**ANNEX 1**

**DIRECTORY OF COMPETENT NATIONAL AUTHORITIES,** **CONTACT POINTS, EMERGENCY RESPONSE CENTRES,** **NATIONAL ON-SCENE COMMANDERS AND** **OTHER RELEVANT ADDRESSES**

**COUNTRY: Turkmenistan**

|  |
| --- |
| **1a. COMPETENT NATIONAL GOVERNMENTAL AUTHORITY[[1]](#footnote-2)**  **(Section 2.2(a) of the Plan and Article 4(1)(a) of the Protocol)** |
| TITLE: **“Turkmendenizderyayollary” Agency of Transport and Communications Agency under the Cabinet of Ministers of Turkmenistan** |
| ADDRESS: **745000, 8 «A» Shagadam street, Turkmenbashy city** |
| TELEPHONE: **(+993 243) 6-03-60** |
| TELEX: |
| TELEFAX: **(+993 243) 6-07-44** |
| EMAIL and WEBSITE: tmrl.foreign\_dept@sanly.tm, https://tmrl.gov.tm |
| WORKING HOURS: 9:00-18:00 |
| CONTACT PERSON: **Kosayev Annadurdy Erkinovich** (Chairman of “Turkmendenizderyayollary” Agency of Transport and Communications Agency under the Cabinet of Ministers of Turkmenistan)  ALTERNATIVE CONTACT: **Jepbarov Rovshen Yakubovich** (Deputy Chairman of “Turkmendenizderyayollary” Agency of Transport and Communications Agency under the Cabinet of Ministers of Turkmenistan) |
| **1b. COMPETENT NATIONAL GOVERNMENTAL AUTHORITY**  **(Section 2.2(a) of the Plan and Article 4(1)(a) of the Protocol)** |
| TITLE**: State Concern “Turkmennebit”** |
| ADDRESS: **56, Avenue Archabil, 744036 Ashgabat** |
| TELEPHONE: **+(993 12) 40 39 75 (24 hours a day); 40 36 01; 40-3109** |
| TELEX: |
| TELEFAX: **+(993 12) 40 31 55** |
| EMAIL and WEBSITE: **turkmennebit@online.tm; nebit.wes@online.tm** |
| WORKING HOURS: 9:00-18:00 |
| CONTACT PERSON:  **Ussayev Vekilmukhammed - Deputy Chairman**  ALTERNATIVE CONTACT: **Mergen Dzhumaev -Head of the Central Engineering and Technological Service** |
| **1c. COMPETENT NATIONAL GOVERNMENTAL AUTHORITY**  **(Section 2.2(a) of the Plan and Article 4(1)(a) of the Protocol)** |
| TITLE**: State Concern “Turkmengaz”** |
| ADDRESS: **56,** Avenue Archabil, **744036** Ashgabat |
| TELEPHONE: **+(993 12) 40 33 90 (7/24), 40-32-01, 40-31-21, 92 46 63 9 (7/24) , 92 45 80, 92-45-88** |
| TELEX: |
| TELEFAX: **+ (993 12)** **40-32-54** |
| EMAIL and WEBSITE: **info@turkmengaz.gov.tm; nghm@turkmengaz.gov.tm** |
| WORKING HOURS: 9:00-18:00 |
| CONTACT PERSON: **Berdymurad Amanov-Deputy Chairman of State Concern “Turkmengaz”**  ALTERNATIVE CONTACT PERSON: **D. Mukhammedov-Head of the paramilitary Department “Nebitgazkhovpsyzlyk”** |
| **COMPETENT NATIONAL AUTHORITY ENTITLED TO ACT ON BEHALF OF THE STATE AND REQUEST ASSISTANCE OR DECIDE TO RENDER ASSISTANCE**  (Article 4(1)(c) of the Protocol) |
| TITLE: **State Commission for Emergency Situations of Turkmenistan** |
| ADDRESS: **21, Avenue Bitarap Turkmenistan, Ashgabat** |
| TELEPHONE: +**99312 928009 (reception); +99312 928020 (cont. person);** +**99312 928009 (alter. person)** |
| TELEX: |
| TELEFAX: **+99312 928010; +99312 928034** |
| EMAIL and WEBSITE: ulag@online.tm |
| WORKING HOURS: 9:00-18:00 |
| CONTACT PERSON: **Annamammedov Bairammyrat -** Deputy Chairman of the Cabinet of Ministers of Turkmenistan, Deputy of the State Commission for Emergency Situations of Turkmenistan  ALTERNATIVE CONTACT PERSON: **Suleymanov Resul** -Head of the Department of Emergency Situations and Civil Protection of the Cabinet of Ministers of Turkmenistan. |

|  |  |  |
| --- | --- | --- |
| **NATIONAL OPERATIONAL AUTHORITY**  **(Section 2.2(b) of the Plan)** | | |
| TITLE: “**Turkmendenizderyayollary” Agency of Transport and Communications Agency under the Cabinet of Ministers of Turkmenistan** | | |
| ADDRESS: **745000, 8 «A» Shagadam street, Turkmenbashy city** | | |
| TELEPHONE: **(+993 243) 6-03-60** | | |
| TELEX: | | |
| TELEFAX **: (+993 243) 4 93 33, (+993 243) 6-07-44** | | |
| EMAIL and WEBSITE: tmrl.foreign\_dept@sanly.tm, https://tmrl.gov.tm | | |
| WORKING HOURS: 9:00-18:00 | | |
| CONTACT PERSON: **Kosayev Annadurdy Erkinovich** (Chairman of “Turkmendenizderyayollary” Agency of Transport and Communications Agency under the Cabinet of Ministers of Turkmenistan)  ALTERNATIVE CONTACT: **Jepbarov Rovshen Yakubovich** (Deputy Chairman of “Turkmendenizderyayollary” Agency of Transport and Communications Agency under the Cabinet of Ministers of Turkmenistan) | | |
|  | | |
| **NATIONAL CONTACT POINT (OPERATIONAL 24 HRS A DAY) RESPONSIBLE FOR TRANSMITTING AND RECEIVING REPORTS ON POLLUTION INCIDENTS**  **(Section 2.2(c) of the Plan and Article 4(1)b) of the Protocol)** | | |
| TITLE**: Harbour Master Service of the State Administration on supervision of navigation in Turkmenistan under the “Turkmendenizderyayollary” Agency of Transport and Communications Agency under the Cabinet of Ministers of Turkmenistan** | | |
| ADDRESS**: 745000, 8 «A» Shagadam street, Turkmenbashy city** | | |
| TELEPHONE**: (+993 243) 4 91 28 *(24hours a day)*** | | |
| TELEX**:** | | |
| TELEFAX**: (+993 243) 4 93 33** | | |
| EMAIL and WEBSITE: portnadzor@online.tm | | |
| WORKING HOURS: **24/7** | | |
| **EMERGENCY RESPONSE CENTRE**  **(Section 2.2(d) of the Plan)** | | | | |
| TITLE: **Harbour Master of The State Administration on supervision of navigation in Turkmenistan under the “Turkmendenizderyayollary” Agency of Transport and Communications Agency under the Cabinet of Ministers of Turkmenistan** | | | | |
| ADDRESS**: 745000, 8 «A» Shagadam street, Turkmenbashy city** | | | | |
| TELEPHONE: (+993 243) **4 91 28 *(24hours a day)*** | | | | |
| TELEX: |  | | |  |
| TELEFAX: **(+993 243) 4 93 33** |  | | |  |
| EMAIL and WEBSITE: portcontrol.tm@mail.ru |  | | |  |
| WORKING HOURS: 24/7 |  | | |  |
|  | | | | |
| **NATIONAL ON-SCENE-COMMANDER**  **(Section 2.2(e) of the Plan)** | | | | |
| TITLE/NAME: “**Turkmendenizderyayollary” Agency of Transport and Communications Agency under the Cabinet of Ministers of Turkmenistan** |  | | |  |
| ADDRESS: **745000, 8 «A» Shagadam street, Turkmenbashy city** | | | | |
| TELEPHONE: **(+993 243) 6-03-60** |  | | |  |
| TELEX: |  | | |  |
| TELEFAX: **(+993 243) 6-07-44** |  | | |  |
| EMAIL and WEBSITE：tmrl.foreign\_dept@sanly.tm, https://tmrl.gov.tm |  | | |  |
| WORKING HOURS: **9:00-18:00** |  | | |  |
|  | | | | |
| **COMPETENT CUSTOMS AUTHORITY**  **(Section 2.2(f) of the Plan)** | | | | |
| TITLE: | | |  |  |
| ADDRESS: | | |  |  |
| TELEPHONE: | |  | |  |
| TELEX: | |  | |  |
| TELEFAX: | |  | |  |
| EMAIL and WEBSITE: | | | | |
| WORKING HOURS: | |  | |  |
| CONTACT PERSON: | |  | |  |

|  |
| --- |
| **COMPETENT IMMIGRATION AUTHORITY**  **(Section 2.2(f) of the Plan)** |
| TITLE: |
| ADDRESS: |
| TELEPHONE: |
| TELEX: |
| TELEFAX: |
| EMAIL and WEBSITE: |
| WORKING HOURS: |
| CONTACT PERSON:  ALTERNATIVE CONTACT: |

**ANNEX 2**

**EXTRACTS OF RELEVANT SECTIONS OF**

**THE NATIONAL CONTINGENCY PLANS**

*Contents*

# National Plan of Turkmenistan On Oil Spill Response

|  |  |  |
| --- | --- | --- |
| I. | INTRODUCTION |  |
| 1. | Aims and objectives of National Plan……………………………………………………. | 2 |
|  | General Provisions…………………………………………………………………………. | 2 |
|  | Basic Terms and Definitions ………………………………………………….. | 2 |
|  | Oil Spill Code……………………… | 3 |
|  | Status of oil operations in the country …………………………………………………….. | 3 |
| 2. | State authorities responsible for development and execution of the Plan ……….. | 4 |
|  | State body responsible for oil spill activities and Plan ……………………… | 4 |
|  | State authorities and companies participating in execution of the Plan ……………. | 4 |
| II.  3. | PROMPT PLANNING  National Policy …………………………………………………………………... | 5 |
|  | Selection of response strategy …………………………………………………………... | 5 |
|  | Policy program criteria ………………………………………………………….. | 5 |
| 4. | Plans of industrial units (Operators’ Plans)……………………………………. | 6 |
|  | Structure of Operators’ Plans on Oil Spill Response ……………………….. | 6 |
| III.  5. | RESPONSIBILITIES AND STRUCTURE OF PLAN  National Response System …………………………………………………… | 6 |
| 6. | Notification Procedure …………………………………………………………………... | 7 |
|  | Operator’s Notification Procedure on Oil Spill ………………………………….. | 7 |
|  | Notification of States on transboundary spills …………………………… | 7 |
| 7. | Training Program …………………………………………………………. | 7 |
| IV.  8. | Response Procedure  Set up of Response Procedure ……………………………………………………. | 8 |
|  | Responsibilities of the Operations Supervisor on site ………………………………….. | 8 |
|  | Responsibilities of Response Coordinator …………………………………………. | 9 |
|  | Customs and immigration procedures in case of emergency ………………... | 9 |
| 9. | Operational Safety ………………………………………………….. | 10 |
| 10. | Technical Support………………………………………………… | 10 |
|  | Response Criteria…………………………………………………………………… | 10 |
|  | Administrative support ……………………………………………………………. | 11 |
|  | Logistics…………………………………………………… | 11 |
| 11. | Localization and wastes disposal ……………………………………………………… | 11 |
|  | Basic provisions of Waste Disposal Code……………………… | 11 |
|  | Collection, transportation, storage and liquidation of oil ……………………. | 12 |
|  | Spotting of temporary storage areas and liquidation of wastes……………………... | 14 |
| 12. | Reimbursement of expenditures.……………………………………………………. | 14 |
|  | Assessment of economic damage and reimbursement procedure …………………….. | 14 |
|  | Claims Submission Procedure for indemnification of damage sustained as a result of oil  spill ………………………… | 15 |
| V.  13. | REPORTS  Monitoring and Reports on Response Results …………………………………… | 15 |
|  | Setting up a monitoring procedure and public awareness system ………………………. | 15 |
|  | Investigation of spills …………………… | 15 |
|  | Pollution Report Form ………………………………………………………... | 16 |
| 14. | Post-emergency Monitoring ……………………………………………………………. | 16 |
|  | *Attachment 1*. Notification of spill ……………………………………………………... | 17 |
|  | *Attachment 2*. International Agreements……………………………………….. | 18 |
|  | *Attachment 3*. Key resources exposed to oil spills ………. | 19 |
|  | *Attachment 4*. Existing or archival meteorological data ………………… | 27 |
|  | *Attachment 5*. Logistics for Oil Spill Operations …….. | 28 |
|  | *Attachment 6.* Actions of Operator’s Personnel in compliance with Plan ………………… | 29 |

## NTRODUCTION

### Aims and Objectives of National Plan General Provisions

National Plan is aimed at minimization of oil spill impact on human health and living conditions, environment and in particular on flora and fauna with its high priority defined as preservation of fish stock, regions with sensitive environment, coastal regions, water intake points for water-desalinating plants.

### Objectives of the National Plan are as follows:

Set up a relevant organizational structure and prioritize measures on oil spill response;

Work out and agree on responsibilities for pre-response measures in case of emergency, which could result in environmental impact;

Establish a system for location of equipment within Turkmenistan to take oil spill response measures. Geographical scope of the Plan covers the most sensitive areas featured as potential oil spill sources – oil facilities located in the block of the Caspian Sea to the west of Cheleken peninsula with geographical coordinates determined 390201-390551 and 510501-530101 as well as the regions of main sea routes: water area and coast of Turkmenbashi bay, North-Cheleken and South-Cheleken bays.

### Basic terms and definitions

Terms and definitions used herein shall have the following meaning:

***Sea*** – surface and column of water as well as bottom of the Caspian sea within the area pertaining to Turkmenistan.

***Coastal area*** – territory located geographically in the zone of sea or basin level fluctuations and/or the territory on which drainage waters or water of surface run-off border with sea or internal basin, based on which an assumption could be made that pollutants from oil and gas facilities could get into sea or internal basin

***Specific ecologically sensitive area*** – the region which is an area of accumulation of fauna objects during certain period (migration or nesting points of birds, rookeries of marine mammals, spawning and fattening points of whitebait) and flora communities.

***Oil*** – any oil, including crude oil and gas condensate, fuel oil, oil sludge, wastes and refined oil products

***Oil operations*** –exploration, production, construction and operation of underground storage reservoirs of oil, construction and operation of oil and gas pipelines performed both onshore and offshore, offshore transportation of oil.

***Intervention*** – any actions undertaken on behalf of state and aimed at active participation in oil spill response operations upon request of the responsible party, or actions undertaken in case if the actions of the responsible party are deemed insufficient or irrelevant

***Oil Spill Coordinator*** – a person to be appointed beforehand by State Emergency Committee of Turkmenistan and State Company responsible for Caspian-related issues and reporting to the President of Turkmenistan upon agreement with the Regional Hakim to manage oil spill actions at Levels II and III as well as onshore consequences of the spill and rehabilitation of environmental components.

***Operations Site*** – an area determined by Site Supervisor to communicate and manage spill response operations

***Responsible party*** – any physical or legal entity having committed oil spill or dumping.

***Contractor*** – physical or legal entity having entered into a Contract on performance of oil operations with a relevant authority (authorized by state body)

***Operator*** – company or organization performing oil operations for benefit of Contractor

***Oil dumping*** – deliberate or accidental action or fault to result in oil spill, disposal, discharge or onshore and offshore pumping out causing direct pollution impact

Spill – any unauthorized disposal of oil, formation water and other liquid and gas substances associated with oil operations

***Facility*** – all platforms (stationary and floating), drilling rigs, wells, production units, oil and gas pipelines, artificial islands, channels, dams, buildings, routes directly utilized during exploration and development of oil and gas as well as any facility utilized for transportation of products to the shore or service vessel utilized for transportation of chemical oil-based substances used on different stages of oil operations

***Dispersants*** – chemical substances separating oil into the finest drops to reduce negative impact and facilitate oil collection

***Sorbents*** – sponges made of absorbents and absorbing oil

### Oil Spill Code

Constitutional Law of Turkmenistan “On independence and basis of state system of Turkmenistan” adopted back on 27 October 1991 reads as follows: “Earth, its bowels, airspace, marine and other natural resources located within the territory of Turkmenistan and marine economic zone constitute national wealth and property of people and serve a material basis for independence of Turkmenistan”. Law “On environmental protection” (1991) is aimed at prioritization of ecological interests of society taking into account scientifically proved combination of economic and other activities and stipulates careful and rational use of natural resources.

The following laws have been adopted in Turkmenistan: the Law “On state specifically-protected territories” (1992), “On earth bowels” (1992), “On protection and rational use of flora” (1993), “On protection and rational use of fauna” (1997) aimed at preservation of biological diversity of flora and fauna of Turkmenistan as a basis to ensure stability of ecological systems and biosphere as well as effective protection and rational utilization of natural wealth of Turkmenistan.

To protect free air, prevent and reduce negative chemical, physical, biological and other impacts on atmosphere as well as to strengthen legislation a Law “On protection of free air” (1996) has been adopted. An ecological expertise has been introduced to ensure environmental protection, rational use of nature and ecological safety.

Requirements of environmental legislation of Turkmenistan, in particular, article 26 of the Law “On environmental protection”, articles 23 and 24 of the Law “On earth bowels” and article 45 of the Law “On hydrocarbon resources” read that prior to perform oil operations Contractor shall set up a system to obtain comprehensive current information on all changes taking place in environment.

Article 7 of the Law “On state ecological expertise” reads that Contractors should submit ecological safety report and comprehensive environmental status assessment.

Law of Turkmenistan “On oil spill response” dated 15 September 1998 regulates legal grounds of activities associated with oil spill cases and their consequences.

“Regulations for development of hydrocarbon fields of Turkmenistan” approved by the President of Turkmenistan as of 22.10.1999 (Chapter 9.4) stipulate responsibility for development of oil spill plan and performance of relevant operations to be undertaken by Operator performing oil operations.

This National Plan of Turkmenistan on Oil Spill Response has been worked out based on the abovestated laws of Turkmenistan with provisions of International Convention on prompt actions in case of oil spill and cooperation taken into account.

### Status of oil operations in the country

Turkmenistan refers to the oldest oil producing countries of the world. Over almost one and a half century of oil operations some 400 mln ton of oil have been extracted.

Since gaining independence and neutrality Turkmenistan has turned into one of the leading countries of the world with prospective hydrocarbon resources and owns 43 bln ton of oil equivalent. Just in 2000

22.9 bln of m3 of natural gas, 7 mln ton of oil and gas condensate have been extracted in fields of the country.

In the area of exploration and production of hydrocarbon resources in Turkmenistan Production Sharing Agreements have been concluded with Exxon –Mobil, Dragon Oil, Petronas –Charigali, Barren Energy and other companies. “Western Geophysical” have contributed to conduct of seismic surveys on more than 16 thousand running km of profiles including shallow water part of the Caspian

Sea as well as to joint interpretation of geological and geophysical documents, highlighting of prospective oil and gas bearing zones and re-assessment of hydrocarbon potential.

“Petronas-Charigali” under PSA effective as of 1996 has conducted 2D and 3D seismic studies on the contract territory of the Turkmen sector of the Caspian Sea. Results of the studies were directed to determination of locations and drilling of two exploration wells yielding to industrial oil and gas inflows.

Since 1993 “Dragon Oil” (UAE) have been conducting operations in exploration of hydrocarbon resources in the Turkmen sector of the Caspian Sea.

To strengthen positions of national oil and gas producing companies South Kamyshyldzha project has been activated as well as a PSA on Khazar contract area (Eastern Cheleken) has been entered into by and between State Company of Turkmenneft and Pado-Oil. The operator on production of oil and gas under these projects is State Company of Turkmenneft.

Nine oil and gas fields have been discovered in the Turkmen sector of the Caspian to cover the area of some 3000 sq km, where approximately 100 exploration wells of more than 380 thousand running meters of total meterage have been drilled. Some individual wells have been drilled on the rest of the Turkmen water area of more than 73000 sq km with specific volume of meterage amounting to only 1 running meter per 1 sq km, which is characteristic of insignificant scope of studies performed on the area.

Oil produced from Turkmenistan fields is basically transported to Turkmenbashi Refinery where, following treatment, oil products are stored in anticipation of unloading on Ufrinsk handling points. Oil and oil products are also exported to world market.

In compliance with oil and gas development strategy of Turkmenistan increase of production volumes in 2005 up to 28 mln tons of oil and 85 bln cubic meters of gas and in 2010 – up to 60 mln ton oil and 120 bln cubic meter of gas is stipulated.

### State authorities responsible for development and execution of Plan State Body responsible for oil spill activities and Plan

Responsibility for development and execution of state-run programs in the region of the Caspian as well as for spill response activities and National Plan shall be undertaken by the State Company to deal with Caspian-related issues and report to the President of Turkmenistan. The Company shall constitute state body, the supreme council of which shall be headed by the President of Turkmenistan.

Main objectives of the State Company shall be specified as follows:

* Arrange interaction and coordination of agreed actions to be conducted by the bodies of state economic establishments
* Plan and provide joint training programs for the bodies aimed at raising of their skill levels and improvement of information technology systems of the state

### State authorities and companies participating in execution of the Plan

State Emergency Committee of Turkmenistan shall organize and coordinate activities of Ministries, Establishments and Entities in the sphere of safety of people, operational security and stability of industrial divisions, as well as ensure fulfillment of activities on oil spill response.

Ministry of Environmental Protection of Turkmenistan shall exercise state control over compliance with environmental legislation and monitoring on ecological situation in the country including issues related to spotting of spills and calculation of impact on nature.

Ministry of Oil and Gas Industry and Mineral Resources of Turkmenistan is a public authority to ensure development of comprehensive measures on protection and scientifically proved utilization of earth bowels, preservation of purity of free air and water basins upon conduct of oil and gas operations, renewal of natural resources and control over their execution.

Ministry of Foreign Affairs of Turkmenistan shall be responsible for direct relations with neighboring states and procedure of issue of licenses within the shortest period for persons to be involved in oil spill response activities in neighboring regions. Involvement of establishments of Turkmenistan in spill

response activities on the territories under jurisdiction of other Caspian states shall be agreed upon with the Ministry of Foreign Affairs of Turkmenistan.

Relevant Authority on utilization of hydrocarbon resources reporting to the President of Turkmenistan shall be a state authority under law of Turkmenistan “On hydrocarbon resources” exclusively empowered to maintain control over execution of agreements in terms of utilization of hydrocarbon resources of Turkmenistan.

Chief State Service of Turkmenstandartlary shall maintain state supervision over safe conduct of works upon oil operations as well as investigate any incidents, industrial injuries, loss of explosives and products containing sources of ionizing radiation; shall maintain supervision over readiness of mine- rescue, flush prevention and wrecking crews to localize and liquidate any possible accidents.

State Customs Committee of Turkmenistan shall pursue state customs policy, ensure compliance with legislation on customs and effective operation of state customs committee.

State Frontier Post of Turkmenistan shall ensure prompt oil spill response with involvement of foreign crews and prompt access to accident sites on the territory under jurisdiction of Turkmenistan.

State Concern of Turkmenneft shall conduct exploration and production of hydrocarbons in the littoral part of Turkmen sector of the Caspian; shall organize and coordinate operation of oil and gas companies on liquidation of oil spills within the territory of the Concern’s activities

Military Flush Prevention Crew shall perform preventive measures on open gushers and blowouts as well as rescue and emergency rehabilitation operations.

Hakims of regions shall exercise executive power in vilayats and etraps. Companies irrespective of their affiliation and property forms shall agree with relevant hakims on conduct of activities that could cause any social, ecological and other negative impacts.

State corporations, concerns and other executive authorities shall participate in spill response operations in an appropriate stipulated manner.

### PROMPT PLANNING

* + 1. **National policy Selection of Response Strategy**

Requirements set forth herein shall be obligatory for all companies conducting construction and assembly works, operation, conservation and liquidation of facilities and vessels designed for and/or utilized in drilling, production, temporary storage and transportation of oil onshore and in Turkmenistan sector of the Caspian sea as well as in its coastal regions, inland basins and waterways of Turkmenistan and for authorized central and local executive authorities of Turkmenistan.

Contractors and Operators conducting oil operations, owners of vessels and oil pipelines and other transportation means shall be responsible for safe working conditions, notification of central and local executive authorities in case of oil spills, working out of measures on oil spill response and timely clean-up and recovery of impact on environment and population.

State authorities of Turkmenistan shall be responsible for maintenance of control over Contractors, owners of vessels and oil pipelines in their compliance with requirements and measures on oil spill prevention upon engineering, transportation, construction, operation, conservation and liquidation of facilities and vessels as well as supervise them during execution of required procedures on registration or commissioning;

Upon illegal disposal of oil or other dangerous substances, measures identical to the ones effective upon emergency disposals shall be taken. In this case the party in fault in addition to measures on liquidation of the spill shall be charged in a manner stipulated by legislation.

### Policy Program Criteria

Level I Spill – minor spill of local value that could be liquidated without any outside assistance by local personnel of the company using existing equipment and within the framework of oil spill programs adopted by the companies and adequately approved.

Level II Spill – more extensive spill that could not be liquidated using resources of Level I and calls for involvement of additional resources and personnel from pre-agreed onshore bases of responsible party and, in case of necessity, of other companies to be engaged under multilateral agreements concluded with these companies (organizations).

In special cases (the threat to ecologically sensitive areas and objects related to population’s life activities) National Plan is put into effect.

Level III Spill – major, single or continuous spills for liquidation of which assistance of personnel and resources of state authorities and dedicated international companies under specific agreements is required. Referring any spill to the third level at the same time shall mean putting into effect National Plan.

### Plans of industrial units (Operators) Structure of Operators’ Plans on Oil Spill Response

Contractors and Operators shall develop Plans on Oil Spill Response inclusive of the following sections: basic directions of operations on site, determination of Contract area, availability of platforms for landing of air transport, access points to coastal line; planning, prompt response, facilities or vessels to be operated in case of oil spills in compliance with requirements of the effective legislation of Turkmenistan and under international agreements.

Oil Response Plan shall comprise the following details:

* Facility locations for potential oil spills;
* Detailed map of ecologically sensitive regions and review of seasonal sensitivity on every species;
* All existing hazards of spills identified;
* List, location and type of equipment, transport means, materials, personnel and methods for activities in case of oil spills pertaining to various categories;
* List of dispersants that could be utilized;
* Timing for start-up of activities on oil spills of different categories;
* Training schedule of personnel and inspection reports on equipment and facilities;
* List of responsible people, their contact numbers, procedure for notification of state authorities.

Plans of companies on oil spill response shall be approved by Contractor (or by Operator on Contractor’s behalf) following agreement of the Relevant Authority on utilization of hydrocarbon resources reporting to the president of Turkmenistan, Ministry of Environmental Protection of Turkmenistan and Main State Company of “Turkmenstandartlary”. Copies of plans shall be kept by the mentioned authorities and used in case of spills. Contractor and Operator shall be responsible for development and execution of Plan.

### RESPONSIBILITIES AND STRUCTURE OF PLAN

* + 1. **National Oil Spill Response System Structure of National Plan and Types of Response**

System of spotting, warning and assessment of spill Listing of regions exposed to major risk

Listing of external sources of expert and advisory assistance Listing of authorities of state bodies

Set-up of dedicated emergency rescue crew Implementation of liquidation works

### Priorities on Oil Spill Response

Protection of ecologically sensitive areas irrespective of the level of their sensitivity (specifically protected areas; protection and clean-up of coastal resort zones, etc.) is a priority direction in the list of actions on tracing of spill and collection of oil in the sea.

Taking into account limited possibilities in utilization of equipment for spill tracing and collection of oil in some cases when oil patch reaches shallow water parts and reeds in the North and East Caspian priority efforts should be focused on these spheres.

Response measures taken;

Monitoring and assessment – for minor offshore oil spills;

Spill tracing (slick bars) or oil collection (oil spill boats) in water under acceptable conditions; Use of dispersants upon agreement with Environmental Protection Ministry

### Notification Procedure

**Operator’s Notification Procedure on Oil Spill**

In cases of oil spill committed by the responsible party regional divisions of the State Emergency Committee of Turkmenistan shall be notified by means of radio communication (telephone) within an hour following the incident with further fax transmission based on a pre-compiled form of incident report (Attachment 1). Relevant Oil Spill Plans shall have contact numbers of day-and-night service.

Operator shall submit a report on the Spill to the Relevant Authority as soon as possible but not later than 24 hours following spotting of any Major Spill.

Spill Report shall comprise the following information:

* location of spill with well number and geographical coordinates specified;
* estimated volumes and type of spill (oil, acid, formation water, etc.);
* measures taken by Operator at the time of report submission

### Notification of states in case of transboundary spills

Ministry of Foreign Affairs of Turkmenistan shall notify neighboring countries of any emergencies of environmental and man-caused nature associated with transboundary distribution of their impacts:

* any impacts and facts of spills related to transboundary distribution and their potential hazards for population and territories of other states;
* spread of spills with transboundary distribution, their scale and response measures taken;
* assistance to be rendered by neighboring countries in spill liquidation

In case of the decision on notification of neighboring states the below listed criteria shall be followed:

* fact or threat of spill;
* consequences that could affect the territories of neighboring states, the scale of which requires assistance of these countries in prevention and liquidation of spill.

### Training Programme

**Drills to be practiced under Oil Spill Response Plan**

Regular drills under oil spill response plans shall be practiced to prove adequacy of these plans and their compliance with existing status of operations, personnel training, interaction between operations personnel and fire and rescue crews as well as check of personnel’s and rescue crew’s preparedness to act in case of emergency and liquidation, and ensure that these have been supplied with protection equipment and facilities for liquidation of emergencies.

The following documents shall be checked upon drills:

1. Quality of Oil Spill Response plan, including:
   1. whether all possible spills associated with given operation and their locations have been covered by the plan;
   2. adequacy (safety) of initial activities (actions) on spill tracing stipulated by plan;
   3. practical feasibility of rescue actions specified in the plan;
   4. prioritization of actions, their significance and sequence, contributing to rescue of people, liquidation of accidents and safe load transfer or rejection, etc;
   5. feasibility of liquidation of accident at initial stage using methods and facilities specified in the plan.
2. Prompt Actions of Company to act in case of potential accidents, including:
   1. availability and operable condition of facilities and spill notification methods;
   2. possibility of prompt move of people out of hazardous area (availability and state of emergency exit routes, personal protective equipment stored in emergency drawers);
   3. access to rescue and spill liquidation facilities;
   4. availability of emergency stock of technical mechanisms, appliances, personal protective equipment, their timely check-ups for prompt use;
   5. awareness of specialists, workers and rescue crew members of operation system and function of the facilities a well as skills in using them;
   6. organization of plan review and its understanding by workers and specialists in their units of competence in case of accident;
   7. qualification of foremen and superintendents in coping with emergencies in the absence of Supervisor;
   8. consistency in operations of rescue crew members, personnel, volunteers, fire crew members and other dedicated peopled involved in response actions.

### RESPONSE PROCEDURE

1. **Response Procedure on Operations Site Responsibilities of Supervisor**

Operator’s Supervisor shall maintain control over liquidation of Level I spill which could be done so by Operator without involvement of any external assistance (minor spills).

Upon implementation of responsibilities Supervisor shall be guided by general principles of National Plan on site of spill. Supervisor shall initiate immediate response actions whether to eliminate, minimize or mitigate spill impact on people’s health or environment. Requirements of Supervisor on liquidation of spill shall be mandatory and no interference with his decisions shall be permitted.

Response measures inter alia shall be inclusive of the following:

* Sampling and sample analysis to define nature, source and distribution of spill;
* Control and liquidation of spill source, control over spill distribution;
* Prevention or tracing of spill by means of physical and mechanical bars;
* On-the-spot flaring;
* Use of dispersants or other chemicals.

Upon selection of response actions including selection of methods for collection or disposal of oil Supervisor’s preference shall be for the methods directed to maximum level of protection of people’s health and environment taking into consideration generally practiced chemical and physical processes. Prior to arrival of Supervisor, either Superintendent or Foreman shall manage operations on liquidation of spill and rescue of people.

Direct control over rescue operations shall be maintained (by Supervisor’s order) by the Chief of rescue crew (voluntary rescue crew) and control over fire extinguishing shall be exercised by the Chief of fire crew based on tasks specified by Supervisor. Prior to their arrival at the site, the responsibilities shall be implemented by the officials of the mentioned crews.

### Responsibilities of Response Coordinator

Upon expressly inadequate actions of Supervisor when liquidating Level I spill Coordinator shall have the right to take over his responsibilities or appoint another relevant person.

Upon liquidation of Level II spills when Operator or existing facilities require external assistance and Level III spills when wide-scale and prompt mobilization of national and international resources is required (government and operations) Response commands shall be given by Coordinator on Operations Site. At the same time Operator shall reserve his responsibility for use of materials and technical means for spill liquidation.

Response Coordinator shall monitor activities taken by responsible party with respect to spill and be prepared to interfere with those at any moment. Based on data supplied by responsible party in a stipulated order, Coordinator shall pre-assess level of spill and the necessity to put into effect National Actions Plan.

Based on information available Coordinator shall act as follows:

* confirm fact of oil spill and assess its significance and threat to ecologically sensitive areas;
* assign responsible party and its resources as far as practical;
* assess difficulties that could be caused as a result of spill liquidation.

Upon all types of oil spills of Levels II and III Coordinator shall be entitled to require further information on the actions of responsible party and status of spill. For Level II spills the procedure shall be applied depending on specific situation and be limited by spills in ecologically sensitive areas or in their immediate vicinity.

In case, if based on preliminary assessment, the spill does not refer to Level III or presents no real threat to ecologically sensitive areas Coordinator shall implement only monitoring of response activities with respect to the spill of responsible party.

In case of the decision on interference, Coordinator shall notify responsible party thereof as well as advise of potential financial liabilities associated with expenses to be born as a result of response actions. Coordinator shall take into account the following:

* resources utilized by responsible party upon taking response actions;
* compliance of actions of responsible party with effective legislation and provisions of the Plan on Oil Spill Response;
* scope and nature of spill;
* level of impact caused as a result of spill impact on people’s health and environment

### Customs and immigration procedures in case of emergency

Oil Spill Procedure affecting transboundary aspects of spill impact and actions taken in the Caspian Sea shall be agreed upon with the Ministry of Foreign Affairs of Turkmenistan.

In cases when spills or response actions implemented within national jurisdiction could have significant negative impact on environmental situation of other states, Ministry of Foreign Affairs of Turkmenistan on behalf of Cabinet of Ministers of Turkmenistan shall supply such states with information necessary to take relevant measures.

To ensure prompt interaction with involved states and facilitate entry of international resources in the country Cabinet of Minister of Turkmenistan have entered into a relevant Agreement with CIS countries.

### Operational Safety

Upon nomination of workers to implement rescue operations in hazardous areas an authorized person or member of rescue crew shall lead every crew. When assigning workers to hazardous rehabilitation and maintenance operations one of the authorized employees shall be appointed as Chief. The latter shall be provided with work order to include names of workers and Supervisor, date, place and nature of work, results of air analysis sampled prior to operations, basic safety regulations to be followed upon hazardous works.

* + Safety policy upon spill response operations shall comprise as follows:
  + Move of people out of emergency rooms shall be exercised through the safest and shortest routes. Move of personnel out of upper decks and vessel superstructures and platforms shall be exercised both through usual routes and emergency exit routes, as well as through external ladders depending on the situation.
  + When determining exit routes a possibility and necessity of personal protective equipment shall be considered. Location of PPE drawers shall be specified in the spill response plans.
  + Upon gas explosions, gas contamination or fire, move of people out of rooms shall be stipulated. In the event of local spills people shall be moved only out of hazardous areas.
  + Immediate call of rescue crew shall be provided in the event of any accident irrespective of its scale and shall be directed at assisting people and implementation of operations in contaminated area. In the event of fires and in some cases of fire threat immediate call of fire crew shall be deemed necessary.

Offshore units and vessels shall:

* meet their purpose, have adequate certificates on reliable state of vessel hull, power and mobile machines, mechanisms and navigation facilities;
* sufficient number of slick bars to restrain oil spill upon loading/unloading operations and necessary volumes of absorbents for clean-up of oil spill;
* appoint responsible authorized person for loading/unloading operations, control reception facility and integrity of arm supplying oil and capable of stopping oil supply in case of emergency;
* strictly comply with requirements of MPPSS-72 (International Regulations for Prevention of Vessel Collisions);
* follow “Regulations on Prevention of Accidents and Vessel Survivorship” upon oil spills and other accidents.

The above listed requirements shall be mandatory upon execution of contract for vessel lease or freight. The contract shall contain clauses on presence of qualified on-board crew having been trained to restrain spills and liquidate them, capable of commissioning equipment within the shortest possible terms as well as emergency plan setting forth potential risks and methods to control them. Such plan shall be practiced in the process of drills.

### Technical Support Response Criteria

Level I and, in number of cases, Level II Response Actions shall be implemented without any involvement of state authorities. At this stage responsibilities of state authorities shall be limited to monitoring and preparedness to maintain more active control if, in their opinion, responsible party takes inadequate or improper actions.

In case of Level III spill State Company the Caspian-related issues reporting to the President of Turkmenistan shall immediately notify the state management of the spill and introduction of National Response Plan.

In case of major spill when use of local sources is restricted, agreements stipulating interaction in the sphere of oil spill response by oil and shipping companies as well as agreements between the state and representatives of oil industry shall be applied in compliance with this Plan.

In cases of spill caused by oil ship not involved in economic activities on the territory of Turkmenistan or other spill irrelevant to oil operations on the territory of Turkmenistan (third party) Response Coordinator can apply to representatives of foreign oil companies operating in Turkmenistan for any assistance in the form of equipment and consultation.

Expenses incurred by oil companies during oil spills shall be covered in compliance with Agreements between the state and companies effective at the time of accident.

Utilization of offshore and air vessels as well as other vessels, including onshore equipment usually applied for other purposes (self-pumping tank trucks, bulk-cement transport units and concrete haulers, as well as leak-proof railway and universal containers, etc) shall be allowed upon oil spill response operations.

Owners of the mentioned equipment shall be relieved of legal and property responsibility for any incidents and consequences of incidents which could take place upon their operation.

Marine and air vessels as well as equipment owned by the Ministry of Defense of Turkmenistan can be used upon prior mutual agreement.

### Administrative support

In case of oil or oil product spills the center of communication shall be an Operations Center. All information obtained from spill site shall be delivered to Operations Center. In case if the spill spreads to coastal zone or ecologically sensitive area, field unit shall be established for onshore transmission of information. Supervisor shall be responsible for accuracy of information transmitted to the Operations Center.

In case of oil spill associated with accident on oil loading tanker, the owner of the ship (captain) shall immediately notify Turkmenbashi terminal thereof. Terminal authorities shall immediately notify regional division of the State Emergency Committee of Turkmenistan.

Operations and control crews of the State Emergency Committee of Turkmenistan shall inform Response Coordinator of the accident.

Response Coordinator shall be responsible for notification of other regional authorities and state organizations.

### Logistics

Logistics to maintain efficient response actions on spills within the system of the National Plan shall consist of objects (facilities, transportation means, equipment and materials), arranged by companies under their Response Plans for spills as well as objects owned by specifically authorized bodies.

Existing equipment to control oil spills as well as location of equipment and operation mode shall be specified on the first stage of execution of National Plan (2001).

Companies shall submit list of available resources and personnel for Level II and III spills located on their bases.

Military Anti-flush Service of Turkmenistan and Turkmendanizellary Company shall provide Operations Sites with equipment (including well head equipment, specific facilities, slick bars, absorbing materials) and transport means. Upon assistance of state Turkmenebit and Turkmengas Concerns their reserves shall be replenished during 2001-2002.

### Localization and wastes disposal Basic Provisions of Waste Disposal Code

In compliance with the law of Turkmenistan “On earth bowels” bowel consumers shall protect them from negative impact caused as a result of operations associated with use of bowels. Status of

environmental activities has been specified in Article 43 of the Law of Turkmenistan “On hydrocarbon resources”, where upon all types of oil operations activities on protection of environment, health of population and personnel are stressed as mandatory.

Upon development of hydrocarbon resources protection of environment as a result of pollution caused by industrial wastes is of high importance. Article 20 of the Law “On environmental protection” calls for efficient measures on reduction of the level of production, neutralization, processing, utilization and storage of wastes. Article 31 of the Law “On hydrocarbon resources” regulates wastes disposal associated with offshore oil operations. The article stipulates prohibition of discharge of wastes into sea and evacuation of discharge water only following its pre-treatment. Non-compliance with requirements shall result in restriction, temporary shutdown or decommissioning of facilities associated with waste production.

### Collection, transportation, storage and liquidation of oil spills Response actions on early stage of spill

The priority on this stage is to minimize pollution of coastal line and determine initial steps on collection of oil spilled in the sea. The priority list consists of various measures, including mapping of spill location and operation of a number of vessels, tank trucks with suction hoses, construction of nominal pits for storage of collected oil, insurance of treatment facilities and transportation as well as negotiating of possible incidents and coordination of relevant activities.

To collect great volumes of oil and oil products on coastal line the most efficient method is manual collection by means of rabblers, improvised means including involvement of personnel, population of the nearest regions as well as barreling of oil with its further pumping over into special pits.

### Collection of oil patch

The priority in the first turn should be attached to oil spilled in sea as well as to collection of filtered oil on the shore, for which, as a rule, there exists a potential for repetitive spill. Periodic activities should be arranged on collection of oil to cover selection of collection methodology, preparation of safe storage place, transportation and final treatment. Oil that has been spilled on sea surface inspissates and dissipates. Thus, under these conditions the most appropriate could the system of container collection, barge with hopper for oil catch rather than oil skimmers. As far as oil retention booms are concerned, they are quite adequate in stormy weather and a decision can be made to avoid using them or restricting their use to sea surface.

### Collection of oil in sea

In calm weather the method of “barge with hopper for oil catch” could prove more efficient upon wide- scale operations on oil collection.

Working surface should be divided into several sections and types of working vessels: “Barges with hopper”, RO-oil spill boats (oil spill boats of dump type) on ocean tug, “multi-excavating vessel, equipped with cyclone skimming device to remove oil from water surface”, “oil spill boat of well type” should be distributed in every section.

### Barge with hopper for oil catch

Worldwide experience proves that this type of oil spill boats is the most efficient for collection of oil, particularly, during rescue operations on early stage of oil collection operations.

However, rescue companies do not always guarantee repayment of mobilization, which results in growth of expenses for oil collection operations and all expenses are incurred by the owner of vessel, which would mean another additional risk for the latter. To expedite collection process crews utilize oil retention booms.

### Oil skimmers

Two types of oil skimmers are usually operated: outlet and disk-type, but the option is restricted during stormy weather as well as on coastal line. Since waves do not allow to operate them efficiently, spilled

oil is not transferred into oil skimmer due to the fact that oil is being transformed into heavy clots and is separated from the hull.

Oil skimmers could be used for pumping out of oil from onshore line into metal barrels or tanks (mobile vessels for collection). In spite of their multiple use, the work provides favorable results and could be of help to complete operations on clean-up of patch within short periods.

### Truck tanks for pumping out of spilled oil on onshore line

Truck tanks are used for pumping out of spilled oil on the coastal line and transporting to pit for further storage. Basic problems in doing so are represented by frequency of flow on the shore and back in the area between contaminated coastal line and storage pit as well as volume of oil that could be transported at a time.

Several options should be considered, one of which is pumping of oil directly from coastal line, while the other one is pumping out of oil through oil reservoirs and tanks. Also, some types of truck tanks should be used: one – with high volume of pumping, the other one – with high loading capacity. So, to reach efficiency an optimal combination should be considered.

It should be noted, that upon strivings for efficiency, minor questions could arise. Thus, upon use of technique for oil collection in a number of cases when sizes of pumping hoses do not fit truck tanks some technological or organizational problems associated with accommodation and catering of drivers arise.

Based on worldwide experience the following recommendations have been worked out:

* to utilize two different types of truck tanks for pumping out of oil simultaneously through a single line (truck tanks with high pumping capacity and high loading capacity);
* to connect coastal line with road by means of vinyl pipes and utilize ordinary hoses for pumping;
* transfer collected oil only following its separation from water on site.

Experience proves that truck tanks for pumping out of oil could be more acceptable as compared to devices of high capacity for catch of oil from coastal surface.

### Trucks with pumps designated for liquid concrete

In spite of the fact that trucks with pumps for liquid concrete are less efficient as compared to tankers for bleeding of oil, they could be operated any time of the day and in any weather, at large distances and they have hoses equipped with long nozzles that guarantee intensive and noiseless operation.

Trucks are characterized by high bleeding capacity and capability for bleeding of oil clots from oil patches, distanced from the coastal line. Trucks are the most efficient machines for collection of oil. They could be come across everywhere and are successfully used for construction of buildings and facilities.

### Diaphragm Pumps

To transfer collected oil from metal oil reservoirs and tanks diaphragm pumps are usually used. These pumps could be also used for collection of oil from water surface in sea. They are installed on working barges and yield high operational results.

### Removal of oil left in tanker

Pre-assessment is done on the oil left in tanker or possible spills of the oil left due to further possible damage of tanker parts. As a rule an issue of immediate removal of oil from tanker arises. Since weather conditions could be marginal, prompt actions on removal of oil requiring a lot of time are to be taken.

Under these conditions an immediate decision of Response Coordinator on mandatory actions and tasking specific companies and structures with implementation of the actions can be required.

Crews will have to start activities by opening deck hatches in the sunk panel of the tanker. This work can be implemented only in stable weather and, to reduce oil viscosity in vessels, steam will have to be used. Temporary passage way will be required on the shore to provide an access to the tanker parts and remove oil from the shore, irrespective of weather conditions. Upon planning of these works, it should be noted, construction will take some time due to friable topsoil and sand soil.

### Dispersants

Upon liquidation of oil spills various types of dispersants for collection of oil from water surface are applied. The application is possible only in warm weather and upon air temperature of less than 8 0C and water temperature less than 40C known types of dispersers lose their capability of oil dispersion.

Dispersants are utilized only following approval by the Ministry of Environmental Protection of Turkmenistan and that in territorial waters of neighboring countries is regulated by interstate agreements or realized based on special permit of neighboring countries for the right of their use.

### Spotting of temporary storage locations and liquidation of wastes

Plan for transportation, storage and liquidation of collected oil should be reflected in the general plan on environmental protection and, in particular, in the Section dealing with Spill Response Plans.

Final location of collected oil and other toxic substances as well as contaminated materials is done by methods meeting requirements on protection of environment and health of population in compliance with regulations and standards of Turkmenistan.

Use of portable and mobile vessels for collection and storage of oil, including plastic sacks, barrels and tanks for their further pumping into special permanent storage reservoirs is allowed. To collect big amounts of oil and oil products the most efficient method is pumping of collected oil into barges and further into special reservoirs located at reasonable distance from onshore unloading facilities.

For temporary storage the most practical pits are those with dense cellophane or other type of film inside them which have been recently re-cultivated.

Location of collected oil on the shore, flaring of oil-saturated sand and other wastes on site could be also used as a disposal method, though with some restrictions established by the Ministry of Environmental Protection of Turkmenistan and Chief State Company of Turkmenstandartlary on the pre-determined facilities.

### Reimbursement of expenses

**Assessment of economic damage and reimbursement procedure**

The main responsible person for liquidation of spill is the company that has committed the spill. All expenses associated with liquidation of spill, clean-up of coastal territories, re-cultivation and rehabilitation, including compensation for ecological damage caused by the spill shall be incurred by the company (group of companies) responsible for spill.

All expenses born by Turkmenistan while providing support and assistance to Responsible party and associated with major oil spill shall be covered by that party. The expenses shall be documented and, where possible, pre-approved.

Reimbursement of oil response activities, on which the Responsible party have not been determined (in particular, this refers to potential spills resulted from flooded suspended wells) is made at the expense of surplus fund of the Authorized body on hydrocarbon resources reporting to the President of Turkmenistan in the order specified for emergency situations.

Upon completion or in tandem with liquidation of oil spill the Responsible party upon prior agreement with the Ministry of Environmental Protection of Turkmenistan and the Ministry of Health and Medical Industry of Turkmenistan shall assess the spill impact on environment and health of population taking into account impact caused by rehabilitation actions.

Based on the ecological assessment and taking into account claims of the third parties, an estimation of damage caused to resources shall be made to determine alternative methods for rehabilitation actions on the damaged sites. Scope of rehabilitation actions shall be defined by the Ministry of Environmental Protection of Turkmenistan jointly with relevant authorized bodies.

### Claims Submission Procedure with respect to damages caused by spill

Claims shall be raised by state controlling authorities in compliance with environmental code and shall be forwarded directly to party at fault. In case of the latter’s refusal to reimburse the sum specified in the claim, it shall be further forwarded to court.

V. Reporting and notifications

### Monitoring based on the response results Monitoring and public awareness

State authorities of Turkmenistan under this National Plan shall be responsible for conduct of monitoring as well as preparedness to respond to spill and liquidation of its consequences.

Ministry of oil and gas industry and mineral resources of Turkmenistan, state concerns of Turkmennebit and Turkmengas, Turkmennebitgas, Turkmennebitgasgurlushyk and Turkmengeologiya corporations shall conduct monitoring of oil facilities on the territory of activities, adjacent regions as well as monitoring of preparedness of oil and pipeline companies to initiate response actions.

Ministry of autotransport of Turkmenistan, National Companies of Turkmendenizellary, Turkmenderyellary, Turkmendemirellary, Turkmenkhovayellary shall conduct monitoring and control of onshore and air transportation means, marine and river vessels, including tankers.

Ministry of Environmental Protection of Turkmenistan upon involvement of interested institutions, oil and transport companies shall ensure as follows:

* conduct of comprehensive monitoring of marine environment and coastal zone throughout the whole response and liquidation period at the account and with support of the responsible parties;
* submission of reports on monitoring of rehabilitation works and rehabilitation degree of environment to the State Committee dealing Caspian-related issues and reporting to the President of Turkmenistan once per half a year and upon completion of works.

State Committee dealing Caspian-related issues and reporting to the President of Turkmenistan based on the monitoring and submitted reports shall act as follows:

* issue press releases and statements with respect to the status of spill and course of localization and liquidation of spill;
* agree on the issues related to access of mass media to the site of spill;
* hold briefings with the representatives of responsible party and other organizations involved in response actions.

### Investigation of spill

In the process of oil spill liquidation the causes of spill shall be investigated to further find out whether the spills were emergency or illegal spills as well as to take actions on prevention of identical spills in future.

Investigation of oil spills as of man-caused accident shall be conducted by the Committee headed by the representative of Cabinet of Ministers or Chief State Company of Turkmenstandartlary (depending on the number of suffered people and scope of damage caused).

To ensure accuracy and reliability of data submitted Site Supervisor shall collect and store all samples taken for determination of spill source and document impact of the spill as well as shall file copies of all analyses, keep minutes of the accident and record of expenses sustained. Such documentation shall

be utilized upon reimbursement of expenses as a documentary proof and shall enable conduct of further assessment of response actions taken with respect to the spill.

Site Supervisor shall hand over all documentation to Response Coordinator upon completion of response activities.

Based on materials submitted following spill liquidation and taking into account investigation reports State Committee dealing with Caspian-related issues and reporting to the President of Turkmenistan shall work out within two weeks a consolidated report on the spill and submit it for consideration of the Cabinet of Ministers of Turkmenistan.

### Pollution Report Form

Pollution report shall be made based on the relevant act, in particular:

* 1. Act on environmental pollution as a result of oil spill with date, time, location and scope of the spill, longitude-latitude, weather, wind rate, oil type, pollution source, etc. specified therein
  2. Methods of oil spill notification
  3. Act on the course of liquidation activities with the following information included:
* description of accident, date, time, facilities used (vessels, planes, length of oil retention booms, dispersant or absorbent used, etc);
* ratio of oil volumes in spills: spilled – collected – non-collected
  1. Act of controlling authorities
  2. Act on assessment of damage sustained

### 14. Post-emergency monitoring

Plan shall be periodically (monthly) modified to meet modern requirements and ensure activation of programs of post-accident monitoring (ecological programs involving local or international experts for assessment of damage caused by oil spills, rehabilitation scope, etc.)

# Notice on Spill

(Name of Company and Facility) (Telephone)

## Type of notice on spill

|  |  |
| --- | --- |
| 1. | Date and time of Spill |
| 2. | Person to have advised of spill. Name/Tel/Fax Nos |
| 3. | Place and size of spill |
|  | Name of the rig/vessel.................................... |
|  | Latitude...................... Longitude..................... |
|  | Location of spill with respect to the rig |
|  | e.g, “100 m on N-E» ............................. |
|  | Estimated scale of spilled oil: l/t |
|  | Does spill persist Yes/No If yes, specify direction |
| 4, | Wind rate: Knots |
|  | Wind direction: Degrees |
|  | V |
| 5. | Weather: |
|  | State of sea (1-8) Or height of waves....................... |
|  | Temperature of sea °С |
| 6. | Type of oil or chemical reagent: |
|  | (e.g., oil, diesel oil, gas condensate, hydro/fluid, kerosene, etc. |
|  | Oil fraction for oil based mud is to be stated in %) |
|  |  |
| 7. | Spill source: |
|  | Cause of spill: |
| 8. | Images taken: Yes/No |
|  | Samples taken for analysis: Yes/No If yes, specify place samples have been taken from: |
| 9. | Other state authorities having been advised of spill: |
| 10. | Measures taken to mitigate negative impact and prevent any repeated spills: |
|  |  |
| 11. | Signature: ...................... Date: ............................... |

### International Agreements

**Interstate Agreements of CIS Countries**

On 12.04.1993 governments of CIS countries have signed an Agreement on mutual cooperation in the sphere of prevention and liquidation of emergency consequences of environmental and man-induced nature in Minsk (Byelorussia) and on 24.09.1993 in Moscow (Russian Federation) a Decision on approval of the Provisions on Interstate Council of environmental and man-induced emergencies was adopted.

### Caspian Environmental Program and liquidation of spills

First attempt to coordinate activities of international companies on environmental issues of the Caspian Sea was initiated in 1994-1995 within the framework of the Caspian initiative of UNDP/UNEP/World Bank, etc. The initiative further resulted in development of the Caspian Ecological Program (CEP), associated with setting-up of regional structure for environmental cooperation and incorporating efforts of a number of organizations such as UNEP, UNDP, World Bank, EU/Tacis and GEF.

Draft Concept of the Caspian Ecological Program was put forward in 1997 by Tacis and World Bank and then in 1997-1998 was completed by Littoral States and international partners. The main objective of the program is to contribute to sustainable development and environmental control in the Caspian Region for the period of 20 years.

In May 1998 in Ramsar (Islamic Republic of Iran) during the first meeting of the Interim Steering Committee of CEP the following documents have been agreed upon: first CEP draft project as an organizational and technical basis of UNDP/GEF project through which its implementation was planned; management structure of CEP through Program Coordinating Unit (PCU); proposal on locating PCU of CEP in Baku, Azerbaijan; establishment of intersectoral coordinating units on implementation of CEP in all littoral states of the region; setting up of Caspian Regional Thematic Centers (CRTC) to fulfill appropriate information and analytical, coordinating and scientific functions in dedicated thematic directions with financial and organizational support of Tacis, UNDP, GEF.

The tasks have been distributed in the following way: Azerbaijan – Pollution Control/Data and Information Management; Iran – Integrated Transboundary Coastal Area Management and Planning as well as Emergency Response – Pollution Monitoring; Kazakhstan – Preservation of Biodiversity and Water Level Fluctuations; Russian Federation – Sustainable Development of Fish Stock and Other Commercial Bioresources as well as Legal, Regulative and Economic Mechanisms; Turkmenistan – Combating of Desertification and Sustainable Development and Health of Population.

### Caspian Regional Cooperation Plan for major oil spills (responsibilities of IMO and CEP)

The basic pollution sources in the Caspian Sea refer to pollution caused by river run-offs; industrial, municipal, agricultural wastes; oil and gas industry; marine transportation; obsolete equipment; broken treatment facilities.

Biogenic elements, heavy metals, organic and radioactive substances, siltation, etc. having negative impact on basins result in change of qualitative characteristics of water and soil, which in its turn has a disastrous impact on the Caspian flora and fauna. Industrial facilities and oil-polluted areas left under water due to sea level increase contributed to secondary pollution of the Caspian Sea.

An efficient problem-solving method for the Caspian is possible only upon consistent implementation of the National and Regional policies of all Littoral States in working out of standards to meet international standards, introduction of wasteless technologies, rehabilitation of treatment facilities, etc. The hottest points and liquidation measures could be determined through collection and treatment of qualitative characteristics of the pollution sources contributing to discharge of wastes into sea. Recommendations and an Actions Plan on prevention of pollution of the Caspian require detailed studies.

Caspian Environmental Program coordinates activities between CRTC and shall render any assistance in setting up database, improvement of monitoring system and exchange of necessary information. At

present CRTC on “Emergency Response and Pollution Monitoring” have started preparatory activities on development and introduction of the Caspian Regional Cooperation Plan for a major oil spill.

### Istanbul Agreement on the Caspian Sea signed in 1999

As is known, an Interstate Declaration on the Execution Principles of Transcaspian pipelines has been adopted in the framework of the Istanbul Summit by Presidents of Azerbaijan Republic, Georgia, Turkish Republic and Turkmenistan with participation of US President on 18 November 1999. The Declaration was signed by Presidents of all partner states – Heydar Aliyev, Eduard Shevardnadze, Suleyman Demirel, Saparmurat Turkmenbashi and witnessed by Bill Clinton.

It should be pointed out that Article 7 on “Environmental Protection” of this Declaration reads: “Parties shall ensure implementation of the Project in compliance with all international standards, procedures and obligations with respect to environment as applied in the Project. Such obligations shall be undertaken irrespective of any relevant standards and requirements of the Parties and shall replace any such documents”

Thus, Article 7 covers all standards of international ecological code. As is known, the basis of the code is made up by two fundamental principles.

First principle – obligation of the state to refrain from environmental damage outside its borders. This principle has been expressly stated in various international agreements, for instance, in Convention on Marine Law as of 11.12.1982, 21st Principle of Stockholm declaration approved as of 16 June 1972 as well as by UN Conference on Environmental Protection.

Second principle is obligation of the state to protect environment as a whole.

### Key resources exposed to oil pollution risk Ecological Resources

Turkmenistan is a state directly adjacent to the Caspian basin in the south-eastern part. Total length of the Turkmen part of the Caspian coast from the north to the south makes up some 650 km and spreads from state boarder with Republic of Kazakhstan to the border with Islamic Republic of Iran.

As is known, one of the aspects of the problem under study in coastal zone of the South-East Caspian is preservation of live and sustainable development of marine biological resources.

Water communities of the ecosystem are very complicated and consist of almost all hydrophilic taxons of fauna and flora, modern development of which is currently influenced by huge number of biotic and abiotic factors.

Biodiversity of water cenoses of the South-East Caspian totals to some 854 species and forms of fauna and flora representatives. The richest for species are birds, benthos and plankton, moderately rich are bacterioplankton and fish. Marine mammals are represented by only one species.

Bacterioplankton is famous for its fundamental role in regulation of all life cycles in water biocenosis of sea. Due to pollution increase its role in self-cleanup of sea water gets more significant turning it into utilizer of various organic and hydrocarbon substances. No less importance is attached to their role (in particular, of yeasts) in nutrition of different invertebrates of the Caspian Sea.

Phytoplankton of the Caspian is made up by numerous (414) species, the number of which sharply reduces towards the south-east (due to their fallout of the list of freshwater forms) up to 71 in the South Caspian. At the same time portion of typically marine species increases from 9% (in the North Caspian) to 31% in the South Caspian. The leading place is taken up by diatoms (Bacillariophtid section) – 32 species, Pyrrophita section – 20 species and Cyanophyta – 10 species. Euglena algae (Eugknophyta) and golden algae (Chrysophyta) have been represented by isolated species.

**Higher water plants**. Five species of higher water plants have been discovered in the East Caspian, all of them referring to phanerogams: Zostera minor, Potamogeton pectinatus, Ruppia Spiralis, R. maritime, Naias Marina.

Zooplankton of the Caspian is relatively poor in species (more than 120 species). The species are mostly Copepods and Cladocera, Rotifera and Infusoria. The main part of the species is made up by local ones with great number of Caspian endemics.

Benthos of the South-east Caspian, including its bays, is represented by two ecological groups.

1. Phytobenthos includes 110 species and forms of diatoms, algae referring to 26 families.

All of them refer to Pennatae and Centricae classes. The most numerous are representatives of Monoraphinae sub-order. Almost all of these algae are colonial and motionless attaching both to natural sub-strata (stones, rocks, seashells, algae) and artificial sub-sea facilities (buoy, piles, plates). There exist some single mobile forms moving freely through biofouling. With respect to chemical content of water they refer to brackish-water and brackish-sea-water forms.

1. Zoobenthos in this part of the Caspian is made up by 59 species, including hydroids – 1, worms

– 3, mollusks – 10, Crustacea – 43, Bryozoa – 1, insects (larvae) – 1. The most popular are Polychaeta and Oligochaeta and the most numerous are mollusks and Crustacea. Their number reaches 1011 species per sq meter and their biomass is about 45 g/m. Increase in biomas of Zoobenthos in this part of the sea as compared to 1940s could be explained by mass development of exotic species from southern seas.

1. Ichthyofauna of the Caspian Sea is relatively poor as compared to that of open seas. It is represented by 123 species and subspecies referring to 17 families. The prevailing in number of forms (species and subspecies) are Shads, Carps and Gobies, making up in aggregate about 75% of their biodiversity in the Caspian. Relative species scantiness (when compared with some other seas) is reimbursed by mass development of some of them; the number of individual species in our sea makes up millions and even billions of species.

Great part of the Caspian ichthyofauna is represented by freshwater fish. To those refer sturgeons and carps, pike, cat-fish, loaches, stickleback, zander, perch and ruff. Real sea fish in the Caspian are few: silversides, needle-fish and two acclimatized types of gray mullet. All these fish are typical representatives of Mediterranean fauna which had managed to find suitable conditions in the Caspian. Caspian salmon and Caspian inconnu are surely of north origin and have penetrated into the Caspian through river navigation systems.

One of the peculiarities of its ichthyofaunal biodiversity is great number of endemic species. This could be traced starting with genus category increasing upon transition to smaller taxonomic categories: 8.2% of kinds, 43.6% of species and 100% of subspecies are Caspian endemics.

In the South-east Caspian and in particular in its wetlands from Esengyly up to Bekdash 50 species have been registered including sturgeons (5 species), sprats (3 species), shads (11 species and forms), salmons (2 species), pikes (1 species), carps (8 species), gray mullets (3 species), perches (3 species), gobies (8 species) as well as one species of cat-fish, Caspian needle-fish, Mississippian gambusia, southern stickleback.

Caspian fishery has been producing huge figures on this valuable albuminous product (404.8 thousand tons in 1991) whereas in Turkmenistan the figures are undeservedly low (about 5 thousand tons in 1995, including only 0.4% of sturgeons and 0.7% of shads).

Ornithofauna of the South-east Caspian (within Turkmenistan) is distinguished for a greater diversity. 289 species of birds out of 23 orders could be observed in the course of year. The most numerous orders are passerines (96 species), sandpipers (45 species), day Carnivora (32 species) and gooses (27 species). In spite of aridity of the region more than 43% of its ornithofauna is made up by an ecological group of waterfowls and near-water birds, which is directly related to its landscape and ecological characteristics: wetlands stretch from Bekdash to Esengyly. This can be even more significantly expressed upon analysis of its nesting fauna (46 species), out of which more than 60% refer to the same ecological group.

At the same time location of the region in one of the main flyways of these birds causes domination of transit group (83.5% of species stock). Besides, out of 46 nesting species 38 are of mixed character (i.e. part of population of this species nest and another part migrates here for hibernation). Thus, almost all ornithofauna of the part of Turkmenistan is made up by birds characterized by seasonal migrations and only 31% by those hibernating in the region.

Main mammals are represented by one species of Pinnipedia and the Caspian endemic – seal. It is very popular in the South-East Caspian from Esengyly to Bekdash. The main concentration points of the seal in different periods of the year are Ogurchinskiy, Osushnoy islands as well as North- Cheleken and Krasnovodsk area of Turkmenbashi bay.

### Coastal communities

**Plants**

Coastal flora is represented by 357 species of higher plants belonging to 185 classes and 35 families. The most prevailing families are: *Asteraceae* – 65 species (18%), *Chenopodiaceae* – 48 species (13%), *Fabaceae* – 40 species (11%).

From the point of view of biomorphological aspect prevailing in communities are grass (86%), shrubs and suffrutices (6%) and trees – 0.5% of species.

Fauna

Insects. Entomofauna of Western Turkmenistan has not been sufficiently studied and does not contain any reports on the region. Background species are *Odonata, Orthoptera, Homoptera, Coleo-ptera, Lepidoptera, Hymenoptera* and *Diptera*. Having been thoroughly studied is *Coleptera*.

### Animals

Fauna of mammals of Balkan region taking into account species entering the region from adjacent territories of Iran and Kazakhstan comprises 79 species referring to 54 classes and 22 families, which makes up 80% of mammal fauna of Turkmenistan.

Birds are on flyway of Western-Siberian, Caspian and Nil population of waterfowls and near-water birds being a transit point during migration period and point of major hibernation areas in Palaearktic zone. Given in table is species stock, relative number and location of waterfowls and near-water birds which hibernated and migrated to the South-east Caspian during 1995-1996.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Species | Total number | А | В | С |
| 1. | Black-necked grebe (С. caspicus Habliz) | 3897 | 3410 | 427 | 10 |
| 2 | Cormorant (Phalacrocorax carbo L.) | 2170 | 1470 | 600 100 | |
| 3 | Flamingo (Phoenicopterus roseus Pallas) | 8670 | 8100 |  | 570 |
| 4 | Greylag goose (Anser anser L.) | 1572 | 1380 | 192 | - |
| 5 | Mallard (Anas platyrhynchos platyrhynchos L.) | 36630 | 9100 | 27300 | 230 |
| 6 | Red-crested pochard (Netta rufina Pall) | 53800 | 39000 | 14800 | - |
| 7 | Pochard (Aythya ferina L.) | 32521 | 9800 | 22700 | 21 |
| 8 | Tufted duck (A. fuligula L.) | 33730 | 5100 | 28000 | 630 |
| 9 | Coot (Fulica atra L.)i | 83430 | 31000 | 9800 | 42630 |

### Endangered species and critical habitats

**Fish.** Out of 50 species of fish in Turkmen part of the Caspian referring to this category are *Caspiomyzon wagneri, Alosa keelri, Sapmo trutta caspius, Stenodus leucichthys leucichthus*, having been registered in the Red Book of Turkmenistan (1999). The last two species have never been numerous in any region of the Caspian Sea whereas lamprey and shad can be rarely met. This has been specifically observed following run-off control of major rivers flowing into Caspian by means of dams closing down the routes to nesting grounds. Prior to perestroika period small number of salmon (bulltrout) and Caspian inconnu in the Caspian was maintained by fish-farming plants on Volga, Kura and other river. Shut-down of plant operations deprived populations of replenishment, which will result in further decrease of the number of this fish. Some species of these fish during migration occur at south-eastern coast sometimes getting in shallow water parts, including areas at Ogurchinskiy island and Turkmenbashi bay. They’re very sensitive to water quality, especially to organic pollutants and oxygen regime.

Another, though not so rare species is sea zander (*Zusciopera marina*) which has practically disappeared towards the south from Turkmenbashi bay; also limited is its population in the region of rocky areas of sea, in Kara-Bogaz-Gol. Disappearance of marine zander in wetlands of the Turkmen

shore (as well as in other parts of the Caspian) has increased following intensification of hydrocarbon activities and, hence, pollution.

**Birds.** Out of 289 species of birds inhabiting wetlands, 43 refer to rare and endangered species. Among them 24 species have been registered in the Red Book of Turkmenistan (1999, hereinafter referred to RBT), the rest 19 species require preservation.

1. *Pelicanus crispus* – dalmatian pelican (RBT) –fly-over, hibernation 7-53 species, Esengyly kultuk, Krasnovodskaya kosa.
2. *P. Onocrotulus* – white pelican (RBT) – fly-over 12-15 species, Balkan Bay
3. *Ciconia nigra* – black stork (RBT) – fly-over, isolated species, high waters of Atrek river
4. *Phoenicopterus roseus* – flamingo (RBT) – fly-over, hibernation 6.0-19.8 thousand species, Balkhanskiy, Mikhailovskiy Bays
5. *Anser erythoropus* – lesser white-fronted goose (RBT) – is few in Balkan Bay during fly-over, sporadically winters in high waters of Atrek river.
6. *Oxyura leucocephala* – leatherback (RBT) – has been observed during fly-over, sporadically winters, 125-1300 species. Turkmenbashi, Balkan Bays.
7. *Aquila chrysaetos* – golden eagle (RBT) – few, fly-over in Krasnovodskaya kosa, Ufra peninsula, Dagada island, sea shore of Chikishlar-Esengyly.

North-western part of Turkmenbashi bay belongs to Turkmenbashi society of hunters and fishermen. The area is about 9.0 thousand hectares. It is protected from winds and sea roughness and is characterized by developed flora of subsea aquatic plants (9 species). The development of surface aquatic plants (*Phragmites …nes*, etc.) is at initial stage. The area is also rich for zoobenthos (16 species). Favorable natural ecological conditions contribute to mass winter and migrating concentrations of water-fowls and near-water birds (their number sometimes reaches 19.6-49.4 thousand species), feeding areas for whitebait of shads and gray mullet and recent mass runs of roach and common carps (with spawning attempts) as well as whitebait of sea zander.

Wetland ecosystems in the South-eastern Caspian are represented by major and minor bays, shallow offshore areas, shoals protected from intensive sea roughness (within which heavy waves, currents and other types of hydrological and wind impact are suppressed) as well as channels and bays (temporary and permanent). Based on their localization, nature and bio-significance they are divided into three regions of the Caspian shore within the territory of Turkmenistan.

Central Part consists of the system of major bays separated to great extent from open part of the sea by Krasnovodskaya and North-Chelekenskaya kosa and adjacent to each other.

The wetlands of this part are distinguished, with a limited exception, for being part of Khazar state reserve and reserve on Ogurchinskiy island. Numerous legislative acts of Turkmenistan, practical activities of the reserve staff ensure preservation of environmental complex in natural state. Owing to unique peculiarities of this environmental complex the system of bays has been conferred the status of wetlands of international significance (UNESCO Conference in Ramsar, 1971). To ensure full operation of Khazar reserve Turkmenistan should ratify Convention on wetlands of international significance as Wildlife Habitats.

Among other potential bioresources to undergo impact in case of emergency spills arer representatives of higher water plants; coastal diving, water birds and waders (gulls, terns, cormorants, flamingo, etc); sea fish, coastal fish and species feeding on phytoplankton, Crustacea (shrimps and crawfish), reptiles (sea serpents) and Caspian seal.

### Parameters of the Caspian marine environment

1. Characteristics of water column

Average Annual Temperature – 15.20C, monthly fluctuations – 5-200C; PH – 8/3; Conductivity (saltiness) – 12.9 g/l; Transparency – in calm weather 5-7 m;

Data on currents – prevailing are north, south and south-western directions (--%)

Laboratory analyses, nutrients, total content of organic carbons, phenols and hydrocarbons (in the region of Cheleken)

* Turbidity, suspended total (14 mg/l); Nitrates – 0.005 mg/l; Phenols – 0.002 mg/l;
* Ammonia nitrogen – 0.14 mg/l; - Total Hydrocarbons – oil products, usually at 0.05 mg/l. Phytoplankton of the Middle Caspian is represented by 82 species among which 71 species are southern ones with their biomass making up respectively 278.0 mg/m3 and 277.8 mg/m3.

Zooplankton of the Middle Caspian is made up by 60 species with southern species – 37 and biomass making up respectively 96.3 mg/m3 and 92.0 mg/m3

1. Characteristics of bottom sediments Hydrocarbon content in sediments – 0.33 mg/100 g

|  |  |  |  |
| --- | --- | --- | --- |
| Term | Water depth (m) | Bottom sediments | Morphology |
| Inner shelf | 10-50 | Enrichment of water and soils with multi- component allochthonous substances |  |
| Outer shelf | 50-80 | Same as above |  |

### Fauna of sea bottom

**Number of species** – Number of benthos species is greater in the zone of inner shelf than outer one. At major depths arctic species of Crustacea and sometimes Oligochaeta and larvae of chironalidae are met.

|  |  |  |
| --- | --- | --- |
| Geographic zone | Inner shelf | Outer shelf |
| Average Number of species per a sample | 300-4.760 species/m2 (based on number Polychaeta and based on biomass mollusks prevail) |  |

**Biomass** – In the Middle Caspian biomass reached 200.2 g/m2, the dominating species were mollusks, worms and Crustacea. In the South Caspian biomass of benthos made up 65.0 g/m2. Maximum of biomass of bottom organisms has been preserved in the zone of inner shelf.

Diversity of species – In the eastern part of the South Caspian some 380 species of bottom animals are met. The dominating based on biomass are mollusks. Maximum development of bottom animals has been recorded at the island of Ogurchinskiy.

|  |  |  |
| --- | --- | --- |
| Fauna Group | Zone of Inner Shelf | Zone of Outer Shelf |
| Mollusks | 70.3 % of total biomass |  |
| Crustacea | 29.7% of total biomass |  |
| Middle Caspian South Caspian | 200.2 g/m2  65.0 g/m2 |  |

**Domination of species and zoning of depths** – Maximum concentration of bottom animals is observed on the depths of 10-50 m and minimum - at up to 10 m and 200-900 m. At major depths biomass of benthos makes up not more than 0.2 g/m2

**Distribution of some important species based on depths** – In deep water parts of the Caspian biomass of benthos in average is 200 times less than on the depths of 10-50 m. Dominating are mollusks (exotic and indigenous species).

### Economic Resources (fisheries, coastal resorts, agricultural lands)

Characteristic feather of Balkan region is pasture and live farming as well as utilization of mineral resources and sea resources.

Balkan region (former Krasnovodskaya oblast) is part of Western-Turkmen socio-economical region occupying the most extensive area of the country of 13850 thousand hectares or 28.5% of Turkmenistan territory.

### Agricultural development of coastal territories

Main branch is made up by karakul sheep breeding and camel breeding while coastal industries are represented by fishery. Catch volumes of fish in total make up 50 thousand tons per year.

Diversity of environmental conditions leaves trace on economic use of the lands of region. This is one of the parts in the country where industrial specialization is strongly felt, which is related to huge reserves of oil, gas and some chemical raw materials. Due to lack of fresh water sources from agricultural point of view the region has been poorly developed. The city and rural population involved in industry and transport spheres in Balkan region is excessively localized and does not possess agricultural surroundings.

Arid regions occupy huge territory between urban settlements.

The following types of land use could be listed on the territory of Balkan region:

1. Lands used in production sphere
2. Lands of active economic development with production and refinery centers
3. Lands of perennial grazing of sheep and camels;
4. Lands of Krasnovodkaya plato and kyry, used on a round-the-year basis for cattle grazing;
5. Lands to be developed for irrigation;
6. Lands of arid sub-tropics with areas of irrigable lands in the river valleys of Atrek and Sumbar;
7. Highlands for grazing and haylands;
8. Saline lands and other non-used lands;
9. Prospective plough-lands.

### Recreational use of coastal territories

On the territories under question tourism and resort activities have been developed only for internal needs, due to which infrastructure of tourism industry has been left poorly developed and is currently represented by a number of recreation bases owned by various organizations.

Below given is a list of those bases on the coast of the Caspian:

|  |  |  |
| --- | --- | --- |
| 1 | Recreation base of TPS | Per 250 people |
| 2 | Tourist Base of TNPZ | Per 150 people |
| 3 | “Turkmenistan” Recreation Base of TNPZ | Per 150 people |
| 4 | Khazar Airport | Per 150 people |
| 5 | City Food Web of Turkmenbashi | Per 100 people |
| 6 | Recreation Base of Military Quarters | Per 200 people |
| 7 | “Bringantina” Recreation Base of Hakimlik | Per 300 people |
| 8 | Recreation Base of Consumers Union | Per 200 people |
| 9 | Recreation Base of Railway Institutions | Per 100 people |
| 10 | Recreation Base of Polytechnical University (Ashgabad) | Per 50 people |
| 11 | Gardener’s Society | Per 60 people |
| 12 | Recreation Base of “Vnesheconombank” (Ashgabad) | Per 300 people |
| 13 | Recreation Base of “Investbank” (Ashgabad) | Per 100 people |
| 14 | TNPZ | Per 250 people |
| 15 | “Avaza” Tourist Base | Per 75 people |
| 16 | “Khazar” Recreation Base owned by “Turkmenship” JSC | Per 100 people |
| 17 | “Karshi” Recreation Base | Per 80 people |

The most favorable conditions for recreation have been created on the coastal area from Krasnovodskaya kosa to Bekdash settlement. The area is distinguished for high marks of coastal zone, favorable relief of bottom, quality of sand beaches, availability of asphalt roads. Uniqueness of

environmental complex of Turkmen coast will surely attract tourists from other countries, for which construction of comfortable tourist bases with service packages as well as automobile transport, marine vessels and working out of tourist routes are required.

### Fish stock

Some 4 thousand tons of shads, 0.8 thousand tons of roach, 0.8 thousand tons of sea zander, 0.6 thousand tons of common carp, 0.55 thousand tons of gray mullet and 60 thousand ton of sprat in 1970 were caught in Turkmen sector of the Caspian occupying 21% of water area of the sea.

In 1990 catches made up: 40.7 thousand tons of sprat in the South Caspian; i.e. catch volumes reduced by 1.5 times; 0.13 thousand tons of roach – reduction by more than 6 times; 0.05 thousand tons of common carp – 12 times reduction. Sea zander has not been met since 1972.

Leading factor determining number of roach and common carp generations is water regime of Atrek river, in the lower course of which their reproduction takes place. Water regime is extremely unstable. For instance, in 1984, 1986, 1990 and 1991 water did not flow in the lower course and spawning of fish did not take place at all. Adjiyab melioration complex (introduced in 1975) due to constructive deficiencies and deviations of the project upon construction has not been fully fulfilling its purpose in reproduction of fish in the region as a result of which significant decrease in catch occurs.

Owing to acclimatization of black sea gray mullets in the Caspian Sea a huge run of valuable commercial fish has been formed. Maximum catch of gray mullet in Turkmen waters was recorded in the middle 1950s (up to 550 tons). Based on studies of specialists the stocks are numerous enough (catch could be increased up to 800 tons) but poorly developed. Mainly, fish associations catch fish near basic location – Kiyanly bay, close to Esengyly, Chekishlar settlements, outside of preserve area of Turkmenbashi bay. Over the recent years catches have made up less than 40-50 tons. The main reasons are lack of scientifically proved search of accumulations during the year, poor arrangement of fishery and the lack of efficient facilities and catching methods.

Number of shads based on recent assessment of species of Turkmenbalik Company makes up 23-30 mln species, which corresponds to biomass of 6.6-8.6 thousand tons and maximum possible catch of fish without any damage to population totals to 2.2-3.6 thousand tons.

Prior to prohibitions, sturgeon fishery at Turkmen coast was based in Esengyly region and up to 1800 tons of sturgeons were caught in the mid 1930s.

Economics of Balkan region is supported basically by the resources of sea and its coastal part. In particular, industrial development started with development of fields of fuel and energy as well as mineral resources of the littoral zone. As a result of the process the industrial centers like Turkmenbashi, Balkanabat, Bekdash, Khazar, Ekerem, Goturdepe and other were formed. Later other branches – power, construction, refinery, food, machinery construction, light industry were formed. However, the most significant industries at present are oil production, oil processing, chemical and power industries. Thus, based on production share of power Balkan region takes up the second place in the country producing 2500 kWt-hr, which makes up approximately one thirds of total production. Based on oil production – more than 3 mln tons per year – it takes up the first place. Production of mirabilite, bromine, iodine and technical carbon has been concentrated on the territory of Balkan region.

The major industrial plants in the littoral zone are “Karabogassulfat” in Bekdash, Refinery and power plant in Turkmenbashi, “Chelekenneft” Oil and Gas Production Division, chemical and carbon plants in Khazar.

The biggest port on Turkmen coast of the Caspian is situated in Turkmenbashi and is used for cargo shipments (oil and oil products, containers, bulk materials, etc), fishery as well as passenger shipments and transport.

Referring to smaller ports are those situated in Khazar – berthing for auxiliary vessels of oil producers, port Alaja in the South-Cheleken bay – handling oil loading vessels and bulk cargo, port in Bekdash – serving bulk cargo, port in Ekerem – handling oil loading vessels. At present vessels of Turkmen marine fleet are directly linked with Mediterranean and Baltic ports. The main routes inside the Caspian are Turkmenbashi-Baku, Turkmenbashi-Astrakhan, Turkmenbashi-Bender-Anzali, Khazar- Bender-Anzali.

### Types of grounds and soils (for onshore operations)

Several types of coasts are distinguished on Turkmen coast: without abrasive-accumulative processes, accumulative, abrasive and abrasive-accumulative.

Abrasive-accumulative coast is timed to Atrek, Kyzylkum, Kelkor and Balkhan sags where subsea slope of coast has practically horizontal structure and the sea depth is low.

Accumulative coasts are timed to distant dips of anticlinal structures of Gograndag-Okarem, Near- Balkan and Dardijan zones of rises. The most distributed are layers having been formed during sea regression period. Subsea coast has slight slope and depth. These forms also form accumulative terraces and beaches.

Abrasive coasts are timed to anticlinal structures of Okarem, Kamyshldja, Cheleken and towards rocky layers.

The coast in such parts is deep and has a significant slope.

Abrasive and accumulative coast is within Krasnovodskaya and Karabogazgol kosa of Turkmenbashi bay and Dardja peninsula. Subsea slope has significant inclination for development of abrasive processes, for which island and peninsula parts of barkhans are typical.

Based on soil characteristics, dominating in the Caspian are sands with a spot of insignificant saline lands, saline lands, sandy-desert and gray-brown saline lands.

***Attachment 4***

### Existing or archival meteorological data

The Caspian Sea refers to the category of rough seas. From November to March roughness on the whole of the sea reaches 6 points. The more quiet period is from May to July. The climate of the Caspian is influenced in winter period by arctic ridges of Asiatic anti-cyclone and in summer period by the Azov and southern cyclones causing gales. Western and northwestern invasions cause thunderstorm and showers on the coast of the Caspian. Dominating wind rates are about 4-6 m/sec. Number of days with dusty winds (more than 15 m/sec) reaches 40. Bottom relief is expressly presented by three forms

– shelf, continental slope and floor of deep-water hollows. Shelf goes from coastal line to the depth of more than 100 meters.

In the Middle and South Caspian surface currents form cyclonic circulation conditioned by the influence of winds and surface run-off.

### Air Temperature

Air temperature in sea changes insignificantly as compared to onshore area. Maximum values do not exceed +350C and minimum values are not lower than 60C, which is explained by mild impact of sea water mass. Maximum of temperatures is observed in July-August period whereas minimum – during January-February period. Average annual temperature varies in the range of +13 - +170C.

Average annual date of transition of average daily temperature of air through +50C occurs on 24 February and 23 December and transition of average daily temperature respectively – through +150C – on 30 April and 26 October as well as through +250C – on 4 July and 6 September. Average annual number of days with the temperature below –60C is equal to 38 days; in some years intensively cold weather is not observed at all. Average annual number of days with average daily temperature of above

+300C is equal to 6 days.

### Air moisture

Average monthly values of relative air moisture are characterized by relatively equal distribution in the year. Thus, maximum values are observed in cold periods and with low air temperatures reach 86%. Upon temperature increase in warm periods the moisture decreases and changes within 65-70%. Amplitude of changes of average monthly air moisture in the course of year does not exceed 20%.

In some cases during summer advective fogs moisture can reach its maximum value – 100%. However, this is observed only in winter period of the year. During eastern winds air moisture sometimes decreases to 50%, which is not typical on the whole.

### Precipitation

Precipitation volume fluctuations could be significant from year to year. During heavily rainy years precipitation could be 1.5 times more as compared to long-term data whereas during arid years precipitation volume decreases to 50% of its long-term value. Annual precipitation norm is 111 mm and minimum annual volume of precipitation is equal to 53 mm. Over the recent years decrease in fall- out has been observed, annual sum of which is significantly lower than the norm.

In the average in the course of year precipitation prevails during cold period of year (November- March); precipitation deficiency is observed in summer and early autumn. Rare showers do not significantly influence annual precipitation distribution.

The most part of precipitation fall out in the form of rain, mixed precipitation make up 12% of the total precipitation volume whereas hard precipitation – up to 5%.

***Attachment 5***

### Logistics for Response Operations

**Tukmendanizyollari Office**

Operations are directly related to the Caspian Sea. The office consists of the divisions of Turkmenbashi port: Ferry Terminal, Terminals for general and bulked cargo, Oil Terminal, Emergency Rescue and Subsea-Technical Operations Crew inclusive of nautical service and Alaja port.

All moored vessels of secondary fleet are equipped with technical facilities for collection and hand- over of bilge waters and dry waste. Bilge waters are collected by the collector of “Crab” waters, 1522U Project. As water is collected, it is transported to the treatment station at handling point of offshore reloading store. Dry waste collected from vessels is removed by autotransport to municipal dump area. All vessels are supplied with operations registration log on sewage and dry wastes.

To rapidly localize and liquidate emergency oil spill in the region of oil terminal “Alferas” speed-boats supplied with booms and “Jupiter” oil skimmer are used.

Turkmendanizyollari Office has worked out “Instructions for Interaction in case of major emergency oil spills” in water area of Turkmenbashi port and its region. The instructions have been elaborated with active participation of the leaders of coastal organizations possessing technical facilities and fleet. Expressly specified in the instructions are functions of interaction process and technical facilities used during spill, its localization and collection.

However, it should be mentioned that the service life of slick bars is limited. So, the slick bars are to be replaced once per 3-5 years. At present there exists a need as a minimum for 2000 meters of efficient slick bars and 100 meters of stationary slick bars.

The Office should purchase three modern universal oil skimmers since turnover of oil products has increased not only on the oil terminal of Turkmenbashi port, Okarem port, but in Alaja port as well due to development of new offshore fields and construction of offshore reloading store.

### Military Flush-Prevention Crew

To liquidate open oil and gas gushers the Military Flush-Prevention Crew has been equipped with the following facilities:

* Articulate hydro bringers put on the gushing well both with saving base and without it
* Hydro device for connection with drilling tool under the flow
* Rope tool set for replacing BOP on the gushing well
* Device for reverse of kelly under pressure
* Tool for drilling pipe, choke, walls of housings and elements under pressure
* Plug pumping device for removing of fluids in the locking equipment
* Device for replacing basic plugs of production trees under pressure (with 65mm, 80mm nominal bores on 21 Мpa & 14 Мpa working pressure)
* Hydrodevice for replacing side plug under the flow
* Universal, tool pipe cutters for cutting of НКТ, drilling pipes and casing in range of 60mm to 426mm and more
* Hydrodevices for positive carry into the hole under pressure

***Attachment 6***

### Actions of Operator’s Personnel involved in implementation of Plan Brief Description of functions and responsibilities of every employee

1. **Responsibilities of Supervisor on liquidation of spill**

Supervisor shall act as follows:

* 1. following review of the situation, immediately start implementation of activities having been stipulated by the operations’ part of the spill response plan as well as supervise operations on rescue of personnel and liquidation of spill;
  2. establish a Control Center, inform all employees of its location and not leave the Center; Note: Upon liquidation of spill only two men directly involved in liquidation operations shall be present in the Control Center;
  3. verify whether rescue and fire crews and officials have been phoned and whether relevant organizations (as per Attachment) have been notified of spill;
  4. monitor implementation of activities stipulated by operations’ part of plan as well as orders and tasks put forward;
  5. adequately instruct heads of interrelated and neighboring departments and sites;
  6. upon spills persisting for more than 1 hour develop rapid operations plan on rescue of personnel and liquidation of spill jointly with heads of departments and rescue crew and in case of fire – with head of fire crew and instruct Rescue Crew, Fire Crew and other chiefs in writing with respect to activities to be implemented;
  7. issue orders on move of personnel out of hazardous areas and erection of posts on spill points, etc;
  8. report to higher organizations and hakimlik (Mayor) of the region on the status of operations and decide on the need for involvement of rescue and fire crews of the neighboring organizations;
  9. assign responsible men to keep operations’ log on spill liquidation;
  10. instruct head of security team on the posts to be put in the access ways to the site of spill;
  11. issue permit for rehabilitation and maintenance operations and start-up activities upon liquidation of spill.

### Responsibilities of Control-man

The Control-man shall act as follows

* 1. inform pre-listed individuals and organizations upon receipt of the notification on spill;
  2. assume responsibilities of Supervisor, take measures on rescue of personnel and liquidation of spill based on the plan in case of minor spills prior to arrival of Chief Engineer (Manager); operations point for liquidation of spill in this case shall be the workplace of Control-man;
  3. take all necessary actions for rescue of personnel and liquidation of spill at its initial stage or actions necessary to stop spread of spill;
  4. inform on the status of operations as well as on the rescue process of personnel and liquidation of spill, advise all leaders involved in liquidation of new operations’ point location and receive commands of Supervisor following arrival of chief engineer (manager) of the company.

### Responsibilities of the Head of Rescue Crew

The head of rescue crew (voluntary crew) shall act as follows:

* 1. supervise rescue operations based on Supervisor’s instructions and Operations’ Plan;
  2. arrange timely call of backup and free shifts of rescue crew to the site of spill;
  3. provide from his own stock protective equipment, tools and materials necessary for rescue and hazardous operations as well as individuals appointed by Supervisor to assist the rescue crew;
  4. keep in continuous contact with Supervisor and determine upon prior agreement with Supervisor gas dangerous area, following which put warning signs and duty posts out of rescue crew people and personnel of the company; ingress in gassy area shall be permitted only by the Chief of Rescue Crew or his replacement;
  5. periodically inform Supervisor on the status of operations;
  6. independently perform activities based on the Plan prior to arrival of Supervisor.

### Responsibilities of Director (Deputy Director) of Company

Director of Company shall act as follows:

* 1. immediately reach the office and inform Supervisor of the spill;
  2. arrange timely first-aid assistance to the people suffered as a result of spill;
  3. take necessary measures to involve experienced personnel in tour-teams as well as in operations related to spill and arrange timely delivery of required materials and facilities based on inquiries of Supervisor;
  4. provide operations of emergency and materials’ warehouses and procurement of materials and instruments to spill site;
  5. manage transportation;
  6. arrange catering and recreation of rescue-men and personnel involved in spill liquidation upon emergency operations performed for more than 6 hours;
  7. inform relevant organizations of the spill nature and status of operations.

### Responsibilities of Site Manager (Rig, Platform Managers)

Prior to arrival of Supervisor the Manager of the Site, on which the spill has occurred shall assume responsibilities of Supervisor, follow Oil Response Plan and act as follows:

* 1. arrange teams out of personnel and other specialists with skills in the use of protective equipment and shall manage their operations;
  2. specify status of technological process to prevent any potential complications and create necessary conditions for successful liquidation of spill as instructed by Supervisor;
  3. maintain normal technological process depending on the situation: whether to switch over to a more suitable and rapid shut-down mode or shut-down the process completely.

### Responsibilities of Shiftman

Shiftman of the site, on which the spill has occurred, whether personally or through responsible personnel shall immediately call rescue crew or fire crew and notify control-man of the spill.

At the same time shiftman shall take necessary measures on rescue of personnel and liquidation of spill guided by the oil response plan to the extent permitted by the situation on site.

### Responsibilities of Chief Mechanic and Chief Power-man of the Company

Chief Mechanic and Chief Power-man or their assistants shall act as follows:

* 1. arrange teams of foremen, electricians and locksmiths out of personnel of maintenance and electrical shops and schedule their continuous shifts for spill response operations and rehabilitation of normal operations;
  2. provide switch-on or switch-off of power supply, normal operation of electrical and mechanical equipment, trouble-free communication and alarm system operation, smooth operation of hydro-, steam-, air-, gas-mains as instructed by Supervisor.

### Responsibilities of foremen and personnel of company

Foremen and personnel (of drilling rig, platform, vessel) shall act as follows:

* 1. immediately notify Control-man of the spill;
  2. take measures on move of personnel out of the area and liquidation of spill (based on oil response plan);
  3. when necessary and to prevent complications, shut-down technological process;
  4. when being out of site area and upon notification of spill, immediately visit Supervisor to receive assignment

### Responsibilities of other personnel involved in spill liquidation

***Telephone Operator***. Upon receipt of notification on spill telephone operator of the Company shall stop any conversations of no direct relevance to the spill and start notifying personnel and organizations based on a pre-worked out list of those personnel and organizations;

***Doctor*** at first-aid station shall immediately render first aid to personnel suffered and supervise transportation of personnel to hospital, arrange continuous duty of medical personnel throughout the spill liquidation period.

### Chief of Fire Crew shall act as follows:

1. supervise operations on fire extinguishing based on Supervisor’s instructions;
2. arrange timely call of backup and free shifts of fire crew to the spill site;
3. provide fire extinguishing means, instruments and equipment out of his own stock for personnel of Company assigned by Supervisor to assist the crew in fire liquidation activities;
4. maintain continuous communication with Supervisor and systematically inform the latter of the status of fire extinguishing operations;
5. prior to arrival of Supervisor, independently perform operations on fire extinguishing based on activities stipulated by oil response plan and depending on the situation;
6. upon request of Supervisor, chief of fire crew shall supply materials and equipment available for liquidation of any spill.

**ANNEX 3**

**DIRECTORY OF RESPONSE PERSONNEL**

**AND INVENTORY OF RESPONSE EQUIPMENT, PRODUCTS AND OTHER MEANS**

**WHICH EACH PARTY MIGHT OFFER AS ASSISTANCE**

**IN THE EVENT OF ACTIVATION OF THE PLAN**

Table 3.1 Directory of response personnel and inventory of response equipment, products and other means which might be offered as assistance in case of activation of the Regional Plan for Co-operation.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Location A** | | | | **Location B** | | | | **Location C** | | | | **Location D** | | | | **Comments** |
| **COUNTRY: Turkmenistan** | **GOVERNMENT“Turknemdenizderiaeelary”agency** | **OIL INDUSTRY State Concern “ Turkmenneft”** | **SHIPPING INDUSTRY** | **OTHER CONTRACTORS State Concern “Turkmengaz”** | **GOVERNMENT** | **OIL INDUSTRY** | **SHIPPING INDUSTRY** | **OTHER CONTRACTORS** | **GOVERNMENT** | **OIL INDUSTRY** | **SHIPPING INDUSTRY** | **OTHER CONTRACTORS** | **GOVERNMENT** | **OIL INDUSTRY** | **SHIPPING INDUSTRY** | **OTHER CONTRACTORS** |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **PERSONNEL AND SUPPORT** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **EXPERTS** | **2** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **STRIKE TEAMS** | **3** | **2** |  | **1** |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **TRAINED PERSONNEL** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| PROJECT MANAGERS | 1 |  |  | + |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SUPERVISORS |  | 8 |  | + |  |  |  |  |  |  |  |  |  |  |  |  |  |
| OPERATIONS |  | 105 |  | + |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **COMMUNICATIONS EQUIPMENT** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| FIXED VHF UNITS  PORTABLE VHF UNITS | 4 | 2\*  3\* |  |  |  |  |  |  |  |  |  |  |  |  |  |  | \*the number of stations available in stock is indicated |
| **SPECIALISED DIVING EQUIPMENT** | **1** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **EQUIPMENT AND PRODUCTS** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **AIRCRAFT** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SURVEILLANCE AIRCRAFT  AERIAL SPRAYING AIRCRAFT |  | 0  0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Location A Khazar** | | | | **Location B** | | | | **Location C** | | | | **Location D** | | | | **Comments** |
| **COUNTRY: Turkmenistan** | **GOVERNMENT**  **“Turknemdenizderiaeelary”agency** | **OIL INDUSTRY DRAGON OIL** | **SHIPPING INDUSTRY** | **OTHER CONTRACTORS State Concern “Turkmengaz”** | **GOVERNMENT** | **OIL INDUSTRY** | **SHIPPING INDUSTRY** | **OTHER CONTRACTORS** | **GOVERNMENT** | **OIL INDUSTRY** | **SHIPPING INDUSTRY** | **OTHER CONTRACTORS** | **GOVERNMENT** | **OIL INDUSTRY** | **SHIPPING INDUSTRY** | **OTHER CONTRACTORS** |  |
| **RESPONSE VESSELS** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ANTIPOLLUTION VESSELS  SURVEY VESSELS  MULTIPURPOSE VESSELS  SKIMMING VESSLES  TUG SUPPLY VESSELS  FIRE FIGHTING VESSELS | 1  1 | 0  0  0  0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **CARGO/BUNKER TRANSFER UNITS** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| TRANSFER PUMPS  HOSES (m)  FENDERS  INERT GAS GENERATORS |  | 19  400\*  0  0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | \*Kits of different sizes and compositions are available. They are usually supplied together with collection systems (skimmer) and storage tanks for ease of transportation. The length of each set ranges from a couple of meters to 20 meters. |
| **BOOMS** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| HARBOUR BOOMS (m)  INSHORE BOOMS (m)  OFFSHORE BOOMS (m) | 400 | 1650  120  880 |  | 50  800 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **RECOVERY DEVICES** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SKIMMERS  PUMPS | 2  2 | 11  1 |  | 6  9 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **DISPERSANT APPLICATION SYSTEMS** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| VESSEL-MOUNTED EQUIPMENT  REMOVABLE EQUIPMENT |  | 0  0 |  | 2  1 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **BEACH CLEANING UNITS** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| PRESSURE CLEANERS  VACUUMS UNITS |  | 0  0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **LAND RESPONSE VEHICLES** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| TRUCK WITH EQUIPMENT (OIL) |  | 0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Location A** | | | | **Location B** | | | | **Location C** | | | | **Location D** | | | | **Comments** |
| **COUNTRY: Turkmenistan (Khazar)** | **GOVERNMENT**  **“Turknemdenizderiaeelary”agency** | **OIL INDUSTRY DRAGON OIL** | **SHIPPING INDUSTRY** | **OTHER CONTRACTORS State Concern “Turkmengaz”** | **GOVERNMENT** | **OIL INDUSTRY** | **SHIPPING INDUSTRY** | **OTHER CONTRACTORS** | **GOVERNMENT** | **OIL INDUSTRY** | **SHIPPING INDUSTRY** | **OTHER CONTRACTORS** | **GOVERNMENT** | **OIL INDUSTRY** | **SHIPPING INDUSTRY** | **OTHER CONTRACTORS** |  |
| **STORAGE UNITS** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| STORAGE BARGES  PORTABLE CONTAINERS  COLLAPSIBLE TANKS |  | 18 |  | 2  10 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **POLLUTION TREATMENT PRODUCTS** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| DISPERSANTS  HC BASED  CONCENTRATE  SORBENTS  DE-EMULSIFIERS | 150 pcs | Yes\*  0  0  Yes\*\*  0 |  | 2900 litres  38 bags |  |  |  |  |  |  |  |  |  |  |  |  | \* 15 barrels of dispersants for oil spill response "NALCO EC9500A".  \*\*Absorbent materials are stored in oil spill response kits, i.e. in special containers, on offshore stationary platforms and onshore production facilities. |

**ANNEX 4**

**COMMUNICATIONS SYSTEM**

Section 5 of the Regional Plan for Co-operation establishes the principle that each Party shall establish and maintain an efficient communications system, operational 24 hours a day. The following tables provide information on:

* telephone, fax and telex numbers and e-mail addresses of national operational authorities and of their respective national emergency response centres;
* relevant coastal radio stations;
* VHF channels agreed by the Parties for use in pollution response operations;
* MF frequencies that can be used for communication in case of spill response operations

TABLE 4.1: TELEPHONE, FAX AND TELEX NUMBERS AND E-MAIL ADDRESSES OF NATIONAL OPERATIONAL AUTHORITIES AND OF THEIR RESPECTIVE NATIONAL EMERGENCY RESPONSE CENTRES

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | | **AZERBAIJAN** | **IRAN** | **KAZAKHSTAN** | **RUSSIAN FEDERATION** | **TURKMENISTAN** |
| Country codes  (dialling-in codes) | |  |  |  |  | +993 |
| National  Government  Authority | Tel |  |  |  |  | + (993 243) 4-94-84  + 993 12 40 36 01  + 993 12 40 30 33 |
| Fax |  |  |  |  | + (993 243) 6-07-44,  + (993 243) 4-95-31  + (993 12) 40 31 55 |
| Tlx |  |  |  |  |  |
| Email |  |  |  |  | [info@tmrl.gov.tm](mailto:info@tmrl.gov.tm)  [tmrl.foreign\_dept@sanly.tm](mailto:tmrl.foreign_dept@online.tm)  turkmennebit@online.tm |
| National  Operational  Authority | Tel |  |  |  |  | + (993 243) 4-94-84  + (993 12) 40 39 75 |
| Fax |  |  |  |  | + (993 243) 4 93 33,  + (993 243) 6-07-44  + (993 12) 40 39 75 |
| Tlx |  |  |  |  |  |
| Email |  |  |  |  | [turkmennebit@online.tm](mailto:turkmennebit@online.tm); [nebit.wes@online.tm](mailto:nebit.wes@online.tm) |
| Emergency  Response Centre | Tel |  |  |  |  | + (993 243) 4 91 28  **+ (993 65) 058011**  **+ (993 12) 398000**  **+ (99365) 032950[[2]](#footnote-3)**  **+ (99312)933091**  **+ (9714)3053700** |
| Fax |  |  |  |  | (+993 243) 4 93 33,  (+993 243) 6-07-44  **+ (993 12) 39 80 20**  **+ (993 12) 93 30 75**  **+ (971 4) 305 37 53[[3]](#footnote-4)** |
| Tlx |  |  |  |  |  |
| Email |  |  |  |  | [tmrl.foreign\_dept@sanly.tm](mailto:tmrl.foreign_dept@sanly.tm)  [tmrl.ab@online.tm](mailto:tmrl.ab@online.tm); [eccturk@petronas.com.my](mailto:eccturk@petronas.com.my)  **hazreceptn@dot.dragonoil.com** |

TABLE 4.2: RELEVANT COASTAL RADIO STATIONS

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Country | **AZ** | **IR** | **KZ** | **RF** | **TURKMENISTAN** | | |
| Coastal Radio Station |  |  |  |  | “Turknemdenizderiaeelary” agency | Oli company “DRAGON OIL” | State Concern “Turkmengaz”, “Petronas Carigali (Turkmenistan) SBN BHD – PC(TC)SB”Block B, Turkmenbashy shayoly, Ashgabat, 44027  Kiyanly, 28 км, Turkmenbashi etrap, Balkan velayat. 745000, Turkmenisatn |
|  |  |  |  |  | Turkmenbashi International Sea Port | Motorola VHF | 40º 10’69” N, 52º 45’26” E |
| Telephone |  |  |  |  | (+993243)4 91 28 | +(99312)933091 +(9714)3053700 |  |
| Fax |  |  |  |  | (+993243)-4 93 33 | +(993 12) 93 30 75 +(971 4) 305 37 53 |  |
| Telex |  |  |  |  |  |  |  |
| INMARSAT |  |  |  |  | SAILOR® 6110 MINI-C GMDSS (9-9,5 GHz) |  | Sailor RE-2100 |
| … |  |  |  |  | Tx1626.5 – 1660.5 MGs |  |  |
| ... |  |  |  |  | Rx 1525.0 – 1559.0 MGs |  |  |
| MF radio channels |  |  |  |  | VHF156-174GHz | DOTL CH2 155.7750 |  |
| MF radio channels |  |  |  |  | VHF AM 121.500 MGs | DOTL CH2 161.2500 |  |
| MF radio channels |  |  |  |  | MF-HF 2182MGs; 4125MGs | DOTL CH8 150.3750 |  |

TABLE 4.3: MF FREQUENCIES THAT CAN BE USED FOR COMMUNICATION IN CASE OF SPILL RESPONSE OPERATIONS

|  |  |  |  |
| --- | --- | --- | --- |
| COASTAL RADIO STATION | FREQUENCY FOR USE IN POLLUTION RESPONSE  (TxRx-carrier) | ORDINARY FREQUENCY  (BACK-UP)  MF (Tx-carrier) | ORDINARY FREQUENCY  (BACK-UP)  HF (Tx-carrier) |
| Azerbaijan radio station A |  |  |  |
| Iran radio station B |  |  |  |
| Kazakhstan radio station C |  |  |  |
| Russian Federation radio station D |  |  |  |
| Turkmenistan radio station E |  |  |  |

TABLE 4.4: VHF CHANNELS AGREED FOR USE IN POLLUTION RESPONSE OPERATIONS

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CHANNEL | 10 | 67 | 73 | 16 | 6 | 8 |
| FREQUENCY  (MHz) | 156.500 | 156.375 | 156.675 | 156.800 | 156.300 | 156.400 |
| USE | Pollution response | Pollution response | Pollution response | Distress/  safety | SAR | Intership |

**ANNEX 5**

**NATIONAL MAPS**

showing possible sources of pollution, environmentally sensitive areas, priorities for protection, and areas where the use of dispersants is allowed, restricted or forbidden

**(to be provided by each Party in accordance with Section 3.8 of the Plan)**

1. Turkmen Party has appointed **three** state bodies as the responsible authorities for the providing preparedness and response to incidents causing oil pollution. [↑](#footnote-ref-2)
2. The numbers of Turkmengaz Group are in bold, the numbers provided by Turkmenneft Group - highlighted in yellow [↑](#footnote-ref-3)
3. Red font number is in Dubai [↑](#footnote-ref-4)