hazardous substances
 - Injury to persons:
 - 1 death
 - 6 injured
 - Damage to property (real estate, housing unusable)
 - Evacuated people ≥ 500 (persons x hours)
 - Failure of public utilities (water / electric / gas / telecommunications) ≥ 1000 (persons x hours)
 - Permanent or long-term damage to terrestrial habitats:
 - 0,5 ha or more of a habitat of environmental or conservation, protected by law;
 - 10 ha or more of more widespread habitat, including agricultural land;
 - Significant or long-term damage to the river or marine habitats:
 - 10 km or more from a river or canal;
 - 1 ha or more of a lake or pond;
 - 2 ha or more of a delta;
 - 2 ha or more of a coastline or open sea water.
 - Significant damage to an aquifer or groundwater marine: 1 ha or more;
 - Damage to property:
 - a) Damage to property of the target, whose value in lei represents the equivalent of at least 0.5 million €
 - b) Damage to property outside the target, whose value in lei represents the equivalent of at least 0.2 million €
- => Transboundary damage - Effects outside the national territory.

3.2.2 Early-Warning, Alarming and Intervention

Early-Warning - transmitting to the population the authorized information about the possibility of occur of an event. Alarming - transmitting messages (signals) to the population about imminent or an event occurs.

Intervention:

- concentrating resources
- activation of the command structure (NCES/CCES/LCES) and support structure (TSG)
- integrated mission planning (long time – mobile command points)
- dispatch of support operative resources

- providing the reserves for intervention
- request for international assistance (UE/MIC, NATO/EADRCC, bilateral agreements)
- Applying the standard procedures for intervention, according to specific substances safety data sheets

3.2.3 Rehabilitation / Recovery

- Allocation of emergency funds
- Decontamination
- Analysis / research
- Investment / refurbishment

SAPA-ROM – operative system

- Function: subordinated to Ministry of Environment and Forests
- Frame of action for:
 - Prevention
 - Early-warning
 - Control

Objective: ensure the operation of the informational system and to ensure communication of the relevant information necessary to warn people.

3.2.4 National alarm subsystem – primary information flow

According to Prevention, Combat and Eliminate the Effects of Accidental Pollution Plan: (i) Vertical (from one level to another); and (ii) Horizontal (transit information to downstream units).

Important:

- Avoiding duplication of transmission of the reports
- Prevent duplication of information
- Transmission channel busy - alternative way (fax / email)

Primary information flow

- Accidental pollution local effects – source identified (annex no. 9) / source unidentified (annex no. 10);
- Local accidental pollution with transboundary effects – source identified (annex no. 11) / source unidentified (annex no. 12);
- Accidental pollution with transboundary effects (annex no. 13).

3.2.5 Operational procedure in case of accidental pollution COD: PO 3-2-4

Scope

- Preventing and combating pollution of the Danube and the law in force in the field of environmental protection (MARPOL 73/78 Danube Commission recommendations);
- Environmental protection, particularly of the Danube, according to the "polluter pays" principles;
- Compliance with environmental policy assumed by the Company.

Field of applying

The procedure applies to Quality Management System for intervention activities for accidental pollution. Related documents:

- Procedure "Technical Assistance for Pollution Prevention"

Responsibilities

- Elaborates the Order of march - Prepare for the movement of vessels participating in the remediation action, where the order was issued during office hours;
- Prepare invoice documentation required to provide remediation assistance
- Organizes and controls the activity of intervention for remediation

Description of work

Intervention in case of accidental pollution is carried out following the specifications issued by the polluter, according to the principle "polluter pays" and is performed by motor ferry "Sălceni 1" or, if the complex massive pollution clean-up, ships that have personnel for such interventions.

Description of the activities

When a hydrocarbon spill is announced, the designated persons from Environmental Protection Office alert the following:

- Company management
- Galati Environmental Protection Agency
- Galati Harbor Authority
- Galati Water Management System
- Onboard personnel responsible for preparing the ship for departure;

The representatives of the Company's` Environmental Protection Office along with the specialized ship`s crew will go to the polluted area only after a invocation was made by the polluter.

The depollution activities are:

- Limiting the spread of the hydrocarbon film with absorbent barriers;
- Spreading absorbent material over the affected surface;
- Recovery and separation of the absorbent dam:

- The unaffected portions of the dam will be stored onboard the ship
- The altered portions of the dam, along with the absorbent material (transformed in a layer or cluster which can be easily gathered of the surface) will be deposited in plastic bags and passed on to the specialized depollution installation of CN APDM SA GL
- The activity ends by signing a written statement between the Company`s representatives, the above mentioned institutions and the polluter.
- Forms and recordings
The forms used are the ones required by the national legislation.

3.2.6 Pollution prevention and mitigation plan in the competency zone of CN APDM SA GALATI

CN APDM Galati

Established in 1991, reorganized by the Governmental Decision no. 518/1998, modified and amended by GD no. 222/2003 and GD no. 598/2009 as a national company, established as a corporation and conducting national public interest activities, and in the last 19 years of activity it has established a proper reputation regarding the efficiency and professionalism of the services provided.

The company is managed by the Administration Board, chaired by the General Manager and the activities are coordinated by the Infrastructure and Naval Transport General Division, under the Ministry of Transport and Infrastructure.

The main objectives of the company seek to assure harbor public services at European standards, maintaining and repairing the infrastructure for river transit, public or private property, continual diversification of services and increasing the efficiency in the competency zone: Mm 125 – Km 160 and Km 251 – Km 285 on the Danube, both banks and secondary branch Chilia, Sf. Gheorghe and Macin.

CN APDM SA Galati is issued the environmental functioning permit no. 299 / 17. 11. 2008, by the Galati Environmental Protection Agency. Having direct access to the Rhine – Maine – Danube trans-European corridor through the Danube – Black Sea Channel, our harbor development priorities are:

- Integration to the Pan-European transport system;
- Implementing a system for Intelligent Transport Service;
- Integration to the European Information System;
- Danube pollution prevention and mitigation.

3.2.7 Facilities, installations and equipment required for the safe operation of a harbor from the environmental point of view

The facilities, installations and equipment required for the safe operation of a harbor from the environmental point of view are divided in several categories, according to the pollutants and the prevention and mitigation phase, as follows:

- Specialized ships equipped with equipment designed to collect the hydrocarbon – water mix from the ship`s bilge while parked, operating or transiting the harbor;
- Specialized ships for collecting solid household waste from aboard ships;
- Specialized equipment for transport of household waste to designated storage areas;
- Specialized ships for collecting waste water from ships;
- Floating installations for collecting accidentally released oil waste from the river and harbor area, such as: (i) floats; (ii) surface suction pumps; (iii) tanks for depositing the collected waste; and (iv) pumps to transfer the waste to onshore treating installations;
- Depollution complex provided with household waste collecting installations, hydrocarbon waste, waste water directly from ships;
- Storage space for collection of bilge water;
- Hydrocarbon waste separation facilities and collection areas;
- Areas required for collecting waste water (AUF and AUG);
- Waste water treatment facilities.

3.2.8 Ships, installations, equipment used in case of pollution of the Danube river in the competency zone of CN APDM SA GALATI, Galati harbor

179 DEPOLLUTION COMPLEX - Pier 15, Galati Harbor

- Hydrocarbon separator 3 mc/h, 60 mc/h;
- Skimmer Pomp 60 mc/h;
- Storage tank for bilge water 50 mc;
- Used oils storage tanks 16 mc ;
- Inflatable barrier 300 x 900 x 200 ml;
- Waste water purifier 3 mc/h;
- Waste water storage tank 30 mc;
- Absorbent substance for oil products OILDEPOLPLAST;
- Working schedule : 24 h/day;
- CD 179 is designed as a complex depollution station, made by modifying no 179 barge (former 7291):
 - 179 depollution complex collects hydrocarbon contaminated water, separates them, discharges clean water in the Danube and delivers the separated hydrocarbons to the onshore processing installations;
 - The separation capacity is 3 mc/h which can be upgraded to 60mc/h in case of hydrocarbon pollution;

- The onboard separation equipment is provided with a water quality analyzer. In case of exceeding the 15 ppm threshold, the contaminated water is diverted again to the collecting tank where they undergo separation once more.

B/M SALCENI 1 – 180 HP - Pier 15, Galati Harbor

- Collecting household waste from ships in the competency zone of CN APDM SA Galati ;
- Assisting ships caring out transfer of oil products at pier – Unicom Oil Terminal Galati;
- Mitigation of hydrocarbon pollution of the Danube, with onboard depollution equipment (absorbent dam and bulk materials).
- Absorbent dam Ø 200, 200 ml;
- Working schedule: 24 h/day.

DEPOL 6 – Pier 15, Galati Commercial Port

Specifically built ship to collect polluted surface water, separate large floating debris and deposit polluted waters onboard for separation 179 Depollution Complex. The working schedule is 8 h/day.

Assorted waste collection point – Pier 26, Galati Harbor, Cap de Mol area

It is specifically built platform, with modular containers and garbage cans for collecting assorted waste (dangerous and not) from ships, including bags of slurry. The working schedule is 8 h/day.

3.3 Presentation of Ukraine

Oleksandr Sinkov, Organizational Emergency Response Service of the Department of the Salvage Forces of Civil Protection, Ministry of Emergency Situations of Ukraine

3.3.1 Ministry of Emergency Situations of Ukraine

The order of the President of Ukraine № 402/2011 from 6 .04.2011“On the Resolution of the Ministry of Emergency Situations of Ukraine”

MES is the main authority in the list of central government authorities for formation and provision of the national policy in the field of:

- Civil protection, rescue activities, firefighting;
- Governmental supervision of the technogenic and fire security;
- Government supervision of the industrial security and mining;
- Liquidation of the Chernobyl catastrophe effects; prevention of nonproductive injuries; hydro-meteorological activity.

The central authorities that are coordinated by the MES

- State Ukrainian Agency for administration of the zones of alienation;
- State Inspection for technogenic security; and
- State mining supervision and industrial security service.

Civil protection operative rescue service

There are central subordination forces and regional subordination forces. Their tasks are:

- Liquidation of emergency situations, fires and their consequences;
- Rescue of individuals in the buildings, blockages, on the water, in the highlands and underground;
- Cleaning the territories of explosives;
- Life support of the affected population.

There are specialized rescue subdivisions composed of special purpose rescue detachments:

- Specialized mine rescue subdivisions;
- Specialized tourist search and rescue subdivisions;
- Specialized water rescue subdivisions.

3.3.2 The state enterprise “Mobile Rescue Centre”

There are specialized (militarized) rescue detachments, intended for response to natural and technogenic emergencies in Ukraine and outside it. Their tasks are:

- Execution of rescue works, including the activities that involve special rescue technologies;
- Execution of underwater-search and technical works;
- Provision of preparedness of the Mobile hospital in case of an emergency.

3.3.3 The fire response measures in the natural ecosystems during the fire risk period

- Provision of 24 hours monitoring of fire state;
- For extinguishing the fire from air and for its observation, 24 aviation units are involved;
- Realization of tour of duty by MES and ministry of defense aviation in the regions most predisposed to forest fires;
- Implementation of the complex involvement of land and aviation forces and means for fire extinguishing in the natural ecosystems during the initial stages;
- Notification of population about the fire protection measures in the forests and about the order of actions in case of fire occurrence.

3.4 Presentation of Belarus on response to emergency situations related to an oil spill from the main pipeline

Vitali Smaliakou, Belarus

3.4.1 National legislation

- Law of the Republic of Belarus (№87-3, 09/01/2002) «About the main pipeline transport»;
- Law of the Republic of Belarus (22/06/2001) «About rescue services and Rescuer's Status»;
- Resolution of the Council of Ministers of the Republic of Belarus (№182, 08/02/2002) «Approval of the list of organizations that fail to provide emergency services»;
- Decree of the President (№450, 01/01/2010) «On licensing some types of activities».

3.4.2 Emergency response

In case of oil spill Ministry for Emergency Situations:

- Uses the required number of forces and means for their elimination;
- Specifies the scope and nature of the emergency, the presence of people in the area of the accident and the degree of threat to their lives, information about the destruction (explosion), the presence of the victims, having to remove the mains voltage;
- Organizes the interaction between the services concerned;
- Informs the Council of Ministers, the State Secretariat of the Security Council, the Committee of State Security, the State Border Committee, the Interior Ministry, Ministry of Health, Ministry of Environment, Public Prosecutor of the Republic of Belarus.

Elimination of such emergencies conducting according to the Prevention and Elimination Emergency Situations Plans and Plans for the Protection of the Population and Territories from Emergency Situations on which are carried out:

- Elimination of accident using all available forces and means;
- Stopping (minimize) the filing of oil products by disabling the secondary consumers,
- Reducing the pressure in the distribution network;
- Notification of the people (if necessary) and controls authorities;
- Elimination of the consequences.

3.4.3 Emergency management

The effective emergency management is achieved by:

- Development of plans and the availability of emergency prevention and
- Response;
- Development plans of the cooperation;
- The maintenance of forces and equipment in the constant combat
- Readiness;
- Holding joint exercises for improvement of joint actions.

In case of emergency, the tactical management is proved by the Head of emergency elimination. The coordinating management for emergency elimination is provided by an Emergency Commission, whose activities are transferred from the everyday mode of operation in high availability mode (when receiving the forecast) and emergency mode.

3.4.4 Elimination of the accident and its consequences on product pipeline in Gomel Region

On 14.02.2008:

- At 8:32 near the Zaspa village of Gomel region was the pressure dropped on product pipeline «Unecha-Rovno» owned PUE «West-Transnefteprodukt».
- At 8:41 transfer of petroleum products were stopped.
- At 8:51 minutes leadership PUE "West Transnefteprodukt" made a decision to overlap valves on the pipeline. To the accident were sent forces and means of emergency and recovery point pump station.
- At 10:30 on arrival at the accident site revealed that there was a rush of product pipeline (diameter 530 mm, depth of 1 m, the pressure of 42 atm.), with the leak to the surface 200m³ of diesel fuel on the area of 100 m².

3.5 Presentation of the Netherlands

Chris Dijkens, presentation on good practice for emergency response using the example of the Netherlands

3.5.1 Definition: industrial accident or crisis

An "industrial accident" means an event resulting from an uncontrolled development in the course of any activity involving hazardous substances that can cause severe damage and harm as well (human health, environment, livelihoods and property). They can be caused by chemical, mechanical, civil, electrical or other process failures due to an accident, negligence, incompetence or faulty decision making in an industrial plant.

Key features of a crisis

- Low probability
- High impact
- Uncertain / ambiguous causes and effects
- Differential perceptions

Common features of a crisis

- A threat to the organization
- The element of surprise
- Short decision time
- Situation materializes unexpectedly
- Decisions are required urgently
- Time is short
- Specific threats are identified
- Urgent demands for information are received
- Sense of loss of control
- Pressures build over time
- Demands are made to identify someone to blame
- Outsiders take an unaccustomed interest
- Reputation suffers
- Communications are increasingly difficult to manage

Specific threats to organization

- Operational viability
- Reputation
- Credibility
- Financial stability
- Legal action

3.5.2 Crisis management

Crisis management is the process by which an organization deals with a major event that threatens to harm the organization, its stakeholders, or the general public. It includes the development of plans to reduce the risk of a crisis occurring and to deal with any crisis that do arise, and the implementation of these plans so as to minimize the impact of crisis and assist the organization to recover from them.

Plans are needed: A crisis management plan generates order out of chaos. It needs strong leadership by well-trained and rehearsed individuals. Everyone within an organization should know what his or her role is in a crisis and should be prepared to deal with one.

Top 10 pitfalls of (emergency) plans

1. No support from top management
2. Insufficient involvement of employees
3. No or bad planning
4. Insufficient training and exercise
5. No designated leader
6. Plan is not maintained and not 'up to date'
7. No method and system for alarming the employees
8. Legislation for health employees is not included in the plan
9. No procedures for stopping critical processes
10. Employees are not informed how to act in cases of emergencies

3.5.3 Safety chain

The 'safety chain' approach is a widely used model for policy making and evaluation in terms of risk management. Based on going through the links of the chain, plans can be developed. Phases and interlinked elements of risk mitigation and crisis management:

- Pro-action
- Prevention
- Preparedness
- Response
- Damage review
- Follow-up

Continued evaluation of the elements of the safety chain will lead to optimal risk and crisis management of accidents. A close involvement of the industry and the authorities within the establishment of each link is highly important. Obligations applicable under legislations and policy must be implemented. Extra or specific measures must be taken to encourage and secure a safe environment. Organizational measures must be included such as a safety management system. Compliance monitoring by responsible authorities in each stage of the safety chain is a condition.

3.5.4 Hazard management: pro-action and prevention

Pro-action: stands for the elimination of structural causes of incidents. It includes: (i) Standardization; (ii) Legislation; and (iii) (spatial) planning.

Prevention focuses on reducing the effects of an incident which is likely to happen. It focuses on long-term measures for reducing or eliminating risks. Measures can be structural and non-structural. It is the most cost-efficient method for reducing the impact and it includes regulations regarding evacuation and communication.

3.5.5 Crisis management: preparedness and response

Organizations must be prepared for scenarios by:

- Risk evaluation
- Accident scenario's including casualty prediction
- Communication plans (public and emergency workers)
- Development and implementation of control plans and accident emergency plans etc.
- Ensuring of the readiness and functioning of crisis management instruments
- Training and maintenance of emergency services
- Development of and rehearsing assessment methods and evacuation plans
- Development and stocking of inventory, supplies and equipment
- Institutionalizing of professional emergency agencies, networks and coordination centers.

Response means the actual action taken to relieve the effect of a serious accident or disaster through:

- Mobilization of the first (core emergency) responders
- Support by secondary emergency services (e.g. specialized environmental assessment teams);
- Effective coordination of the deployment of the services based on a rehearsed emergency plan
- Involvement of local, regional en national services (when needed)
- Effective communication

3.5.6 Aftercare management: damage review and follow-up

Review and recovery are needed to return to a normal and restored situation after an incident or disaster. An important aspect of recovery is evaluation. Finding (latent) failures and root causes of an incidents and accidents is the only way to stop the reoccurrence of such accidents and are vital for improving the safety of industrial activities. Therefore the evaluation must focus on:

- the causes of the incident
- the quality of the pro-action and prevention
- the system and process preparedness of response
- Recommendations for improvement of all elements of the safety chain

3.5.7 Conclusion

The prime responsibility for safety lies within the industry. Solid prevention and safety programs must be in place. Plans and programs must be up-to-date, maintained and trained. Authorities share in the responsibility to prevent accidents (legislation and compliance monitoring). Only by systematically going through checks of all aspects of the safety chain

and an adequate follow-up on the findings the chances and effects of severe accidents will be minimal. Furthermore, crisis management is network management.

Organizing the response

- Responsibilities on local, regional and national levels
- Organize the cooperation on all levels
- Include all response capabilities in response plans
- Train the variety of scenario's
- Create where possible (in)formal networks for specific assessments (health, environment)
- Make use of existing capacities and capabilities and organize a smart and efficient 24/7 availability

3.5.8 Network organizations Netherlands

Emergency Planning and Advisory Units (EPA's) for:

- environmental emergencies
- nuclear and radiological emergencies
- drinking water emergencies
- terroristic threats and attacks (= National Laboratory Network)

The network organizations:

- are 'virtual' and to be activated during an emergency
- are staffed by experts of 16 scientific institutes (> 100 members)
- have a flexible structure
- perform integrated advices

3.5.9 Available expertise

- Measure and sampling strategies
- Chemical analysis
- Risk and plume calculations
- Modeling (exposure) and future scenario (e.g. dispersion in air and water)
- External safety risks
- Risk analysis health impact
- Toxicological information
- Meteorological information
- Risk assessment aquatic environment
- Assessment food safety
- Assessment CBRN exposures
- Managing emergency response measures
- Crisis management experience

3.5.10 Challenges

Industrial and chemical safety assumes greater importance due to high growth near manufacturing and industrial areas. Quality standards and better norms for enforcement are needed. Further challenges are: Standardization of on- and off-site emergency plans; Proper system of certification for risk assessment, emergency plans and safety audit; Regular drills for checking the effectiveness of the plans and of the emergency preparedness; Training and capacity building at all levels; Involvement of insurance companies for better risk management in the industrial sector; Increased awareness among workers and communities.

3.6 Presentation on the outline and issues identified by the joint expert group for the methodology for contingency planning and crisis management in the context of transboundary waters

Francisc Senzaconic, General Inspectorate of Emergency Situations

3.6.1 The Joint Expert Group (JEG)

Even a small amount of hazardous substances released into water environment can cause huge environmental damages, as the impact is far-reaching and often transboundary.

JEG was established under the “Water”- and the “Industrial Accidents”- Conventions to work on issues related to the prevention of accidental water pollution which is of interest to both Conventions. Current JEG core group participants are:

- Co-chairs: Hungary and Romania
- Experts: Czech Republic, Kazakhstan, Republic of Moldova, Sweden
- UNECE TEIA Secretariat, Water Convention Secretariat
- Project consultant

3.6.2 Basis for current JEG activities

The current strategy for the JEG was prepared by the co-chairmen of the JEG in consultation with the Bureaus of the Water Convention and of the Industrial Accidents Convention in June 2009. It was endorsed by the Meeting of the Parties to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes in Geneva, 10-12 November 2009.

The mission of JEG is to: (i) provide assistance in organizing exercises, workshops, seminars and conferences; (ii) draw up training materials; and (iii) draft specific guidelines on good practices and recommendations.

German-Polish field exercise on the Odra River combined with the technical workshop on joint management of transboundary emergencies involving international water paths, Urad and Slubice 8 - 10 September 2009. JEG recommendation: A sound methodology for building an effective crisis management system focusing on transboundary emergencies with effects on watercourses should be developed!

3.6.3 Current tasks of JEG

The current tasks of JEG is to draw up a checklist/methodology for contingency planning in transboundary context for application to transboundary waters, requested by the countries, based on a questionnaire, approved by both bureaus. The checklist/methodology will be based on existing methodologies for elaboration of contingency plans and on good practices available as well as address common challenges. A 7 steps plan was drawn up and put into practice in order to a better coordination and time fitted work.

At the moment, we are in step 4 – discussion on main issues of the checklist during the Sandoz seminar. Draft outline of the new guideline looks as follows:

1. Introduction
2. Principles for crisis management and contingency planning in the context of transboundary waters
3. Recommendations
 - 3.1. Recommendations to UNECE member countries
 - 3.2. Recommendations to competent authorities
 - 3.3. Recommendations to operators of hazardous activities
4. Annex

3.6.4 Annex of the JEG guidelines

2. CRISIS MANAGEMENT/MITIGATION

2.1. Legal and institutional aspects

2.1.1. Legal basis for adequate crisis management in transboundary context including mitigation measures

2.1.2. Institutional framework (for enforcing the legal basis)

2.1.3. Availability of:

- Early warning and alarm systems
- Emergency plans (on-site and off-site)
- Procedures for mitigation measures
- Adequate notification and crisis communication
- Procedures for after care management

2.2. Cooperative and learning aspects:

- 2.2.1. Training of authorities and enterprises staff on crisis management, on mitigation measures
- 2.2.2. Public Awareness on crisis management
- 2.2.3. Exchange of information, joint exercises and joint training
- 2.2.4. Exchange of good practice and lessons learned from crisis situations
- 2.2.5. Awareness raising of decision makers on crisis management

3.6.5 Aspects regarding principles for contingency planning in transboundary context

- Adequate legal and institutional framework for whole disaster management cycle applicable in both cases in national and transboundary context is a basic requirement for all Parties to the “Industrial Accidents” and “Waters” Conventions.
- The responsibilities for contingency planning should be spread between operators and competent authorities (on-site and off-site).
- The response action in case of an accident with impact on transboundary watercourses should take into consideration the gradual response on horizontal and vertical levels and the continuity of the action until the emergency stops.
- The unique command should be established for response in case of an industrial accident with impact on transboundary watercourses.
- Aspects regarding principles for contingency planning in transboundary context
- Protection of human life and rescue operation should have priority in contingency planning
- Information and data exchange should be ensured on the transboundary level.
- In case of an industrial accident with impact on transboundary watercourses the cooperation on each level (local, regional, national, transboundary and international) is essential for a timing and appropriate response and with minimal impact
- A transparent approach should be pursued towards public, stakeholders including neighboring countries.

3.7 Presentation of Black Sea Commission on experience in planning for emergencies

Dumitru Dorogan, Black Sea Commission

3.7.1 Oil Pollution Sources in the Black Sea

- Rivers discharges
- Municipal Sector
- Shipping
- Offshore installations
- Natural seepage

3.7.2 Legal Basis

The Convention on the Protection of the Black Sea Against pollution (Bucharest Convention), 1992;

The Bucharest Convention 1992 and its “Emergency Protocol” provide the legal framework for actions concerning regional co-operation in combating marine pollution incidents;

Odessa Declaration, 1993;

The Strategic Action Plan for the Rehabilitation and Protection of the Black Sea (BS SAP), 1996, as amended and updated in 2009.

The Strategic Action Plan established principles, policies and actions for contingency planning and emergency response and set up clear objectives and deadlines for the Regional Contingency Plan.

3.7.3 Black Sea Commission (BSC): Bucharest Convention

In April 1992 six Black Sea countries (Bulgaria, Georgia, Romania, Russian Federation, Turkey and Ukraine) signed and shortly thereafter ratified the Convention on the Protection of the Black Sea Against Pollution (Bucharest Convention) with its (three) integrated protocols. The pollution related protocols refer to:

- Land based sources
 - Cooperation in emergency situations
 - Dumping
- and
- Black Sea Biodiversity and Landscape Conservation Protocol (not ratified yet).

The BSC is an intergovernmental body for promoting the implementation of the provisions of Bucharest Convention, its protocols and Strategic Action Plan. The regional focal point for any environmental aspects of the coastal and marine environment of the Black Sea is made up of 6 Commissioners (one for each coastal country) and a chairman. The Permanent Secretariat is located in Istanbul, Turkey.

3.7.4 The Strategic Action Plan for the Rehabilitation and Protection of the Black Sea

- Signed on October 31, 1996 (commemorated as the Black Sea Day)
- Adopted by all Black Sea countries
- Updated in 2009
- Revised BS Strategic Action Plan (2009)
 - Establish an inter-state ministerial mechanism to enable a quick response to major pollution events.

- Adopt and enforce relevant international legal instruments for safety navigation, pollution prevention, limitation of liability and compensation.
- Provide adequate port reception facilities for ship-generated wastes according to MARPOL 73/78, Annex I, IV, V.
- Establish a harmonized fee/cost recovery system on ship-generated waste.
- Develop systems for the identification of illegal pollution sources from vessels and off-shore installations.
- Develop/establish a harmonized enforcement system in cases of illegal discharges from vessels and off-shore installations, including technical means and fines.

3.7.5 Regional Legal Framework

- The Bucharest Convention (1992)
- Article IX: Cooperation in combating pollution in emergency situations
 - The Contracting Parties shall cooperate in order to prevent, reduce and combat pollution of the marine environment of the Black Sea resulting from emergency situations in accordance with the Protocol on Cooperation in Combating Pollution of the Black Sea by Oil and Other Harmful Substances in Emergency Situations.
- Emergency protocol
 - Article 2: The Contracting Parties shall endeavor to maintain and promote, either individually or through bilateral or multilateral cooperation, contingency plans for combating pollution of the sea by oil and other harmful substances. These shall include, in particular, equipment, vessels, aircraft and manpower prepared for operations in emergency situations.
- Contingency Plan to the Protocol on Cooperation in Combating Pollution of the Black Sea by Oil and Other Harmful Substances (2003)
 - With 9 Annexes, 1-4 regularly updated.
 - Adopted earlier by Bulgaria, Romania, Turkey (and in 17 April 2009) by Georgia
 - Not yet signed by Russia and Ukraine, but fully operational, as recognized by the Black Sea Commission, following already three Delta exercises (Turkey 2007, Romania 2009 and Georgia 2011)

3.7.6 Regional Contingency Plan

- Annex 1: Contacts- Emergency Centers
- Annex 2: Sensitivity areas -Arcview maps (ESI, ESA,etc)
- Annex 3: Communication-alarm
- Annex 4: Inventory of response equipment
- Annex 5: National Contingency Plans -summary
- Annex 6: Guidelines for oil spill reporting
- Annex 7: Pollution Reporting System (POLREP)
- Annex 8: Claims manual

- Annex 9: Long term plan for exercise
- Annex 10: Guidelines for oil spill exercises
- Annex 11: Guidelines to use dispersants
- Oiled wildlife recommendations

AG Environmental Safety Aspects of Shipping (AG ESAS)

It provides operational assistance for combating pollution from oil or chemical spills. It covers also (i) capacity building; (ii) training, exercises; and (iii) data collection as: number of ships calling at ports, passing the Istanbul Strait, PRF, Oil Spills, Dumping (volume of dredged material, cub m), Ballast Waters.

Legal documents: Regular maintenance and update of the operational information (Annexes 1-4) for the implementation of the RCP. Directory of competent national authorities, contact points, emergency response centers, national on-scene commanders and other relevant addresses; Maps showing possible sources of pollution, environmental sensitive areas, environmental sensitive indices, priorities for protection; Operational procedures: Alarming, notification, communication System; Directory of response personnel and inventory of response equipment, products and other means which each party might offer as assistance in case of the activation of the Plan.

AG ESAS International, regional and/or national at-sea response exercises

Exercises are a major milestone and investment in the region's preparedness for oil spill accidents:

- Black SEA ALPHA: Synthetic or Table-top Exercise;
- Quarterly BLACK SEA BRAVO: Alarm or Communication Exercise;
- BLACK SEA DELTA (at-sea exercises):
 - SULH 2007, hosted by Turkey.
 - RO-DELTA August 2009, hosted by Romania
 - GEODELTA Sept. 2011, hosted by Georgia

3.7.7 Moninfo project

Phase 1: START: 01 January 2009; END: 31 August 2011;

Phase 2: START: 01 January 2010; END: 31 December 2011.

EU Co-funded, Total Budget: 2.36 Million Euro

3 Work Packages in MONINFO I:

- WP1. Information System development;
- WP2. Monitoring System development;
- WP3. Capacity Building.

5 Work Packages in MONINFO II: Complementary to MONINFO 1

Oriented to the establishment of real operational tools to support institutions responsible for monitoring, counteraction and mitigation activities in case of oil spills

- WP 1. RDIP Database and Info platform and Expert System/MONINFO System on oil pollution mitigation and counteraction activities
- WP 2. Application of a Web based model for oil pollution forecasting for the BS
- WP 3. Regional Black Sea AIS data server
- WP 4. Remote sensing monitoring of oil pollution
- WP 5. Capacity building and sustainability

MONINFO project finally should enable the coastal states to better prevent and respond to operational/accidental/illegal oil pollution, aiming to achieve the following main objectives:

- Development/Improvement of information and monitoring systems for operational, illegal and accidental oil pollution, by collecting, storing, processing and distributing different type of data related to oil pollution prevention and response activities within the area;
- Setting up a Black Sea Regional AIS server;
- Setting up a regional monitoring service on oil pollution detection;
- Setting up an oil modeling to understand distribution/forecast following a spill
- Enhancement of response capabilities, including a common risk management proposal and emergency planning update.

Black Sea Track Web – Oil spill Monitoring System

- Satellite based
- CleanSeaNet (CSN) from EMSA
- CSN was successfully launched in the Black Sea area since August 2010, providing service to Bulgaria-Georgia-Romania-Turkey;
- The service is open to Russia and Ukraine as well.

4 EXERCISING SCENARIOS AND PLENARY DISCUSSION

4.1 Presentation on developing exercising scenarios and on principles for oil spill exercise programs

Frederic Marignac, Le Floch Depollution

4.1.1 Developing exercising scenarios

“The ultimate test of any contingency plan is measured by performance in a real emergency. It is vital, therefore, that any program for developing a national contingency plan must include an ongoing program to test the plan through realistic exercises “(IMO)

The goal of an incident exercise program is to: (i) assess the plan, the equipment and the capability of the response team; (ii) test the national organization in charge of managing oil spill response; (iii) test the regional cooperation between countries; and/or (iv) improve, with proper feedback, the different systems.

4.1.2 Exercise categories

Different categories reflect different levels of a plan to be exercised. The level of difficulty should be increase gradually, also to keep your team motivated. It is important to prepare a real exercise, not a demonstration.

Notification exercise

- Test the procedures to alert and call out the response teams
- Test communication system
- Check availability of personnel
- Assess the ability to transmit information quickly and accurately
- Duration: 1 or 2 hours, simple level of organization

Equipment deployment exercise

- Test the capability of a local team to respond to a Tier 1 or 2 type spill
- Provide experience of local conditions and of spill scenarios
- Enhance individual skills and teamwork
- Duration: 4 to 8 hours, simple to medium level of organization

Table-top exercise

It consists of proposing an incident scenario and inputs to a response team who will simulate the response but it does not involve the mobilization of equipment or personnel. The focus lies on: (i) the role and action of the individuals; (ii) the interactions between the various parties; (iii) the development of information and response strategies. The duration of the exercise is 6 to 8 hours and it requires a medium to high level of organization.

Full scale exercise

A full scale exercise includes the participation of all the parties:

- the incident management team
- the field operations teams (plus the response equipment); and
- International representatives (tank owners, insurances, experts).

The duration of the exercise is 10 to 12 hours and requires a high level of organization (on-site mobilization of different organizations and the response equipment).

4.1.3 Exercise planning: How to organize an exercise?

Exercise planning consists of four separate activities/phases:

1. Design phase

- Appoint the exercise coordinator: responsibility of the exercise
- Set objectives: primary and secondary
- Determine exercise scope: number of participant , location, duration
- Establish exercise plan: set the date, availability of personnel, mobilization, day 1, 2, 3
- Obtain management approval: support of the hierarchy, validations of the cost

2. Development phase

- Establish coordination
- Develop a detailed scenario: timeline, simulated parameters: type and volume of oil, impact, weather, sea condition
- Finalize plans: facilities, services, equipment, communications, meals, accommodations, transport
- Identification of “role-players” (I.E persons that will simulate external organizations, ministries, industries, etc. during the exercise)
- Create a media relations team: objectives? How communicate? When?

3. Conducting the exercise

- Initiate play: phone call? Fax? Captain? Port
- Briefing participants: category, scope and objectives of the exercise
- Maintaining the exercise: prepare sufficient inputs to drive the exercise to termination
- Evaluating activities: designate 1/2 persons in charge of evaluation (exercise controller)
- Terminating play: not at prescribed time, objectives achieved?

4. Review phase

- Collect data: feedback from all the participants in 2 stages: just after the end of the exercise and in a more formal session through a structured report;
- Analyze events: performance and effectiveness of all the parties? Shortcomings, gaps?
- Report findings and recommendations
- Plan improvements: modification of the plan? More training? More equipment?

Conclusion

Exercises permit to test the general incident organization. Analysis of shortcomings and gaps will assist the country to improve its organization, procedures and general level of preparedness. “It is better to make mistakes during an exercise than during a real pollution.”

ANNEX I Final Agenda

DAY 1	December 13
8.00 – 9.00	Registration
	1. Opening
9.00 – 09.30	The workshop's chair is Gavril Gilca. <u>Welcoming statement</u> Representative of the Republic of Moldova (Corneliu Marza) Representative of the UNECE Secretariat (Lukasz Wyrowski)
09.30 – 09.40	<u>Setting the scene</u> Claudia Kamke, UNECE Secretariat
	2. Legal basis for adequate preparedness and response in the project countries, including for effective transboundary cooperation
09.40 – 09.55	Liudmilla David, Ministry of Internal Affairs, Civil Protection and Emergency Situation Department, Republic of Moldova
09.55 – 10.10	Cristina Pintilie, GIES
10.10 – 10.25	Serhii Obodovsky, Department of Civil Protection, Ministry of Emergencies in Ukraine
10.25 – 10.55	<i>Coffee break</i>
10.55 – 11.10	Lukasz Wyrowski, UNECE Secretariat, Presentation from a Western European country on good practice
	3. Emergency preparedness by the authorities and industry: on- and off-site emergency plans
	Emergency preparedness by the authorities
11.10 – 11.30	Sergiu Junea, Emergency Department, Ministry of Internal Affairs, Civil Protection and Emergency Situation Department, Republic of Moldova
11.30 – 11.50	Ion Toma, County Inspectorate for Emergency Situations
11.50 – 12.10	Volodymyr Demchuk, Emergency and Preparedness Services of the Department of Salvage Forces of Civil Protection
12.10 – 12.30	Radoslaw Czapl, Polish Headquarter of the State Fire Service, Presentation on good practice for emergency preparedness
12.30 – 13.30	<i>Lunch</i>
	On-site emergency plans by the industry
13.30 – 13.50	Veaceslav Scripliuc, representative from the oil terminal in Giurgiulesti, Moldova
13.50 – 14.10	Fanica Badescu, Unicom Oil Terminal, Galati, Romania
	Discussion on the similarities and differences in the project countries and Belarus as well as gap analysis with regard to the legal basis and emergency preparedness
14.10 – 15.30	Break-out session
15.30 – 16.00	<i>Coffee break</i>
16.00 – 16.50	Break-out session – continuation

16.50 – 17.20	Presentation of findings and discussion
17.20 – 17.30	Wrap-up Day 1
19:30	<i>Dinner (departure at 18.00)</i>
DAY 2	December 14
	4. Emergency response
	Emergency response by the project countries
09.00 – 09.20	Vitalii Mutaş, Emergency Department, Ministry of Internal Affairs, Civil Protection and Emergency Situation Department, Republic of Moldova
09.20 – 09.40	Francisc Senzaconic, GIES
09.40 – 10.00	Oleksandr Sinkov, Organizational Emergency Response Service of the Department of the Salvage Forces of Civil Protection
	Examples of emergency response outside of the project countries
10.00 – 10.15	Vitali Smaliakou, Belarus
10.15 – 10.30	Chris Dijkens, presentation on good practice for emergency response using the example of the Netherlands
10.30 – 11.00	<i>Coffee break</i>
11.00 – 11.15	Francisc Senzaconic, GIES, presentation on JEG guidelines
11.15 – 11.30	Dumitru Dorogan, Black Sea Commission, presentation on experience in planning for emergencies
	Discussion on similarities and differences in the project countries and Belarus as well as gap analysis with regard to emergency response
11.30 – 12.40	Break-out session
12.40 – 13.40	<i>Lunch</i>
13.40 – 14.40	Break-out session - continuation
14.40 – 15.10	Presentation of findings and discussion
15.10 – 15.40	<i>Coffee break</i>
	5. Exercising scenarios and plenary discussion
15.40 – 16.10	Frederic Marignac, presentation on developing exercising scenarios
16.10 – 17.30	Plenary discussion on the basis of the scenarios
17.30 – 17.40	Summary of the plenary discussion
	6. Conclusions and closure
17.40 – 18.00	UNECE Secretariat Closing by the workshop's chair (Gavril Gilca)
19:30	<i>Dinner</i>

ANNEX II List of participants

No	COUNTRY	LAST NAME	FIRST NAME	NAME OF INSTITUTION, POSITION AND ADDRESS
Delegation from Romania				
1.	Romania	Visan	Eugen	Deputy General Inspector, GIES
2.	Romania	Senzaconi	Francisc	GIES
3.	Romania	Pintilie	Cristina	GIES
4.	Romania	Bratu	Claudiu	GIES
5.	Romania	Radu	Cristian	GIES
6.	Romania	Ghiu	Marilena	Ministry of Environment and Forests
7.	Romania	Septimius	Mara	Ministry of Environment and Forests
8.	Romania	Duță Gherguț	Magdalena	National Environmental Protection Agency
9.	Romania	Nica	Maria	National Environmental Protection Agency
10.	Romania	Mocanu	Mariana	National Environmental Guard
11.	Romania	Hamchevici	Carmen	“Romanian Waters” National Administration
12.	Romania	Balaban	Vasile	County Inspectorate for Emergency Situations
13.	Romania	Toma	Ion	County Inspectorate for Emergency Situations
14.	Romania	Bădescu	Fănica	Unicom Oil Terminal
15.	Romania	Bejenaru	Doru	National Company Maritime Danube Ports Administration Galati
No	COUNTRY	LAST NAME	FIRST NAME	NAME OF INSTITUTION, POSITION AND ADDRESS
Delegation from Moldova				
1.	Moldova	Marza	Corneliu	Ministry of Environment, Republic of Moldova, Department of pollution prevention and waste management
2.	Moldova	Gilca	Gavril	Monitoring Department on Environment Quality, Focal Point of Industrial Accident Convention
3.	Moldova	Stirbu	Svetlana	Monitoring Department on Environment Quality, Secretary of National Group of Industrial Accident Convention implementation, 134, Grenoble str. Chisinau, MD-2072
4.	Moldova	Mustea	Mihail	State Ecological Inspectorate, member of HMG
5.	Moldova	Dumneanu	Victor	State Ecological Inspectorate, Head of Division
6.	Moldova	Bularga	Ion	Ministry of Exterior
7.	Moldova	Croitor	Sergiu	IPSSTOIP, Ministry of Economy

8.	Moldova	Andreescu	Ionel	The representative of the Oil Terminal Giurgiulesti
9.	Moldova	Scripluc	Veaceslav	The representative of the Oil Terminal Giurgiulesti
10.	Moldova	Țurcanu	Valentina	Member of JEG, The State Hydrometeorological Service
11.	Moldova	Racoveț	Natalia	Member of HMG, DDP, State Hydrometeorological Service
12.	Moldova	Moscalov	Oleg	Ministry of Intern Affair, Civil Protection and Emergency Situation Department, Cahul c.
13.	Moldova	Junea	Sergiu	Ministry of Intern Affair, Civil Protection and Emergency Situation Department
14.	Moldova	Mutaf	Vitalii	Ministry of Intern Affair, Civil Protection and Emergency Situation Department
15.	Moldova	Popa	Ghenadie	Ministry of Intern Affair, Civil Protection and Emergency Situation Department, Cahul c.
16.	Moldova	David	Liudmila	Ministry of Intern Affair, Civil Protection and Emergency Situation Department
No	COUNTRY	LAST NAME	FIRST NAME	NAME OF INSTITUTION, POSITION AND ADDRESS
Delegation from Ukraine				
1.	Ukraine	Shtets	Iryna	State Environmental Inspection
2.	Ukraine	Zadvorna	Iryna	Ministry of Environmental and Natural Resources
3.	Ukraine	Tarasova	Oksana Gryrorivna	Ministry of Environmental and Natural Resources
4.	Ukraine	Patlatiuk	Iegen Grygorovych	State Inspection for Environmental Protection of the North-Western Part of the Black Sea
5.	Ukraine	Fedorovskyy	Victor Borysovych	Department of Inspection of Civil Protection and Technogenic Safety in Odesa Oblast, MinEmergencies, Odesa
6.	Ukraine	Pogosova	Kateryna Tygranivna	State Inspection of Civil Protection and Technogenic Safety, Ministry of Emergencies
7.	Ukraine	Vasylchenko	Anatolii Yuriyovych	Main Department of Ministry of Emergencies in Odesa Oblast
8.	Ukraine	Obodovskyi	Serhii Valeriyovych	Department of Civil Protection, Ministry of Emergencies of Ukraine
9.	Ukraine	Movchan	Nataliya Volodymirivna	Committee for Environmental Policies, Nature Use and Liquidation of the Consequences of the Chornobyl Catastrophe

10.	Ukraine	Schevtshuk	Ruslan Bogdanovych	Head of Department, Colonel, Department of Civil Protection in Vinitsa Oblast, Ministry of Emergency in Ukraine
11.	Ukraine	Demshuk	Volodymir Viktorovych	Deputy Head, Lieutenant Colonel, Emergency and Preparedness Services of the Department of Salvage Forces of Civil Protection
12.	Ukraine	Synkov	Olexandr Ivanovych	Senior Expert, Organizational Emergency Response Service of the Department of the Salvage Forces of Civil Protection
13.	Ukraine	Pritulyak	Oleg Oleksandrovych	Kryzhopol Regional Division of the Department of the Ministry of Emergencies in Vinitsa Oblast
14.	Ukraine	Mikheev	Oleksandr Mikolajevych	Head of Department, Emergency Department of Odessa State Oblast Administration
No	COUNTRY	LAST NAME	FIRST NAME	NAME OF INSTITUTION, POSITION AND ADDRESS
Delegation from Belarus				
15.	Belarus	Karzhou	Vitali	Ministry of Emergency Situations
16.	Belarus	Bebko	Pavel	Ministry of Emergency Situations
17.	Belarus	Zarembo	Igor	Ministry of Emergency Situations
18.	Belarus	Smaliakou	Vitali	Ministry of Emergency Situations
19.	Belarus	Baranovsky	Evgeny	Ministry of Emergency Situations
Industrial Accident Conventions Secretariat				
20.		Wyrowski	Lukasz	UNECE
21.		Kamke	Claudia	UNECE
Experts				
22.		Marignac	Frederic	Le Floch Depollution
23.		Dorogan	Dumitru	Black Sea Commission
24.		Vijgen	John	PPRD East, Programme on Prevention, Preparedness and Response to Natural and Man-made Disasters
25.		Czapla	Radoslaw	Polish Headquarter of the State Fire Service