THE MINISTRY
of Emergency Situations of Ukraine

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Ministry of Emergency Situations of Ukraine

MANAGEMENT OF CRISIS SITUATIONS

Emergency situations involving filling, leakage, spillage and release of hazardous for water substances, including the transboundary issues

Ministry of Emergency Situations of Ukraine

LAWS OF UKRAINE

“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”

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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

Ministry of Emergency Situations of Ukraine

RESOLUTIONS AND ORDER OF THE CHAMBER OF MINISTERS

On the unique state system for prevention and response to technogen and natural emergency situations

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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.

The unique national system for civil protection (UNS CV)

the totality of authorities, forces and means of the central and local executive and administrative bodies that are responsible for the implementation of the national policy in the field on civil protection

The operation UNS CV subsystem

The central authorities

The territorial UNS CV subsystem

The local executive authorities

The local administrative authorities

The territorial authorities of the Ministry of Emergency

Management during the emergency response

Chamber of Ministries of Ukraine

(Special)

Government Commission for liquidation of emergency situations

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Interdepartmental operative staff

(Operative staff) for liquidation of ES

Operative group

(mobile operative group)

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Regional and local civil protection authorities

The Council of Ministries of the Autonomous Crimea Republic (republican commission for technogenic-ecological security and civil protection (TES and CV)), regional (regional commission for TES and CV), Kiev and Sevastopol local governmental authorities (local commissions for TES and CV C), district authorities (district commissions for TES and CV), local authorities (relevant commissions for TES and CV), structural units for civil protection of this administrative and executive authorities

The territorial authorities of the Ministry of Emergency Situations

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The composition of the civil protection rescue service

Civil protection rescue service

10 special rescue units subordinated to central authorities (3185 persons)

27 garrisons of the civil protection r escue service

23 special-purpose detachments (5244 persons)

1500 fire-rescue units (around 60 thousands persons)

Rescue detachments of the civil protection service subordinated to the central authorities

Central rescue detachment Kiev city — 353

Special rescue detachment Romni city — 344

Special detachment Jerebkovo village Odessa region — 402

1st rescue detachment Drogobici city Lvov region — 204

2nd rescue detachment Melitopoli city Zaporojie region — 271

3rd rescue detachment Mazanka village, AR Crimea — 185

Special marine detachment Kerci city,. AR Crimea — 128

Special aviation detachment Nejin city Cernovet region — 683

Training centre Merefa city Harcov region — 398

Communication centre Peresleav-Hmelinitkii city — 217

The total number is 3185 persons

Rescue detachments of the civil protection service subordinated to the territorial authorities

Special-purpose detachment of the Ministry of Emergency Situations (MES) AR Crimea

Special-purpose detachment of the MES Vinita region

Special-purpose detachment of the MES Volnsk region

Special-purpose detachment of the MES Dnepropetrovsk region

Special-purpose detachment of the MES Donetk region

A Special-purpose detachment of the MES Zakarpatie region

Special-purpose detachment of the MES Zaporisk region

Special-purpose detachment of the MES Ivano-Frankovsk region

Special-purpose detachment of the MES Jitomir region

Special-purpose detachment of the MES Kirovograd region

Special-purpose detachment of the MES Lugansk region

Special-purpose detachment of the MES Nicolaevsk region

Special-purpose detachment of the MES Odesa region

Special-purpose detachment of the MES Poltava region

Special-purpose detachment of the MES Povnensk region

Special-purpose detachment of the MES Cernovet region

Special-purpose detachment of the MES Ternopol region

Special-purpose detachment of the MES Harcov region

Special-purpose detachment of the MES Hmelnitk region

Special-purpose detachment of the MES Herson region

Special-purpose detachment of the MES Cercas region

Special-purpose detachment of the MES Cenogovsk region

Special-purpose detachment of the MES Sevastopol city

Total number is 5244 persons

Rescue services and special units

- National specialized military rescue service
- State enterprise “Mobile rescue centre”
- National specialized rescue service for searching and rescuing the tourists
- National specialized rescue service on water
- National aviation search and rescue service

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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.

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ODESSA REGION

First of all 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 нефтепродуктов exactly along the Ukrainian part of Danube.

On the territory of Odessa region it is located the Cuciurgani reservoir, on whose shore there was build in 1964 the Moldavian hydro power plant .

Yearly the Moldovan HPP realizes the water exchange in the Nistru river are flowing cca. 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 Существующая ситуация представляет опасность для качества воды в районе 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.

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The entities responding to emergency situation in Odessa region

- 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 морской торговый порт»

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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:

- expert assessment, forecast or outputs of the models, qualified experiments;
- 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.

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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.

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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, that may be involved in the process if emergency effects liquidation. The notification is carries 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.

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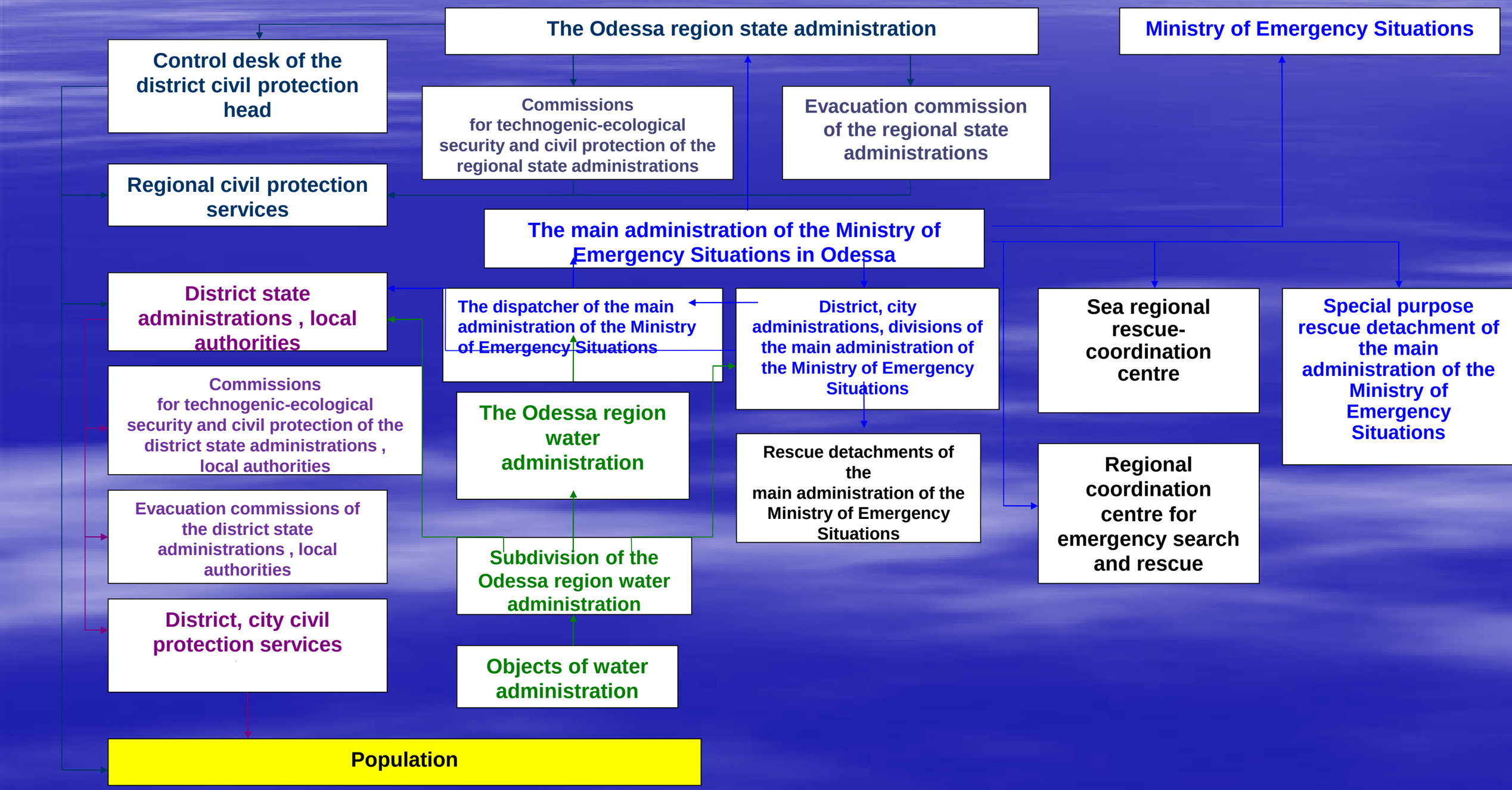
SCHEME

of emergency notification in case of emergencies related to filling, leakage, spillage and release of hazardous for water substances in Odessa region.



Методы ликвидации аварийных разливов ННП

Метод ликвидации	Возможность применения	Достоинства	Недостатки
Термический	При толщине пленки ННП более 3 мм, скорости ветра менее 35 км/ч, безопасном расстоянии до 10 км от места сжигания по направлению ветра; дополнительные противопожарные меры	Быстрота ликвидации аварийного разлива ННП; применение при ликвидации малого количества технических средств; минимальные затраты	Осуществление дополнительных мер пожарной безопасности; образование из-за неполного сгорания ННП стойких канцерогенных веществ
Механический	При соответствии технических характеристик используемых средств условиям разлива	Высокая эффективность при проведении работ; возможность сбора различных видов ННП; всесезонное использование данного метода	Остаточная тонкая пленка ННП на поверхности воды в местах механического сбора
Физико-химический (использование диспергентов и сорбентов)	Диспергенты: как вспомогательный метод в тех случаях, когда механический сбор ННП невозможен; при глубине свыше 10 м, температуре воды ниже 5 °С и наружного воздуха ниже 10 °С	Диспергенты: возможность оперативного проведения ликвидации; использование с различными техническими средствами. Сорбенты: независимость применения от внешних условий; минимальные расходы на хранение и транспортировку	Диспергенты: токсичность; ограниченность применения по температуре
Биологический	Как дополнительный метод: на водной поверхности – при толщине пленки не менее 0,1 мм; на почве – при строгом выполнении комплекса сопроводительных мероприятий	Минимальный дополнительный ущерб от проведения операций по ликвидации разлива	Трудоемкость сопроводительных мероприятий; продолжительные сроки ликвидации разливов

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One of the main method 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 of water). Besides this, some difficulties may occur during the cleaning of the harborages and shipyards, that are very often polluted by different garbage, chips, boards and other objects floating on the surface of the water.

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Rehabilitation of the environment affected by the impact of technogenical factors

The complex oil biopreparation-destructor ДНЗ.

Is produced according to the ТУ У 24.1-32813696-006:2006 standard, has the sanitaro-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 organo-mineralogical complexes, including macro and micro elements.

The usage diapason of ДНЗ:

- **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 agrobiochemical, microbiological and phyto 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

I class – for the protected water bodies (rivers and reservoirs);

II class- for the coastal area (to block entrances and exits into the harbor, harbors, shipyards area);

III class- 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.


NAVY
LA 9166 FP

Oil collector systems

Are used to collect the spilled oil from the water surface. It allows the collection of oil products from the surface of the water priv9ding in the same time the separation of the phases (oil-water). 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.

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Oil skimmer vessel 82290

The vessel is intended for the following tasks:

- Transportation and arrangement of the floating slick bars,

- Execution of works related to liquidation of waste and oil pollution of water bodies. The vessel provides the collection of all kind of oil products, including the emulsified and solidified, at a –5C to +50C air temperature and –0C to +30C water temperature

The biggest length, m	23
The biggest width, m	4,8
The height of the side, m	2,4
Displacement	85
Draught,	1,2
The capacity of the oil collector, m3	30
The productivity of thee oil skimmer, m3/hour	60
The speed on a calm water, km/hour	19
Cruising range, km	600

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МИКРАН MIKRAN

Is an automatic oil product analyzer содержания in the water and soil using the spectrophotometry hexane extract ultraviolet method
The device is intended for measuring the concentration of the oil in the potable, surface, underground, technological, sea and waste water and in the soil in the chemical laboratories of the enterprises, Waterchannkes system enterprises and water treatment plants, sanitaro-epidemiological laboratories, ecological and protection inspections and other services.

APPLICATION:

Control the:
Potable water quality
Atomic power plants water quality
state oil of coolers of the steam power plants
quality of condensate and water used for recharge of the heating systems
enterprises waste waters
Wastewater of thermal and nuclear power facilities
Reservoirs, that are potentially polluted by oil products
Harbor water bodies
Presence of oil products in the mined minerals (for example: coal).
Soils that are potentially contaminated by oil products (near the underground fuel storage, airports, oil depots, oil refineries, oil and gas industrial facilities etc. вблизи.).

Cyanide contamination (mining district Baia Mare, Romania).

On the 21.02.2000 as a result of an accident in the Baia Mare golden mine, there was released 100 thousand m3 of cyanide into the Danube tributary – Tisa. It led to что extermination of the flora and fauna throughout the Tisa river on the Austrian and Serbian territories until its flow into Danube, close to Slan-\kamen village near Belgrade. The poison got in Danube, where, according to the experts, the concentration of cyanide suddenly decreased due to the mixing with the clean Danube water. Nevertheless, it was decided to temporarily close the water treatment plants near Vinci, that were providing Belgrad with potable water.

The Serbian Government had asked the Romanina government to compensate the huge prejudices caused by the ecological catastrophe, that according to experts, is the biggest in the history of Europe since Cernobyl.

In the Reni city of the Odessa region, ecological inspectors were regularly carrying out analyses of Danube waters for cyanid.

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Oil products contamination (release of technical waters fromb the vessel near the Vidin city in Bulgaria).

On the 30.10.06 the competent authorities of Bulgaria had detected a law concentration oil spill 100 m width and 8 km length, at 100 km distance from the national border with Serbia on the Danube river. According to the information of the Ukrainean Consulate, the spill occurred as result of release of technical waters from an unidentified vessel, that was floating along with the Nothern-Wester Danube flow close to the Vidin city.

According to the information of the Bulgarian Ministry of Environment, the contamination does not represent an ecological threat for the Bulgarian and adjacent waterзагрязнение, considering its parameters and dynamics of the natural absorption by the Danube waters.

Contamination (комбинат " Ajkai Timfoldgyar Zrt **",** Венгрия**).**

On the 04.10.2010 at 2 p.m. on a huge Hungarian aluminum production plant Ajkai Timfoldgyar Zrt had released 600 thousand cubic meters of sludge, as result of a breakthrough of the dam holding the so-called red mud. The toxic wastes contaminated 7 localities near the factory. The population was evacuated. The high-pressure gas pipeline was damaged, the rail road transportation stopped. The toxic wastes flowed into the Danube, through the Tisa tributary, close to the Camarna location.

On the basis of the operative hydrological information of the Danube Hydrometeorological Observatory, there were calculated the potential time of arrival of contaminated waters from a distance of 1830 km to Reni city. According to the calculations of the Danube mean flow (5,5 km/hour) the time of contaminated water flow on the Ukrainian part was 14 days.

Caustic soda contamination (Factory "Alum Tulcea",Romania).

In 2007 on the calcined alumina production factory „Alum Tulcea" (Romania) a fissure formed on a 6 thousands cubic meters reservoir. As a result there were released a caustic soda high concentration substance. Thank to the timely applied measures related to the prevention of getting it into the sewer system, there was avoided its flow into the Danube river.

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.

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In conclusion it could 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, that are very close to the natural processes.

Министерство чрезвычайных ситуаций Украины

Thank you for attention