

Document title: EMERGENCY RESPONSE MANAGEMENT PLAN

Document number: 1062-TGN-MNG-PLN-PJM-22-00015

Project: THE DEVELOPMENT OF THE ROMANIAN GAS TRANSMISSION SYSTEM ALONG BULGARIA-ROMANIA-HUNGARY-AUSTRIA ROUTE, PODISOR – GMS HORIA AND 3 NEW COMPRESSOR STATIONS (JUPA, BIBESTI AND PODISOR) (PHASE 1) (REFERENCE NUMBER IN EU LIST: 6.24.2)

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Abbreviations

Abbreviation	Description
C	Constructor
CERMP	Construction Emergency Response Management Plan
CESMP	Construction Environmental and Social Management Plan
EBRD	European Bank of Reconstruction and Development
ER	Environmental Responsible
ERMP	Emergency Response Management Plan
ERP	Emergency Response Plan
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
EU	European Union
F-CESMP	Project Framework Construction Environmental and Social Management Plan
GCS	Gas Compressor Station
GD	Government Decision
HMMP	Hazardous Materials Management Plan
HSE-MS	Health, Safety and Environmental Management System
HSSEC	Health, Safety, Security and Environmental Site Coordinator
KPI	Key Performance Indicator
OJEC	Official Journal of the European Communities
PMI	Projects of Mutual Interest
PPMP	Pollution Prevention Management Plan
PR	Performance Requirement
SDS	Safety Data Sheet
SS	Site Supervisor
T	Transgaz or colaboratories
TS	Technical Supervisor

1 Introduction

1.1 Project Overview

The Construction Environmental and Social Management Plans (CESMP) defines the actions and measures necessary for the overall management of environment and social impacts for both the Project beneficiary (TRANSGAZ S.A., represented by the Bulgarian-Romanian-Hungarian-Austrian Project Management Unit (BRUA PMU)) and contractors in line with the applicable law and other obligations. The CESMPs are comprised of a suite of management plans.

This document is the Project Construction Emergency Response Management Plan (CERMP), document no 1062-TGN-MNG-PLN-PJM-22-00015

Project construction activities could result in accidents or unforeseen risks to the workforce, local communities and the environment. Therefore, proper planning from the outset to ensure a system of coordinated action between PMU BRUA, contractors and local authorities is important. Besides the major benefit of providing guidance during an emergency, unrecognized hazardous conditions could aggravate an emergency situation and an emergency response plan can help eliminate them. The planning process brings to light potential situations that can be rectified before an emergency occurs. In addition, an emergency response plan promotes safety awareness and shows the Company's commitment to the safety of workers, the local community and the environment

1.2 Purpose of this Emergency Response CESMP

. Due to the potential for harm to staff, the community and the environment as a result of emergencies, a practical and efficient emergency plan is necessary to manage the risk of emergency situations. The results of failing to identify potential emergency situations and not adequately managing their risk could result in loss of life, environmental harm and the possible financial impacts of the project.

An urgent need for rapid decisions, shortage of time, and lack of resources and trained personnel can lead to chaos during an emergency. Time and circumstances in an emergency mean that normal channels of authority and communication cannot be relied upon to function routinely. The stress of the situation can lead to poor judgment resulting in severe losses.

As such, this CERMP :

- Outlines the key policies, legislation and standards relating to waste management;
- Defines roles and responsibilities;
- Outlines actions and measures necessary for thean effective response in case of an emergency.
- Covers both accidental and intended critical situations;
- Details specific control measures to be implemented by Transgaz and its contractors (and subcontractors), to achieve this.
- Incorporates the requirements of the ESIA findings, Supplemental Environmental Assessment, Supplementary Social Impact Assessment, International Standards, Romanian legislation, Lenders requirements and Project-specific construction permits.
- Considers Transgaz's general approach to emergency response management, procedures and methodologies.

By doing this, the CERMP defines the actions and measures necessary for the effective management of emergency situations and/or accidents for both the Project beneficiary (TRANSGAZ S.A., represented by UMP – BRUA), Contractors and sub-contractors in line with the applicable law and other obligations.

1.3 Scope of this CESMP

This CERMP covers the required actions for all situations that could generate emergency situations during the Project's construction phase and is applicable to all Transgaz staff, Contractors and Sub-contractors. Whilst this CESMP will act as a 'framework' to determine what the Contractors will be expected to produce, Contractors are required to ensure that all the CERMP requirements are adopted within their own management plans. Further information on Roles and Responsibilities is provided in Section 5 of this CERMP.

1.4 Document Management

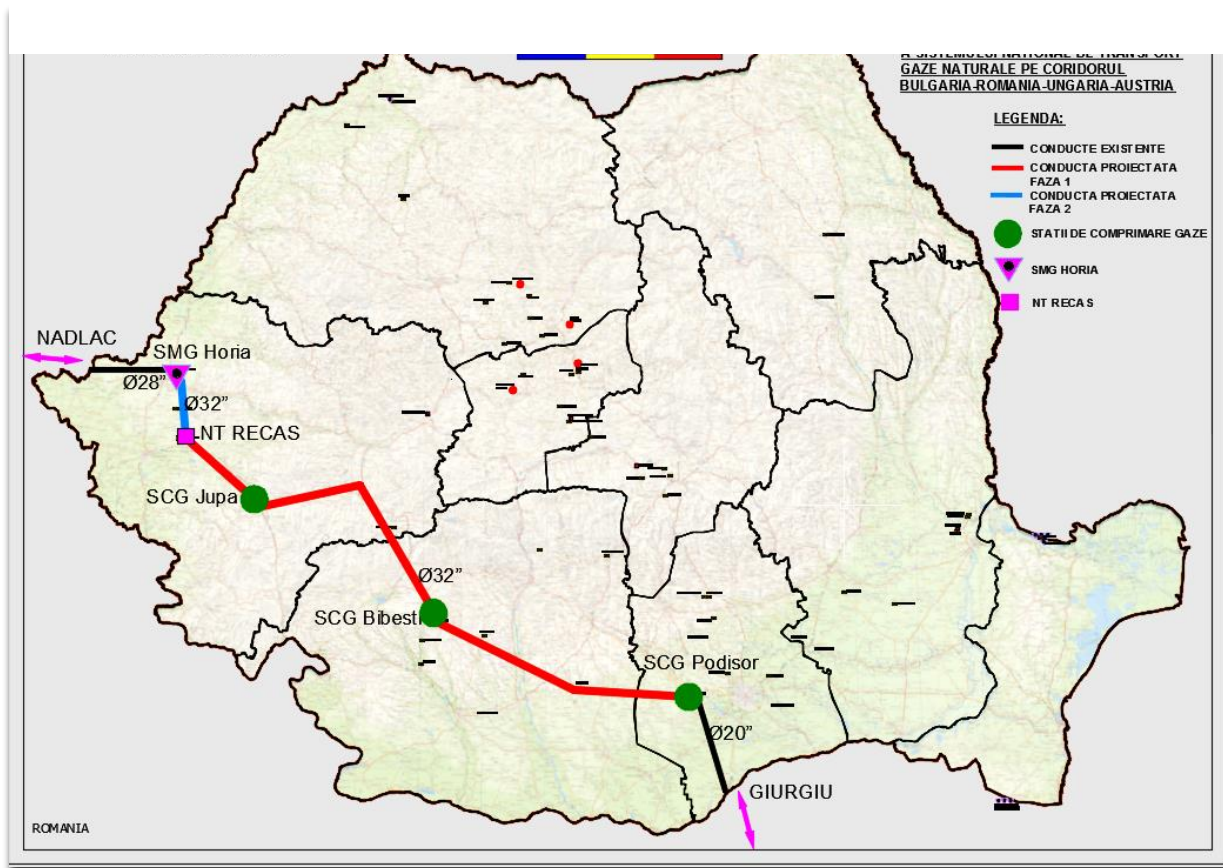
This document will be managed and controlled by the Document Control and Archiving Compartment within BRUA Project Management Unit. The methods for document management and improvement during the construction phase will be described in the Document Guide to be developed by UMP BRUA.

2 The BRUA Project

2.1 Project Overview

SNTGN Transgaz SA Medias (“Transgaz”, “the Company” or “the Beneficiary”), the licensed operator of the Romanian National Gas Transmission System, is developing a 529km natural gas pipeline between Podisor in southern Romania and Horia in the west of the country (the “Project”). The pipeline, which for much of the route will be buried and will upgrade or run alongside existing pipelines, represents the Romanian section of the Bulgaria-Romania-Hungary-Austria Natural Gas Transmission Corridor. In addition to the pipeline itself, the Project will also require construction of three new Gas Compressor Stations (GCS) at Podisor, Bibesti and Jupa, as well as a range of supporting infrastructure including block valve stations, construction camps, pipe storage areas, watercourses and infrastructure crossings and access roads.

Figure 2.1 BRUA Route



Whilst the majority of the route is on land currently used for farming, it does pass through a number of specifically sensitive areas, including seven Natura 2000 Sites, and the nationally important Dinosaurs Geo-Park. It also passes close to a number of sites of archaeological value including the ancient city of Tibiscum near Jupa. In some of these areas, as well as near major roads and railways and for the 8 major rivers, this will involve the use of horizontal directional drilling. In other areas in the mountains special “hammering techniques” may also be applied.

2.2 Environmental and Social Commitments

The Project is subject to various environmental and social requirements that are managed by the Company through the implementation of its Health, Safety and Environmental Management System (HSE-MS)¹. This HSE-MS includes a specific Project Framework Construction Environmental and Social Management Plan (F-CESMP) as well as associated topic/activity specific Construction Environmental and Social Management Plan (CESMPs). Operational phase ESMPs will be developed at a later stage prior to BRUA operation. The overall approach to integration of the above documents is described in the F-CESMP document itself (Section 4.2) .

¹ Integrated Management Manual Quality-Environment-Occupational Health and Safety, code MSMI-CMSSO Ed. 03/Rev.

3 Key Policies, Legislation and Standards

3.1 Overview

The Project is subject to a range of policies, legal & regulatory requirements and other applicable standards of relevance to this CESMP. Where two or more of the identified standards are inconsistent or contradictory, unless otherwise justified, the Project will adopt the most stringent.

3.2 Company Policies

Transgaz's *HSE policy* (as outlined in the Integrated Management Manual Quality-Environment-Occupational Health and Safety, code MSMI-CMSSO Ed. 03/Rev.), and *Corporate Social Responsibility policy* apply to all activities carried out by, or on behalf of, the Company as part of this Project. Details of these policies are provided in Section 7.3 of the F-CESMP Document.

3.3 National Legislation and Permits

All contractors are required to comply with all relevant national regulatory requirements. Whilst contractors are required to verify the latest regulatory requirements themselves an indicative list of Romanian national legislation is provided in Appendix 3 to this CERMP.

Contractors must also ensure that relevant requirements of the various construction-related permits for the Project issued by national (and local) regulators are addressed. Any requirements arising from the revision/amendment of those permits will also be applied. Key permits are summarized in the F-CESMP Document (Section 3.2).

3.4 International Legislation and standards

A range of international standards and commitments are applicable to this CERMP as described in Section 3.3 of the F-CESMP Document. These include the EBRD Environmental and Social Performance Requirements (PRs), with [PR4](#) being especially relevant to this document. All contractors are required to comply with all such regulatory requirements as they apply to their activities.

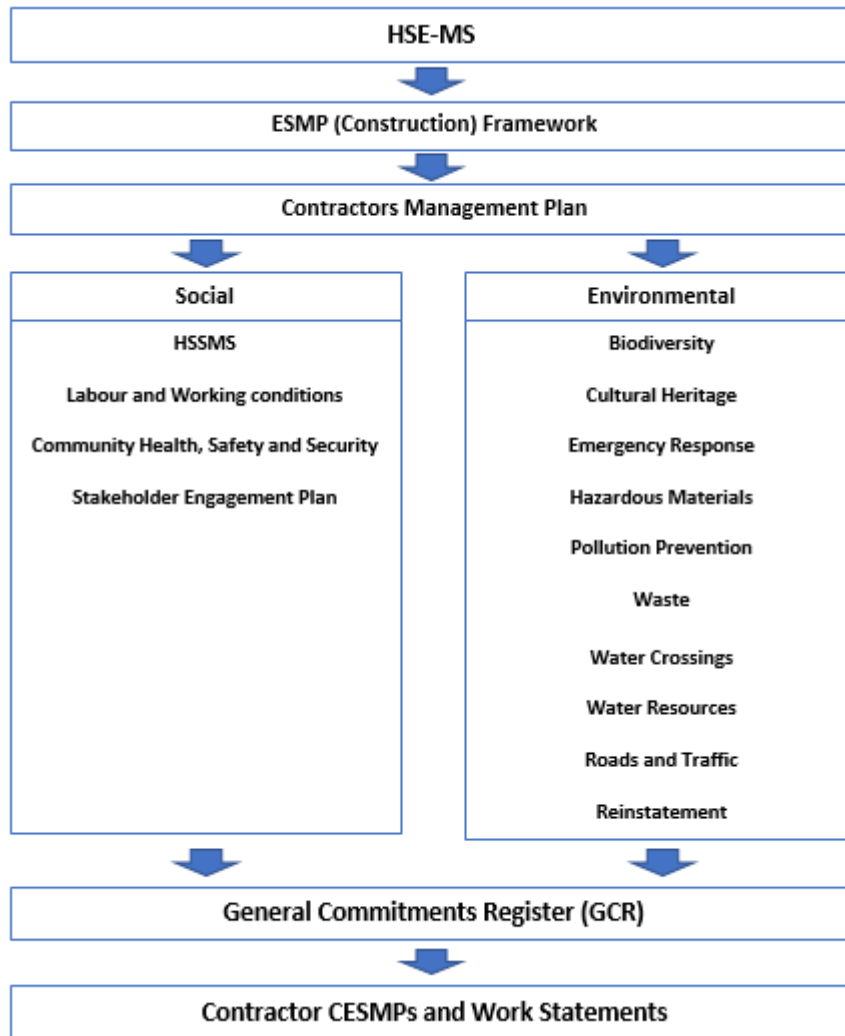
An indicative list of EU Directives/Regulations in correspondence with the Romanian national legislation that transposes is provided in Appendix 3 to this CERMP.

4 Linkages to other Elements of Transgaz HSE-MS

4.1 Overview

This CESMPs forms part of the Project HSE-MS as described in the F-CESMP (Section 4.2). Where relevant the CERMP should be read in conjunction with other HSES-MS elements including the ESMP source documentation, control documentation and the key HSE-MS documentation. These are described further in Section 4.1 of the F-CESMP and illustrated in Figure 4.1.

Figure 4.1 Transgaz HSE-MS



4.2 Linkages to other CESMPs

A listing of the CESMPs and their document numbers is presented in the F-CESMP Document. The other CESMPs considered to be of particular relevance to the Emergency Response Management Plan are as follows:

- Roads and Traffic (1062-TGN-MNG-PLN-PJM-22-00012)
- Hazardous Materials (1062-TGN-MNG-PLN-PJM-22-00004)
- Water Resources (1062-TGN-MNG-PLN-PJM-22-00007)
- Waste (1062-TGN-MNG-PLN-PJM-22-00005)
- Pollution Prevention (1062-TGN-MNG-PLN-PJM-22-00003)
- Labour and working conditions (1062-TGN-MNG-PLN-PJM-22-00010)
- Community Health and Safety (1062-TGN-MNG-PLN-PJM-22-00011)
- Biodiversity (1062-TGN-MNG-PLN-PJM-22-00006)
- Cultural Heritage (1062-TGN-MNG-PLN-PJM-22-00013)
- Health, Safety and Security (1062-TGN-CSJ-PLN-PJM-22-00009)

5 Roles and Responsibilities

5.1 Overview

An integrated approach to emergency response involves a range of stakeholders, including the Company, the Contractors (and subcontractors), local authorities, regulatory agencies and the general public. Such a system therefore requires robust processes regarding information dissemination, training, and designation of responsibility, management actions, monitoring, control, and corrective actions

Generic roles and responsibilities for the Company and Contractors are detailed below. An initial split of activities between key stakeholders is shown in Table 5.1 below with further information on specific responsibilities for CESMP actions outlined in Appendices 1 and 2 to this CERMP.

Table 5.1 Initial Split of Activities

Activities	Beneficiary	Contractors	External providers
Planning	X	X	
Dissemination of information	X	X	
Management of emergency situations	X	X	
Obtaining and storing resources in support of emergency operations		X	X
Safety measures implementation	X	X	X
Professional training	X	X	X
Surveillance and control	X	X	
Monitoring and audit	X	X	
Reporting	X	X	X
Correcting actions	X	X	X
Management of cooperation	X	X	

The operational cooperation procedures in the construction site will be set in the Work Statement that will be Appendix to the Commercial Contract to be signed between the Beneficiary and the Contractor. The Contact Point Unit for each construction site, as defined in the Contractor Management Plan, is the structure responsible for the implementation and monitoring of the provisions of the Work Statement

5.2 Company Roles and Responsibilities

Transgaz HSE management roles and responsibilities during Project construction are detailed in the BRUA – UMP “Regulation of organization and functioning”. Further information is also provided in other documents listed in the F-CESMP document.

With regards to this CERMP, Transgaz S.A. is responsible for key management activities including:

- Development of bidding conditions regarding emergency response management;
- Professional training of a Transgaz emergency response representative on site;
- Monitoring Contractor performance, supervision and control of Contractors;
- Management cooperation in case of emergency situations (including registration and communication of events);

Specifically within the organization the following roles and responsibilities will apply:

Table 5.2 Company Roles and Responsibilities

Rol	Responsibilities
Director general SNTGN TRANSGAZ SA	<ul style="list-style-type: none"> - Approves the Emergency Response Management Plan
HSSE Coordinator	<ul style="list-style-type: none"> - Ensures the compliance of the Project with the requirements established in this Plan - Has the general responsibility for the implementation of this Plan, including by the main Contractors - Develops, monitors and revises this plan - Ensures the necessary training for BRUA PMU staff on emergency response is delivered - Centralizes the information regarding emergency response management by the Contractors - Provides necessary support to the Contractors to enable them to comply with the CERMP - Ensures this CERMP is available to all BRUA PMU staff and Contractor staff - Performs regular audits of the main Contractors' performance against the requirements of this Plan. - Reports all the risks, non-compliances with this Plan and incidents - Prepares an annual environmental report that includes details regarding emergency response.

5.3 Contractor Roles and Responsibilities

Overarching Contractor HSSE requirements are defined in the relevant articles of their contracts and associated mandatory Annexes. Each contractor must also implement all relevant requirements of the CESMPs, including this Emergency Response Management CESMP. Contractors are also responsible for ensuring that any subcontracted work also meets these requirements.

Contractors will be required to present to the Beneficiary, represented in the project by PMU BRUA, in accordance with the requirements, their proposed approaches to:

- Spill recovery and emergency response;
- Any other conditions outlined in this CERMP or its Appendices.

In addition, Contractors will present the Beneficiary with details of:

- A nominated environmental responsible on emergency response
- Records of any impacts associated with an emergency event.

Further specific responsibilities of the Contractor/sub-contractors are outlined in the Appendices to this CESMP and in Table 5.3 below.

Table 5.3 Contractor Roles and Responsibilities

Role	Responsibilities
Contractors	<ul style="list-style-type: none"> - Makes sure all activities are performed according to the requirements herein - Produces an Emergency Response Plan in line with the requirements of this Plan - Makes regular inspections on the working sites to make sure all activities are performed according to the requirements herein - Assigns by way of Decision the person/persons responsible for coordinating the intervention activities in emergency situations; - Keeps all records and makes all the reporting on incidents according to the law - Assures the necessary training of the staff on emergency situation response - Observes the necessary measures related to the maintaining the installations and means for intervention in emergency situations in operation, in accordance with the requirements set; - Informs the site supervisors immediately, about any danger or risk noted within the activity on the site; - Takes into account the coordinators' recommendations and suggestions in matter and take all appropriate steps to remedy the identified problems; - Proceeds as soon as the situation requires to the implementation of measures from the Emergency Response Plan; - Makes sure all subcontractor activities are conducted in line with this Emergency Response Management Plan - Draws-up for each quarter and an annual report that includes details on emergency response that must be sent to Transgaz - Reports on all risks, lack of conformities and incidents - Takes all necessary measures to remedy the lack of conformities - Taking all relevant measures to ensure first aid - Defining procedures and protocols to better implement the measures required by the project; - Compliance with all relevant project standards, relevant international guidelines, statutory requirements, and permits; - Ensuring that all personnel is aware of its responsibilities; - Implementation of an appropriate inspection and monitoring program; - Assuring the performance of all subcontractors regarding the project's requirements; - Record keeping and reporting.

6 Management, Mitigation, Monitoring and Verification

6.1 Management Actions

A range of management actions (and other mitigation measures) are required to be implemented in respect of Emergency Response. The specific management actions and mitigation measures required of Transgaz staff and its contractors (and sub-contractors) are described in Appendix 1 to this CESMP.

Appendices 5-10 provide templates of emergency response documentation and registers that Transgaz will finalise with Contractors to ensure emergency situation likelihood is reduced where possible and in the event of an emergency situation, it can be managed efficiently.

6.2 General Monitoring Activities

Monitoring provisions for this CERMP have been developed through the process outlined in Table 6.1:

Table 6.1 Approaches to Monitoring

Objective	Approach
1: Risk Based	Monitoring programs to address material issues base on the use of the 'source-pathway-receptor' approach in the ESIA. These are commensurate with: <ul style="list-style-type: none"> the scale and nature of the activity, the assessed potential level of impact (and uncertainty thereof), and the sensitivity of the local environment within the activity area of influence
2: Compliance Based	Addition monitoring programs to meet specific regulatory needs.

Following this approach, the proposed monitoring plans should meet both the requirements of Transgaz's t on the necessary monitoring activities in order to understand and manage the Project's potential impacts during construction activity and also any specific requirements of the Romanian authorities. The specific monitoring requirements for this ERMP are presented in Appendix 2.

6.3 Management System Verification Monitoring

Management System verification monitoring requirements, as detailed in the F-CESMP Document, are divided into three levels as shown in Table 6.3 below:

Table 6.2 Auditing Management System

Tier	Objective	Responsible	Description
Tier 1:	Transgaz management system audits	Transgaz	These audits are aimed at assessing the Transgaz HSSE management system elements and assessing their continued suitability throughout the project life cycle.
Tier 2:	Transgaz CESMP audits	Transgaz	These audits are undertaken by the Transgaz BRUA team to confirm compliance by the Company and its contractors with the CESMPs.
Tier 3:	Contractor self-audits	Contractor	These audits are to be undertaken by contractors to confirm compliance by themselves and their sub-contractors with the CESMPs and their own HSSE management systems. The managing contractors shall ensure that audit reports are provided to Transgaz

In addition to the above, there are also expected to be regulatory audits and lender compliance monitoring visits. The nature and structure of these will be confirmed with regulators and lenders

6.4 Key Performance Indicators

Both the General Monitoring and the Management System Verification Processes require robust Key Performance Indicators (KPI) to be developed. These are quantitative or qualitative measurements used to gauge performance over time and can be used to assess the effectiveness of control measures. The KPIs considered relevant to this CERMP are shown in Table 6.4 below.

Table 6.3 Key Performance Indicators

ID	KPI	Target	Monitoring Measure	Associated mitigation controls
KPI-ERM01	Number of non-compliance with the requirements of this plan	Zero non-conformances	See verification column of Appendix 1	All measures identified in Appendix 1
KPI-ERM02	Number of non-compliance with project standards identified during monitoring	Zero non-conformances	See Appendix 1,2	As identified in 'KPI' column of Appendix 1
KPI-ERM03	Number of accidents/incidents reported	Zero non-conformances	See Appendix 2	N/A
KPI-ERM04	Response time in case of Incidents(emergencies)	Zero non-conformances	See Appendix 2	All measures identified in Appendix 1
KPI – ERM05	Loss of human lives	None		N/A
KPI-ERM06	% of all staff who have received relevant and adequate training	100% compliance with training requirements	See Appendix 1,2	All measures identified in Appendix 1,2
KPI-ERM07	Number of simulated situation	Zero non-conformances	See Appendix 1	As identified in 'KPI' column of Appendix 1
KPI-ERM08	Reports of near misses should be reviewed for root cause and a corrective action identified and shared	N/A, however the more reports that are shared the better the operation will be.		

	across all spreads within 48 hours to prevent future occurrence			
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The specific auditing and monitoring requirements for the verification of each of the management measures described within this CERMP (Appendix 1) are identified in Appendices 1 and 2. This includes identification of the relevant audit tier level (1 to 3) to be undertaken.

6.5 Training

Training needs for all Transgaz and Contractor staff shall be identified at the outset, before construction works commence, and a training plan developed.

7 Appendices

7.1 Appendix 1: General Mitigation Measures and Management Actions

Ref	Location	Objective	Requirement	In the plan	Responsibility	Responsibility	Verification Process	Commitments Register Ref.
ERM 001 -	ERMP	Overall	Comply with all mitigation measures included in the Environmental Agreement	All plans	All CPU	C	Permanent	1
ERM 002 -	All	Overall	For the pre-construction stage when work sites will be in place for each sector there will be a protocol that will establish as accurately as possible the environmental load, based on standardized forms (standard-forms), with aerial photographs or photographic images taken from the ground, which will act as control elements	All plans	T	T	Pre-construction phase	287
ERM 003 -	All	Spill prevention	Perform simulations regarding emergency situations in case that an accidental pollution is caused, having impact on the water resources	PPMP/ERMP	SS+HSSEC/T+C	C/T	Semestrial	39
ERM 004 -	All	Overall	The equipment shall be brought to the site in perfect state of operation, the technical revisions and oil exchange being already made	All plans	HSSEC + TS/T+C	C	Permanent	87

ERM 005	- All	overall	Monitoring the meteorological bulletins meant to take the equipment outside the areas which could be flooded, in case of high waters	All plans	SS/T+C	C	Permanent	32
ERM 006	- All	Contract or Emergency Response	Contractors will develop appropriate Emergency Action Plans for on-site and off-site activities in line with the Emergency Response Plan and Contractor Management Plan.	ERP	SS + HSSEC/C+T	C/T	After 30 days of contract signing. To be improve	TMP13
ERM 007	- All	Emergency situation response	Strict compliance with own guidelines for safety and health at work and with the provisions of the Plan on emergency situation response	HMMP/HS SM/ERMP	ER+HSSEC/C+T	C	Permanent	HM019
ERM 008	- All	Accidental leaks	Accidental leaks of fuel or oil will be quickly collected and removed with absorbent material, collected in closed and labeled containers - temporarily stored in specially designed spaces until their delivery to an operator authorized for the collection / disposal of oil waste	HMMP/HS SM, ERMP	ER+HSSEC/C+T	C	At neccessity	HM020

LEGEND;

T-Transgaz or colaboratories

C-Constructor

ER-Environmental Responsible

HSSEC-Health, Safety, Security and Environmental Site Coordinator

SS-Site Supervisor

TS-Technical Supervisor

7.2 Appendix 2: Monitoring Requirements

ID	ACTIVITY	DESCRIPTION	PARAMETERS	LOCATION	STANDARDS	Frequency	Teir (1/2/3)_
ERM - 0001	Workplace inspection	Comply with all mitigation measures included in the Environmental Agreement	N/A	All Project	Legal frame		
ERM-0002	Pipeline Route recording	For the pre-construction stage when work sites will be in place for each sector there will be a protocol that will establish as accurately as possible the environmental load, based on standardized forms (standard-forms), with aerial photographs or photographic images taken from the ground, which will act as control elements.	Recorded situation	All Project	EBRD		
ERM – 0003	Workplace and Proximity simulation	Perform simulations regarding emergency situations in case that an accidental pollution is caused, having impact on the water resources	N/A	All Project	Legal frame		
ERM – 0004	Workplace inspection	The equipment shall be brought to the site in perfect state of operation, the technical revisions and oil exchange being already made	Technical parameters	On-site	Legal frame		
ERM – 0005	Workplace activities	Monitoring the meteorological bulletins meant to take the equipment outside the areas which could be flooded, in case of high waters	Statistics and estimation	All-Project	EBRD		

ERM – 0006	Workplace inspection	Contractors will develop appropriate Emergency Response Plans for off-site activities in line with the Emergency Response Plan and Contractor Management Plan.	N/A	All-Project	Legal frame		
ERM – 0007	Workplace activities	Strict compliance with own guidelines for safety and health at work and with the provisions of the Plan on emergency situation response	N/A	All Project	Legal frame		
ERM – 0008	Workplace inspection	Accidental leaks of fuel or oil will be quickly collected and removed with absorbent material, collected in closed and labeled containers - temporarily stored in specially designed spaces until their delivery to an operator authorized for the collection / disposal of oil waste	N/A	All Project	Legal frame		

I. EMERGENCY SITUATIONS:

1. EO no. 21 of 15 April 2004 on the National Management System for Emergency Situations;
2. GD no. 1491 of 9 September 2004 approving the Regulation - Framework organizational structure, responsibilities, functioning and endowment committees and operational centers for emergency situations;
3. OM no. 712 of 23 June 2005 approving general provisions on training employees in emergency situations;
4. OM no. 1160/2006 approving the Regulation on prevention and emergency management specific risk to earthquakes and / or landslides;
5. OM no. 132 of 29 January 2007 approving the Methodology Plan elaboration analysis and hedging and Structure - Plan framework of analysis and hedging;
6. OM no. 160 of 23 February 2007 approving the Regulation of planning, organizing, conducting and completing activities to prevent emergencies services provided by voluntary and private emergency Connexed and special legal framework

II HSS:

1. Health and Safety at Work Act no.319/14.07.2006, published in the Official Gazzette. 646/26.07.2006. the Law takes over the Directive of the Council no.89/391/EEC published in the Official Journal of the European Communities (OJEC) no. L183/1989.

3. GD. 300 of 2 March 2006 on the minimum safety and health requirements at temporary or mobile construction sites. Decision transposes Directive 92/57 / EEC, published in the Official Journal of the European Communities (OJEC) no. L 245/1992.

III. FIRE Protection:

- Law no. 307/2006 on fire safety;
- OM no. 163/2007 approving general rules for fire protection;
- OM no 210/2007 approving the methodology for identifying, assessing and controlling risks of fire;
- Standard on fire safety of buildings, Part II - extinguishing systems - indicative P 118 / 2- 2013 Law no. 307/2006 regarding fire defence;

IV. ENVIRONMENT:

- O.M.nr. 756/1997 for the approval of the Regulation on the assessment of environmental pollution;
- EO no. 68/2007 on environmental liability with regard to the prevention and remedying of environmental damage, approved by Law 19/2008, as amended by O.U.G. no. 15/2009;
 - EO no. 57/2007 on the regime of protected natural areas, conservation of natural habitats, wild flora and fauna, as amended and supplemented;
 - GD no. 1408/2007 on procedures for investigation and assessment of soil and subsoil.

7.4 Appendix 4: BRUA Project Risk Analysis

The project "Development on the Romanian territory of the national gas transmission on the corridor Bulgaria – Romania – Hungary – Austria" consists of building a new natural gas transmission pipe that makes the connection between SCG Podișor and SMG Horia.

This invention is part of the Projects of Mutual Interest (PMI) of the European Union, (reference number in the Union List: 6.24.2.).

The Importance of BRUA Project for Romania consists in:

- **Motivation of the competition on the national gas market, diversification of the market structure and import natural gases competitive pricing;**
- **Intensification of the role of a country passed through by major energetic transport corridors for the Central and Western Europe markets;**
- **Access to the important natural gas reserves in the Caspian Sea area;**
- **Modernization of the national transport system;**
- **Positive socio-economic impact;**
- **Elimination of main causes that have generated the initiation of the infringement procedure by the European Commission against Romania for the infringement of the Regulation (UE) no. 944/2010 by failure to ensure the permanent bidirectional flow in the cross-border interlinking points.**

The construction of this pipe shall meet the following objectives:

- **diversification of the natural gas supply of the European countries;**
- **transport to the Central European markets of the natural gas supply in the Caspian Sea area;**
- **ensuring a carrying capacity along Bulgaria of a carrying capacity in both flow directions of a 1,5 thousand millions of m³/years of natural gases;**
- **development of a carrying capacity along Hungary of a 1,75 thousand millions m³/year.**

The personnel who ensures the surveillance, exploitation and maintenance of the natural gas transition pipes and of related installations shall be trained by the employer in accordance to legal provisions, and to the Decision no. 712 / 2005 in the EMERGENCY SITUATIONS field.

Analysis of the risks generating emergency situations further described and the coverage measures taken at design were made in conformity with the provisions of the Decision of the Ministry of Internal Defence no. 132 / 2007, as follows:

2.1. Analysis of natural risks

a) Dangerous weather events

a1) Floods

The probability is minimum on the route of the pipeline; The constructors will make the prove they have pumps for the evacuation of excess water;

a2) Storms, tornadoes, drought, freeze

The technological facilities are designed to be mounted in overground solution.

The superstructure of the technological facilities was designed taking into account the predominant action direction and the impact force of winds, no storms and tornadoes having been registered in the history of the settlement area.

b) Forest fires

Not applicable, the probability being minimal; The constructors must have operational fire fighting equipment and installations;

c) Geological destructive events

c1) Earthquakes

The designed works have been performed with the seismic control according to the provisions of P100 standard. Only part of the pipeline in Ilfov county is in the earthquake influence zone;

c2) Landfalls

Not applicable, the probability being minimal on the pipeline according to geological studies;

;

2.2. Analysis of technological risks

a) Industrial risks

For the execution of designed facilities no dangerous substances are to be used.

b) Dangerous goods transportation and storage risks

The constructors must present transport planning documents and storing plans according to the provisions and requirements of the Beneficiary to minimize risks to elimination.

b1) transportation through mains

Natural gases are transmitted through the designed facility, which can only become a source of explosion or fire when mixed with air, in a certain proportion. For the operation of the facility, the necessary measures for air exhaust to the opposite end of the gas hole shall be taken. Measures for the prevention of fire and explosions shall be taken by prohibiting fire sources access. Gas welding and pipe welding shall be made by taking all the safety measures including the existence of fire permits approved by the SNTGN Transgaz SA Mediaș management and only by the personnel specially trained and fitted to perform such works

c) Nuclear risks

Not applicable, the probability being minimal;

d) Water pollution risks

Measures taken by the design exclude all water pollution risks in the gas transmission process, even in case of damage. As well, the gas facility execution works shall under no circumstance influence and hamper the water flow in their placement area. For the prevention of oil substance infiltration that might contaminate the underground water, special measures of fuel and lubricants replacement shall be taken for vehicles and machineries.

e) Building, facilities or existent establishment falls

On the location of designed facilities there are no buildings located.

f) Public utility failure

Before starting the works, in the presence of the owners, pipes and cables existent in the location area of the gas facilities shall be identified, and all measures necessary for their protection shall be taken, thus avoiding their damage and the stopping of public utility supply to the populated areas or to the industrial areas.

g) Object falling from the air or cosmos

Measures shall be taken so that the personnel on the location of Works be lead to the nearest shelter considered safe.

h) Unexploded munition

Not applicable, minimum risk according to the statistics of pipe line. Ammunition and explosives will not be used for the project.

2.3. Analysis of biological risks

Measures shall be taken so that the personnel on the location of Works be lead to the nearest contamination centre and civil shelter. Instructions will be given according to the cooperation plan.

2.4. Analysis of fire risks

Includes reference to the analysing and differentiation of fire risks depending on the context: statistics of fire and other emergency situations, existent proofs classified for each town, market participants, public institutions, etc...

2.5. Analysis of other types of risks

Depending on the site situations the constructors will signal existence of other risks;

2.6. High risk areas

The designed natural gas technological facility complies with the safety distances to the existent buildings in the vicinity of its location and to the populated areas, and in all 11 cases, where the distances could not be met, strong pipe safety measures have been taken (thickened wall, US check all over the pipe surface, pressure test of $1,5 P_{regim}$, risk analysis, etc.)

Preventive activities planned, organised and developed under permanent monitoring obligation, for the risk coverage are:

- a. prevention controls and inspections;
- b. fire safety and civil protection permits / approval, as the case may be;
- c. approvals and permits obtained for starting the works, and the construction approval;
- d. specialty technical assistance;
- e. preventive information;
- f. population training;
- g. finding and sanctioning of the legal provisions;
- h. other forms.
- i.

Intervention plans in emergency situations, issued according to Appendix 6 to the general fire defence regulations, **Decision 163 / 2007**.

Interventions plan in case of emergency situations include the following:

- a. rescue service / intervention classes in case of emergency and operational unit location (town, distance, transmission line, phone or other alarm, alert means);
- b. methods of intervention and protection of personnel for each type of risk;
- c. risk coverage area;
- d. response times.
- e.

Training

The mode how the knowledge of action methods were ensured according to the analysis and risk coverage plans shall be registered by the intervention forces designated.

7.5 Appendix 5: List of Contact Persons and Addresses (template)

Ref. No.	Name of unit	Contact person	Phone
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			

Procedures for emergency situations

Prevention measures

In order to ensure the efficiency of the plan for emergency situations, all persons on site shall be properly trained. The persons on site have the liability to comply with the procedures in the emergency plan and to improve their knowledge on the emergency measures, i.e. by repeatedly using emergency exits and of escape ways, verification of labour protection sign meaning, etc.

For the proper behaviour in emergency situations, the indications of the following appendices shall be observed: "General rules in case of alarm" (phone numbers, alarm signals, first aid, ambulance, etc.), "Evacuation plan in case of fire, Emergency exists, Meeting points, First aid units" (in case of fire, explosions, evacuation, etc.)

Moreover, in case of emissions of substances dangerous for health, the directions included in Safety Data Sheet shall be observed (SDS).

Site manager has the liability of ensuring that all emergency exits and meeting points are permanently free, and in case of amendment, all persons on site shall be notified.

In case of perceiving a possible danger, all persons on site undertake to immediately inform the project manager. Checks/tests of the alarm systems and knowledge of signal type shall regularly be performed.

Emergency cases perception

The person who perceives an emergency situation shall immediately inform the responsible person/person assigned for the management of the emergency situations, who, in its turn, shall immediately inform the company's manager (see "General rules in case of alarm")

The following information shall be communicated:

- What is the type of emergency?
- The exact place of the emergency situation and the place of the person who makes the communication
- What has already happened (body harm, fire)
- What measures does the person who makes the announcement intend to take (i.e. rescue the injured persons, extinguish the fire, etc.)

The following rule shall permanently be observed:

- 1. ALARM**
- 2. HELP**
- 3. RESCUE/EXTINCTION**

Emergency situations behaviour

In emergency situations, the site personnel shall be notified by a sound signal (see "General rules in case of alarm")

General rules for emergency situations:

- keep calm;
- do not use the elevator/elevation/lowering systems;
- do not run to the locker room, toilet, etc.;
- do not waste your time by getting back your personal staffs;
- follow the directions of the site master;
- do not leave the meeting place until you hear that the alarm signal has stopped;

In case of an emergency situation that requests the evacuation of the site (the evacuation sound signal), the site personnel shall act according to **the provisions of the "Evacuation plan"**.

Behaviour in case of accident

In case of accidents, the following steps shall be observed:

- accident area shall be secured;
- first aid shall be requested for (the person trained for giving the first aid);
- first aid shall be provided;
- if possible, the injured person shall be transported to the first aid point for medical care provided by a first aid qualified personnel;
- the site supervisor/HSSE coordinator shall be notified on the accident;
- Ambulance, Fire Brigade, Hospital shall be called, if necessary (See “General alarm rules”) ;
- information on the accident report system shall be provided;
- the causes of the accident shall be analysed;
- the cause of the accident shall be eliminated;
- all employees on site shall be notified and trained through the SSM Plan on the methods to avoid the similar accidents;
- there shall be checked whether elimination of the cause of accident was efficient;
- the accident shall be reported for statistics;
- there shall be notified, depending on the circumstances (employer, site director).

Fire prevention

Location of fire extinguishers, hydrants for the firemen hoses and of fire alarms shall be found in the plan drafted by the Contractors and approved by the Beneficiary. “Fire prevention plan, Emergency exists, escape ways, meeting points, and first aid points”. Phone numbers of the fire brigade, ambulance, hospital shall have the same treatment, and “general alarm rules”.

Prevention measures

- training of all persons on the site about fire prevention;
- observing the no smoking areas;
- putting the cigarette ash in non-inflammable containers;
- storing the inflammable material as to not obstruct the exits;
- keeping the exits, the emergency exits, and the meeting points permanently free;
- maintaining the visibility of protection signs, marks (i.e. emergency exits, first aid);
- free access to extinguishers;
- escape ways and access of firemen shall not be blocked by car parking;
- works using fire shall only be performed according to the system based on work permit;
- daily evacuation of inflammable waste;
- regular verification of extinguishers and of other equipment (according to legal provisions).

Behaviour in case of fire

- if for people rescue you need to pass through fired rooms/sheds, put a wet blanket on your head;
- carefully open the doors since the quick air inflow cause the quick increment of flames;
- through the thick smoke rooms, you need to walk out by crawling or bending;
- call the victims, find them, and rescue them;
- if your clothing lights up, do not run, lay down and roll over;
- throw a coat, a blanket/fireproof blanket or something sealant over the people whose clothing is on fire;
- in case of fire extinction use fire extinguishers, water, sand, dirt, covers, etc.;
- if the vertical side is on fire, throw water from upwards to downwards;
- flammable fluids shall be extinguished by covering them in sand, dirt, heavy blankets;
- electric systems shall only be extinguished after the prior disconnection of the power supply;
- leave the fired area down the wind;

- aviation fire bombs shall be extinguished by covering them with dirt, or by immersing them in water tanks;
- napalm drops fallen on clothing shall be extinguished by covering the relative place with thin clothing, clay or sand;
- phosphor or sodium mixtures shall be extinguished by isolating them of the surrounding air and covering them with dirt, sand or sealants;
- apply dry and clean bandage on the affected areas and go to a medical unit.
- in case of a minor fire, use the nearest extinguisher and immediately report the fire to the executive (in case of unsafety, follow the conflagration directions)
- in case of a conflagration, you should immediately notify the fire brigade and the company's executive.
- follow the sound alarm signals and, if need be, act according to "Evacuation plan".

Unexploded munitions

Under the general munition names are also included the following:

- military, fire and hunting gun bullets;
- projectiles;
- bombs or rocket launcher;
- reactive munition;
- torpedoes;
- mines;
- signalizing bullets;
- petards;
- grenades;
- bombs;
- any element loaded with explosive substances.

When dealing with such munition, observe the following rules:

- do not touch it;
- do not hit or move;
- do not put it in the fire;
- do not attempt to dismount the warheads or other components;
- do not let children play with such components;
- do not lift, transport or introduce unexploded munition or waste iron dumps in rooms;
- in the area where it is supposed to be unexploded munition, do not allow access, do not put the fire and do not perform works, etc.

When you are notified about their existence, immediately inform the nearest police station and the County Inspectorate for Emergency Situations (112)

Dangerous substances

In case of dangerous substances emission or leak, the following procedures shall be observed:

- If the substance is known, the procedures according to the safety data sheet shall apply.
- If the substance is unknown, and it is assumed that it may endanger people's health and safety (smell, smoke, smouldering), immediately inform the company's executive. In case you cannot contact it, immediately call fire brigade.
- Irrespective of the circumstances, leave the dangerous area.

Follow the procedures in the Environment Plan ("Ready for emergency situations" programme)

Responsibilities

The Managing Director of the site shall be responsible for the general security of the site. He shall be supported in the labour protection issues by the SSM and environment responsible.

The Managing Director of the site shall represent the centre where all measures take in case of emergency are controlled.

In emergency situations, the Project Manager shall be notified through the usual channels.

Directions

Directions for the development of the site

1. Directions for extinguishers
2. Behaviour in case of fire
3. Important marks
4. Safety Data Sheets (within the Environment Plan)

Occupational Safety and Health Directions on site

Occupational safety and health directions on site help, among others, ensure the safe conditions on site, being key elements of the safety on site

The following rules shall apply:

- Observing the occupational safety and health directions for everybody
- Communicating the occupational safety directions before starting the works
- Update of the occupational safety directions shall be performed for objective reasons (i.e. accidents), in which case the alterations shall be communicated before starting the works.

Occupational safety and health directions applicable within the project, by the S.N.T.G.N. Transgaz S.A. Mediaş workers are:

- Own SSM directions for **pipe ground-mounting**
- Own SSM directions for **pipe perforation and obstruction**
- Own SSM directions for **pipe under pressure welding**
- Own SSM directions for **mobile air compressor pressure testing**
- Own SSM directions for **pipe and related facility operation & maintenance**
- Own SSM directions for **pipe intervention team mechanic fitter**
- Own SSM directions for **crane operator**
- Own SSM directions for **operator**
- Own SSM directions for **welder**
- Own SSM directions for **electrician**
- Own SSM directions for **driver**
- Own SSM general directions for **S.N.T.G.N. Transgaz S.A.**

Occupational safety and health directions applicable for every type of work performed within the project by the contractor's workers shall be submitted to the safety site Coordinator.

Note: Alcohol and drugs are strictly prohibited on site. Any breach of such regulation shall be followed by immediate removal off the site of the related person.

General information

To ensure the efficiency of the evacuation plan, the whole site personnel shall be trained in this respect. The emergency procedures shall be followed since the emergency situation had occurred and until when the situation on the site is safe.

Occurrence of the emergency situations

An emergency situation enforcing the evacuation occurs if:

- any dangerous substances or objects are found
- a dangerous situation occurs, and which expands and jeopardize other persons as well
- there are persons exposed to a dangerous situation, who are not aware of it and who therefore cannot take any prevention measures

Evacuation procedure

- a. When perceiving an emergency situation, every person on the site has the obligation to notify the other persons, its supervisor and, if possible, the persons around it (by shouts, noises, warning signals, etc.) and to immediately go to the site management. The related person shall remain in the office to give detailed information to the site management, fire brigade, beneficiary, and to the authorities' representatives.
- b. After evaluating the situation, the managing director of the site and, in its absence, the SSM responsible shall operate the alarm signal according to „General rules in case of alarm”.
Note: The alarm signal can be released by the fire brigade (i.e. the station fire brigade)
- c. When the alarm signal starts, all persons on the site shall walk to the exits, emergency exists, meeting points, as described in the Poster „Emergency exists, meeting points, first aid points. As far as possible, the running machineries shall be insured (i.e. mechanical insurance by anchoring, close of motor electrical supply, etc.)
- d. As far as possible, one shall check if all persons in the jeopardized area had been evacuated
- e. Depending on the type of the emergency situation, one shall inform the related authorities (i.e. In case of bomb alarm, one shall notify police first).
- f. The site master shall closely inspect the jeopardized area (as close as possible) to be able to evaluate the area and how can the related area be isolated of the rest of the site.
- g. If the related area can be isolated, the site master may decide the continuation of the works in the area that are not exposed to the danger and may release the alarm stop signal according to the Poster „General alarm rules”.
- h. The site managing director or its delegate (i.e. SSM site responsible) shall remain in the dangerous area that had been isolated and shall ensure that the related area safety was resettled; the personnel working nearby shall be trained about the measures taken and the enforced restrictions.
- i. The site general manager shall solve the emergency situation and shall keep in touch with the authorities of the beneficiary under the legal regulations and with the specific SSM management system and shall inform the management of the unity and the council member in charge.

Verification of the alarm system

Alarm system shall be regularly checked by its operation, every Monday of the month, at 10.00 am, by the security coordinator of the site. The check and results (maintenance and recheck) shall be registered.

The managing director of the contractor's site may initiate an alarm exercise, in which situation it shall be reported.

Documentation

This evacuation plan is part of the emergency plan, which is an integral part of the occupational security and health plan. All changes shall be registered in the documents and shall be communicated in occupational security and health directions according to SSM plan procedures. The reasons of evacuation shall be identified and proper measures shall be taken in order to avoid future similar events. The measures shall be registered in the documents and communicated to all people on the site according to the procedures of the SSM plan. Moreover, a copy of the documentation shall be submitted to the SSM Coordinator on the site.

Reference documents:

- “General alarm general rules” Poster
- “Fire prevention, Emergency exists, Meeting points, First aid points” Poster

7.8 Appendix 8: Emergency Phone Numbers (template

Ref. No.	Last name and first name	Position/Institution	PHONE
1.			
2.			
3.			
4.			
5.			
6.			
7.			

7.9 Appendix 9: Remote Identification of Works per Units (template)

Unit _____

Address _____

Last name and first name of the person in charge of site works _____

Position within the unit _____

Mobile phone _____

Last name and first name of the SSM appointed worker _____

Mobile phone _____

Comments _____



The diagram shows a stylized worker figure. The worker is wearing a white helmet, a green long-sleeved shirt, green trousers, and green gloves. On the chest, there is a yellow rectangular label with a dashed blue border containing the text "General Contractor". Two callout boxes are connected to the figure by lines. The top callout box points to the helmet and contains the text: "The colour of the helmets wear by our workers is WHITE" followed by "Comments _____" and a blank line. The bottom callout box points to the green shirt and contains the text: "The colour of the safety equipment wear by our workers is (Green)" followed by "Comments _____" and a blank line.

UTILITIES ON SITE AND IN THE PROXIMITY

To be filled in by the CONTRACTORS

Drinking water supply-

UTILITIES

Sewerage –

Electric power –

Natural gases –

Fuel and oils -

OPERATION METHOD IN CASE OF ACCIDENTAL POLLUTION

One of the important measures for maintaining the quality of water, power, gas, thermal agent resources is the activity of accidental pollution prevention and control.

Environmental protection is an obligation of the CONTRACTOR and its employees, independent of the place of work, which is why they must comply with this plan.

Article 2 of the Decree 278/1997 defines accidental pollution as any alteration of the physical, chemical, biological or bacteriological characteristics of water, caused by accident, damage or by any other similar cause, as a result of an error, negligent omission or natural disaster, and resulting in water becoming improper for possible use before the pollution. Article 3 of the same Decree provides the liability of drafting the accidental pollution prevention and control.

1. The person noticing the accidental pollution must immediately inform the environmental protection responsible (Art. 8 (b) of Order 278/1997).
2. After notification of accidental pollution the CONTRACTOR's responsible must provide the following:
 - notification of all persons with pre-established attributions for controlling the pollution, in order to immediately apply the measures and actions necessary to eliminate the causes of pollution and to reduce its local or regional effects;
 - immediate notification of authorities, followed by an occasional information on the development of the operations of pollution closure and control of its effects.
3. The component of the body formed for controlling the accidental pollution and of the intervention teams within the organisation shall be set by the decision of the site leader.
4. The persons or or groups responsible for fighting accidental pollution must take actions to eliminate causes, limit and reduce the area for spread of pollutants and removal of them by appropriate technical means, the collection, transportation and temporary storage in environmental safe conditions.
5. According to Art. 9 of Order 278/1997 critical points are the points where products reaching rain channels, water supply networks, sewage in the soil may can cause cause accidental pollution when loss occur.
6. The critical point within the organisation where accidental pollution may come from is the transportation of commercial products.

The data in these appendices shall be filled in by CONTRACTORS or SSM coordinators, as the case may be.