BULGARTRANSGAZ

BULGARTRANSGAZ EAD

Project for expansion of Chiren UGS capacity - Bulgaria

ENVIRONMENTAL AND SOCIAL MANAGEMENT AND MONITORING PLAN FRAMEWORK

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AoI	Area of influence
BTG	Bulgartransgaz EAD
Bcm	Billion cubic meters
CC	Centrifugal compressors
CMC	Change Management Coordinator
CPSs	Cathodic Protection Stations
CSR Manager	Corporate Social Responsibility Manager
EAD	single-member joint-stock company
EHS	Environmental Health and Safety
EIA	Environmental impact assessment
ES	Environmental and Social
ESDD	Environmental & Social Due Diligence
ESIA	Environmental social impact assessment
ESMMP	Environmental and Social Management and Monitoring Plan
ESMMP	Environmental and Social Management Plan
ESMS	Environmental and Social Management System
FGPU	Fuel gas preparation unit
GBV	Gender-based violence
GHG	Greenhouse gas emissions
GMS	Gas metering station
GTCUs	Gas turbine compressor units
GTE	Gas turbine engine
H&S	Health and Safety
HFL	Highly flammable liquids
HSE	Health, Safety and Environment
HSESQ-MS	Health, Safety, Environmental, Social and Quality Management System
HSES	Health, Safety, Environment & Social
IFC	International Finance Corporation

IPs	Implementation Procedures
KPI	Key Performance Indicators
LARMP	Land acquisition and restoration management plan
LVA	Line Valve Assembly
mcm	million cubic meters
MPs	Management Plans
NCRs	Non-Compliance Reports
OHS	Occupational safety and health
PEU	Production and energy unit
PPE	Personal protective equipment
QA/QC	Quality Assurance/ Quality Control
SEP	Stakeholder Engagement Plan
UGS	Chiren underground gas storage

1 INTRODUCTION

1.1 GENERAL OVERVIEW

This document is the Environmental and Social Management and Monitoring Plan Framework (ESMMP Framework) for the Project for expansion of the Chiren underground gas storage (UGS) facility from 550 mcm to up to 1 bcm. (In the following "the Project") in Bulgaria, Region Vratsa. The Proponent of the Project is Bulgartransgaz EAD, Republic of Bulgaria, Sofia ("Bulgartransgaz", "BTG" or "Project Company").

This ESMMP Framework is part of the documents' package which has been produced to upgrade the local ESIAs prepared for the local permitting process and align them with the Lenders' requirements.

The aim of this ESMMP Framework is to define the framework for managing environmental and social issues associated with the design, construction and operational phases. It identifies the specific management documents that Bulgartransgaz and its contractors will prepare.

All environmental and social management documents will be integrated into a single and cohesive management structure, the Company Environmental and Social Management Plan (ESMMP), as part of the Project Health, Safety, Environmental, Social and Quality Management System (HSESQ-MS) of the Company.

Implementation of specific required environmental and social management and monitoring actions throughout the construction and operation of the Project is ensured through the development of a series of specific Management Plans (MPs) that are part of the overall ESMMP.

1.2 INTEGRATED MANAGEMENT SYSTEM

Bulgartransgaz is actively developing an integrated management system aligned with the requirements of ISO 9001, ISO 14001, ISO 45001, ISO 27001 and EN 17649.

The Project HSESQ-MS will be built upon a set of policies developed by the Project Company management and on a number of requirements defined by internal and external sources, and specifically:

- ✓ Laws and regulations of Republic of Bulgaria;
- ✓ ISO 14001, ISO 45001, ISO 9001 and ISO 26000:2010 standards for environmental, occupational health & safety and quality management systems as well as the ISO social responsibility guidelines;
- ✓ Relevant international conventions; and
- ✓ IFI policies, standards and guidelines including IFC PS (see Chapter 3 for details).

The integrated management system of Bulgartransgaz will be updated to incorporate a social management system in addition to its current scope.

The BTG ESMMP Framework and the associated Management Plans (MPs) will be an integral part of the Project HSESQ-MS, in a way that environmental and social management will be integrated into a single and cohesive management structure.

At the time of this document preparation, the Project Company has prepared and adopted several policies and procedures, including:

- ✓ Environmental Policy; updated June 2023;
- ✓ Corporate Social Policy; July 2023;

- ✓ Occupational Health and Safety Policy, June 2014;
- ✓ Waste Management Plan, June 2023;
- ✓ Land Acquisition and Livelihood Restoration Plan, July 2023;
- ✓ Drilling Operations Management Plan for drilling contractors (Construction), June 2023;
- ✓ Stakeholder Engagement Plan, including Grievance Mechanism Procedure, July 2023;
- ✓ Emergency Preparedness and Response Plan, March 2022
- ✓ Safety Report, 2023.

The Project Company will update and upgrade the existing MPs to include mitigations and monitoring measures identified for the Project, with the aim of being fully compliant with the Project applicable standards. Where missing new plans will be developed by the Project Company and should be read in conjunction with these other HSESQ-MS elements.

1.3 THE PROJECT ENVIRONMENTAL AND SOCIAL MANAGEMENT PLANS

1.3.1 Overview

This ESMMP Framework and the detailed MPs that sit beneath it address the various environmental and social requirements to which the Project is subject.

The overall implementation of these requirements will be managed by Bulgartransgaz EAD through the application of its integrated HSESQ-MS which incorporates this ESMMP Framework and the detailed MPs for all the Project phases/ components.

The available policies, plans and procedures at the time of this document preparation developed by the Project Company are listed in point 1.2 above. Others are to be prepared at a later point in time of project development, including:

- ✓ Air Quality Management Plan, including Fugitive Emissions Programme of Monitoring (this program is for Operations only)
- ✓ GHG Reports (periodical)
- ✓ Noise and Vibration Management Plan
- ✓ Water Management Plan
- ✓ Biodiversity Management Plan (including also Operating instructions to prevent biodiversity deterioration during Operation)
- ✓ Contractor Management Plan
- ✓ Occupational Health and Safety Management Plan (for each project component)
- ✓ Community Health and Safety Plan (Construction)
- ✓ Security Management Plan
- ✓ Chance Finds Procedure
- ✓ Fire Safety Prevention Plan (for each project component)
- ✓ Hazardous Material Management Plan
- ✓ Plan for engineering and technical measures to reduce the probability of an accident occurring along the gas pipeline (Operation)
- ✓ Traffic management plan
- ✓ Recultivation plan.

In addition, the Project company will maintain extensive project documentation certifying the fulfilment of the different mitigation and monitoring measures as described in Annexes B1-3 to this Plan consisting of various monitoring reports, logbooks, protocols, etc.

The relationship between the HSESQ-MS, ESMMP Framework, the topic and/or activity-specific MPs, and the Contractors' HSE Plans and Implementation Procedures (IPs) is shown in Figure 1.1 below.

The topic and/or activity-specific MPs outline both the management actions and the priority monitoring actions to be carried out by BGT and/or its Contractors. These documents shall therefore be used as guidelines for the Contractors to write their own IPs. These shall explain in detail how exactly the management, mitigation and monitoring actions are expected to be implemented by the contractors (i.e., exactly what will be done, where, by who, and with which resources).

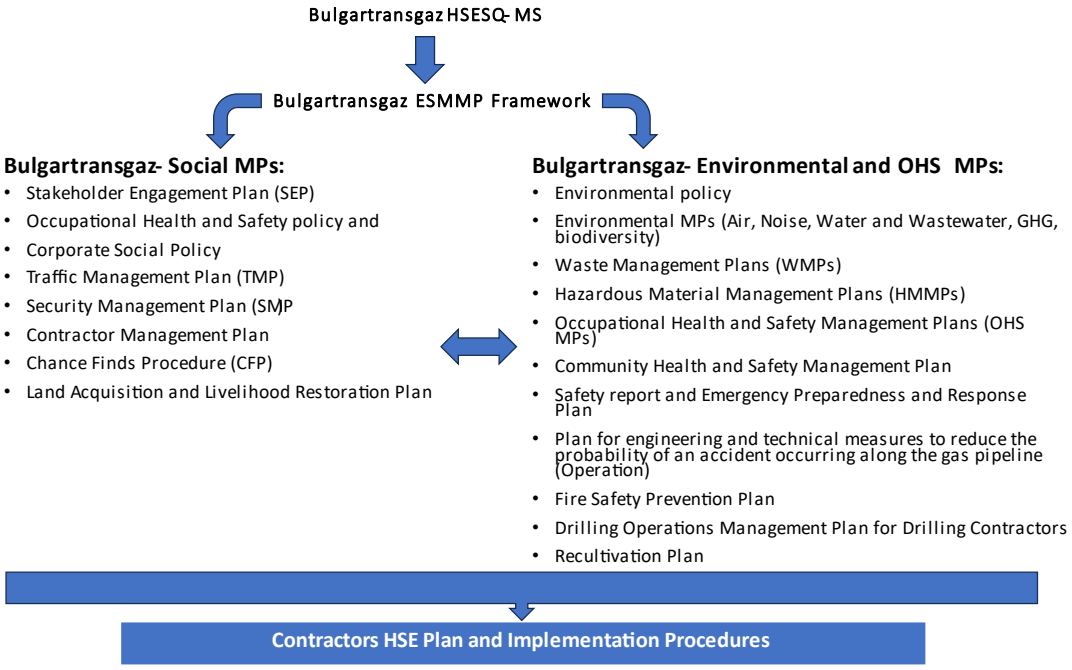

Figure 1.1: HSESQ-MP and Project ESMMPs

1.3.2 Management Plans

Each MP will be developed to consolidate and specify all relevant topic- and activity-specific commitments, actions and legal/permit requirements, including:

- ✓ mitigation measures and management actions to address potential risks and impacts;
- ✓ key environmental and social monitoring requirements;
- ✓ roles and responsibilities for management and monitoring measures;
- ✓ key competency and training requirements;
- ✓ key Performance Indicators (KPIs) for assessing the MPs performance; and
- ✓ additional verification procedures to ensure that the objectives of the plan are met.

In addition to the above, the Project also has a specific Stakeholder Engagement Plan (SEP) which outlines the approach to be taken to identifying and interacting with affected parties. This

includes a community grievance mechanism to enable concerns regarding the Project to be raised and addressed.

As outlined earlier, each MP will outline actions to be undertaken by both Bulgartransgaz and its Contractors. The Contractors themselves will be required to develop their own Health, Safety and Environmental (HSE) Plan and detailed management procedures (Implementation Procedures), that reflect the commitments in these MPs and demonstrate how they will meet these commitments. Approval for Contractor IP will be required prior to the operational phase.

2 PROJECT DESCRIPTION AND OBJECTIVES

2.1 PROJECT OBJECTIVE

Chiren UGS Capacity Expansion Project (the Project) covers three aspects:

1. Design, construction and commissioning of new above ground facilities – a compressor station with all of the auxiliary equipment to ensure a reliable and continuous operation for natural gas injection and withdrawal and a new gas metering station (GMS);
2. Design, construction and commissioning of a new gas pipeline in the section VA Butan - Chiren UGS
3. Design, construction and commissioning of underground facilities - ten new high flowrate exploitation and three observation wells, as well as new gatherings (gas pipelines) connecting the exploitation wells with the above ground facilities, including the compressor station.

Figure 2.1: Project Map

The project in its integrity has the following objectives:

- a technical possibility will be created for increasing the working volume (expansion) of Chiren UGS, with the possibility to store up to 1 bcm of active gas;
- the necessary new, highly efficient and highly reliable compressor equipment meeting all modern requirements for environmental protection (low level of harmful emissions and noise) will be provided, ensuring the possibility to inject natural gas of up to 8.0 mcm/d;

- the operational safety, security and reliability of Chiren UGS, as a whole will be increased.
- In the context of the storage facility expansion and its transformation into a commercial storage facility of regional importance, the construction of a connecting gas pipeline will increase the capacity abilities of the storage from a commercial perspective, contribute to a greater flexibility, reliability, safety and opportunity for manoeuvres as regards the routes of trade and processes of withdrawal and injection. The construction of a new connection to the gas transmission system will further contribute to better integration of the gas storage facility into the overall gas transmission system of Bulgaria and the region.
- The envisaged gas pipeline branch will provide a possibility for gas supply of neighbouring regions in case of financial, economic and commercial interest. Creating a possibility to use natural gas will allow the replacement of currently used solid fuels, thereby contributing to the reduction of harmful emissions.
- The staged drilling of the new wells will increase the natural gas injection and withdrawal capacity of the gas storage facility. This will enable 8-10 mcm of natural gas to be withdrawn daily.

2.2 PROJECT DESCRIPTION

Activity 1: Design, construction and commissioning of above ground facilities

Design, construction and commissioning of new above ground facilities on the territory of Chiren UGS will be carried out within the Activity, including a compressor station (CS) with auxiliary equipment to ensure reliable and continuous operation in gas injection and withdrawal mode, a new gas metering station (GMS), other facilities and management systems.

The compressor station covers the installation of new gas turbine compressor units (GTCUs), including GTCUs equipment kit, connecting gas pipelines, inlet and outlet manifolds and entry/exit gas pipelines (gas gatherings), fuel gas preparation unit and the respective gas pipeline networks and installation on the CS site.

As part of the above ground facilities, a new reversible GMS will be built, which will operate in injection and withdrawal mode, as well as a number of other facilities such as units for gas separation and heating, gas regulation and drying, production and operation unit etc.

A management system for the new GTCUs connected to the existing management system of Chiren UGS, an optical connection system to the WAN network of Bulgartransgaz EAD, as well as other connections to the existing systems and facilities are envisaged to be built.

Location of activities: The new facilities are envisaged to be located in the lands of Chiren village, Vratsa Municipality, Vratsa District, close to the existing facilities of Chiren UGS (presented in Figure 2.2. below).

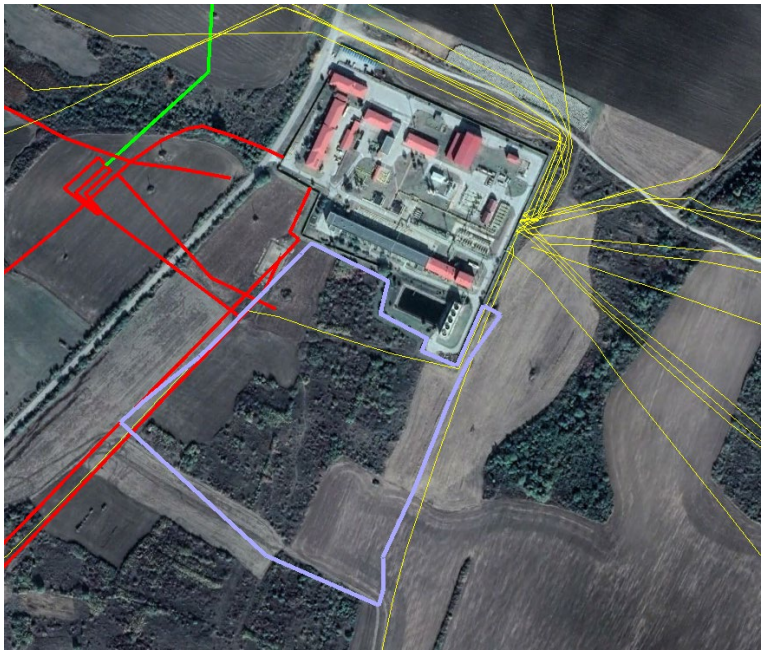

Figure 2.2: Current Chiren gas storage facility with the area of the expansion (purple) to the south

Activity 2: Design, construction and commissioning of a new gas pipeline in the section VA Butan - Chiren UGS

Design, construction and commissioning of gas transmission infrastructure from VA Butan to Chiren UGS will be carried out within the framework of the activity, which includes a gas transmission pipeline, together with the main facilities and an optical cable network for operational data transmission. The envisaged length of the gas pipeline is approximately 42 km, Dn 700 (711 mm outer diameter), maximum operating pressure 7.5 MPa. The estimated technology for installation of the gas pipeline is by using the HDD technology. In addition, pipes for protection of electrical cables or fibre optics are estimated to be laid by using HDD technology as well.

Characteristics of the gas transmission pipeline route:

- Start: the existing site of valve assembly VA Butan of Bulgartransgaz EAD gas transmission network;
- End: Underground Gas Storage Chiren.

Technological sites and an optic cable line are envisaged to be constructed in the easement of the gas pipeline. Envisaged technological sites:

- Pigging Facility, Dn 700 at VA Butan;
- Valve assembly with a branch to provide an opportunity to supply adjacent areas in case of a financial, economic and commercial interest;
- Pigging Facility, Dn 700 at Chiren;

Location of activities: The route of the section from VA Butan to Chiren UGS runs through northern Bulgaria and the territory of Vratsa District as shown on Figure 2.3. below.

Figure 2.3: Layout of the gas pipeline from VA Butan to Chiren UGS

Activity 3: Design, construction and commissioning of new exploitation and observation wells

Ten new exploitation and three new observation wells will be designed and drilled within the activity. Geological, geophysical and 3D seismic surveys were carried out, the latter (3D surveys which were co-financed by the Connecting Europe Facility, Action No 6.20.2-0021-BG-S-M-15) was completed in the beginning of 2021. As a result thereof, a detailed geological model was created, which serves as a base for planning and implementing the capacity expansion of the gas storage facility to ensure its efficient and safe operation in market conditions. The available digital model (geological and tectonic) of the Chiren geological structure will compile with the information generated by the 3D seismic surveys. Thus, when designing the locations of the new wells this will enable to take into consideration specific parameters, determining their maximum efficiency.

The execution of each of the 10 individual exploitation wells consists of the following milestones:

- Design of the well and the auxiliary equipment.
- Borehole drilling, including the exploitation lift and well head completion. Hydrodynamic tests to determine the productivity of the well and its critical parameters, as well as other tests important for its future operation.
- Drilling of gas pipeline gathering system (gas pipeline) to connect the well with the site of CS Chiren.
- Installation of an individual separation and gas measurement at the site of CS Chiren.
- Installation of well telemetry and its connection to the existing SCADA control and information system.
- Carrying out drilling and geophysical surveys.

The execution of each of the 3 observation wells consists of:

- Design of the well and the auxiliary equipment.
- Drilling of the well and well head completion.
- Installation of metering telemetric sensors.
- Carrying out drilling and geophysical surveys.

Location of activities: In northern Bulgaria, Vratsa District - the area of the Chiren structure (concerning the wells and gas gatherings) and the site of CS Chiren on the territory of Chiren UGS (for the individual separation, measurement and telemetry) as presented in Figure 2.4. below.

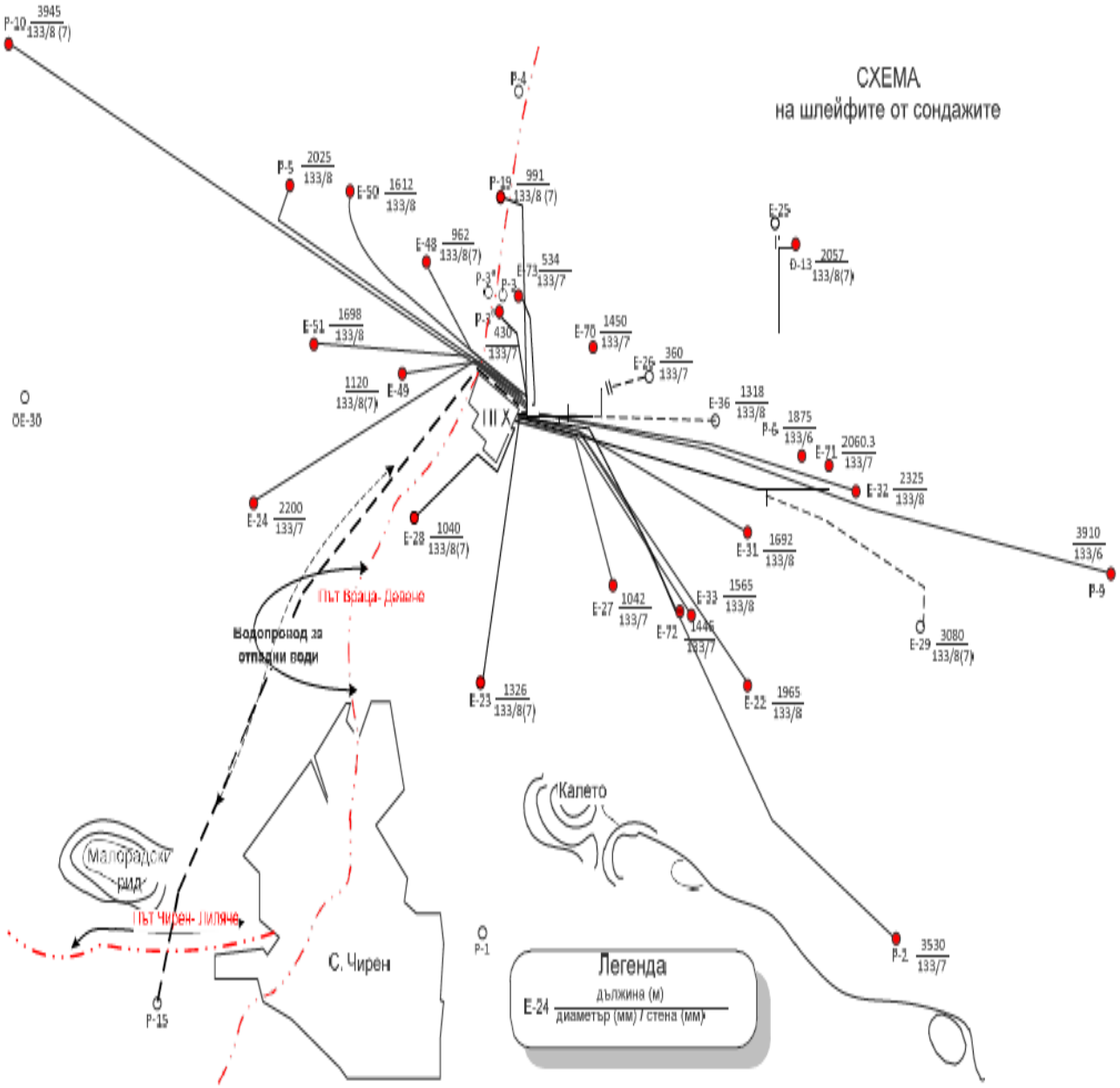

Figure 2.4: Layout of the existing borehole and pipeline network

3 REGULATORY FRAMEWORK AND PROJECT STANDARDS

The Project Company and its Contractors are required to meet a number of key environmental and social standards as outlined below. This ESMMP Framework and the underlying MPs are intended to help ensure that such standards are met during the Construction and operational Phases of the Project.

Where standards are inconsistent or contradictory, the Project is committed to apply the most stringent standard unless otherwise agreed or justified in the final Project environmental and social documents package.

This section provides a summary of the policies, legal and regulatory requirements and other applicable standards relevant to the ESMMP Framework. These are drawn from the Chapter 3 "Policy, Legal and Institutional Framework" and from the Project Standards Sections included within each Chapter where relevant.

The Project Company maintains a Register of all applicable legal, regulatory and other voluntary requirements, which is updated on a regular basis. Internal legal bulletin containing information of the ongoing amendments in these external requirements is issued every 2 months. If needed, changes in the internal rules, procedures and plans are introduced on the basis of this information.

3.1 COMPANY POLICIES

Bulgartransgaz has adopted:

- ✓ Environmental Policy
- ✓ Corporate Social Policy
- ✓ Occupational Health and Safety Policy and
- ✓ Code of conduct

These policies apply to the Bulgartransgaz EAD and all activities carried out by the Company as part of this Project and are presented in Appendix A.

3.2 INITERNATIONAL APPLICABLE STANDARDS

The International Finance Corporation (IFC) Sustainability Framework and IFC Performance Standards (2012) are applicable to this Project and include the following:

- ✓ Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts;
- ✓ Performance Standard 2: Labor and Working Conditions
- ✓ Performance Standard 3: Resource Efficiency and Pollution Prevention
- ✓ Performance Standard 4: Community Health, Safety, and Security
- ✓ Performance Standard 5: Land Acquisition and Involuntary Resettlement
- ✓ Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources
- ✓ Performance Standard 8: Cultural Heritage

Performance Standard 7: Indigenous Peoples is not considered to be triggered by the Project, as no indigenous peoples are impacted by the Project.

In addition to the standards the Equator Principles version IV (2020) and the following World Bank/IFC guidelines are applicable to this Project: Environmental Health and Safety (EHS) General Guidelines (2007), EHS Sector Guidelines for Gas Distribution Systems (2007),

Liquefied National Gas Facilities (2017), Natural Gas Processing (2007), and Onshore Oil and Gas Development (2007).

3.3 NATIONAL LEGISLATION AND STANDARDS

The proposed project of BTG will be realised on the territory of the Republic of Bulgaria which as member of the European Union (EU) has implemented the legislative requirements of the EU environmental legislation.

In addition, Bulgarian legislation is quite extensive and developed in particular for gas sector projects and many rules are established to provide for safe construction and operation of the gas networks in the country. This legislation includes special licenses and permits for each step of the design, building and operation processes (such as special permits for welders of gas pipelines, safety training of personnel, emergency trainings and drills, special permits for work with the odorant for gas etc.). The legislation especially related to gas sector applies together with the general environmental, labour and health and safety legislation in the country (i.e., related to waste transport and treatment, work conditions, working times, restoration of surface etc.).

The legislative requirements in the Republic of Bulgaria which are taken into account by the Project company during its' operation regarding its HSE obligations, including social regulations, are stipulated in Appendix D to this Plan.

4 ROLES AND RESPONSIBILITIES

The responsibilities for implementation of the specific actions identified in this ESMMP Framework and to be furtherly detailed in each specific MP are clearly distinguished between the Proponent (Bulgartransgaz) and the relevant Contractors in the summary tables included in the present document (see Appendix B).

Actions / requirements placed on contractors will be addressed through the development by each contractor of an HSE plan and specific Implementation Procedures (IP), with reference to the activities relevant for each contractor.

The Project Company has produced an organizational chart that identifies all roles and responsibilities across the Project as shown below in Figures 4-1, 4-2 and 4-3, in any case this document will be dynamic and updated as required.

4.1 COMPANY ROLES AND RESPONSIBILITIES

HSESQ management roles and responsibilities will be set out in organization charts that are the Bulgartransgaz HSESQ-MS. The primary responsibility of Bulgartransgaz should be to ensure that a sufficient number of competent staff and management resources are made available to adequately address all health, safety, security, environmental and social issues across the Project.

The Project Company organigram identifies all roles and their respective responsibilities for organization of the Project.

The detailed organigrams below represent the overall structure of the company and the Gas storage facility Chiren as well as the allocation of roles for the Integrated Management System of Bulgartransgaz with regard to HSES aspects. The HSES management roles are assigned to responsible employees at the central management structure of the company in Sofia – Manager of the HSES Management system (&CSR Manager) as shown in Figure 4.3. below. The Head of Chiren UGS Regional Unit is the local responsible employee for implementation of the SEP, LALRMP and the procedure regarding to the grievances. He also assists to the responsible employees at the central management structure of the company in Sofia. The Health and Safety specialist, the ecologist and the investment control specialist – the three of them based in Chiren - may perform particular social system management roles as assigned by a special order of the management of BTG.

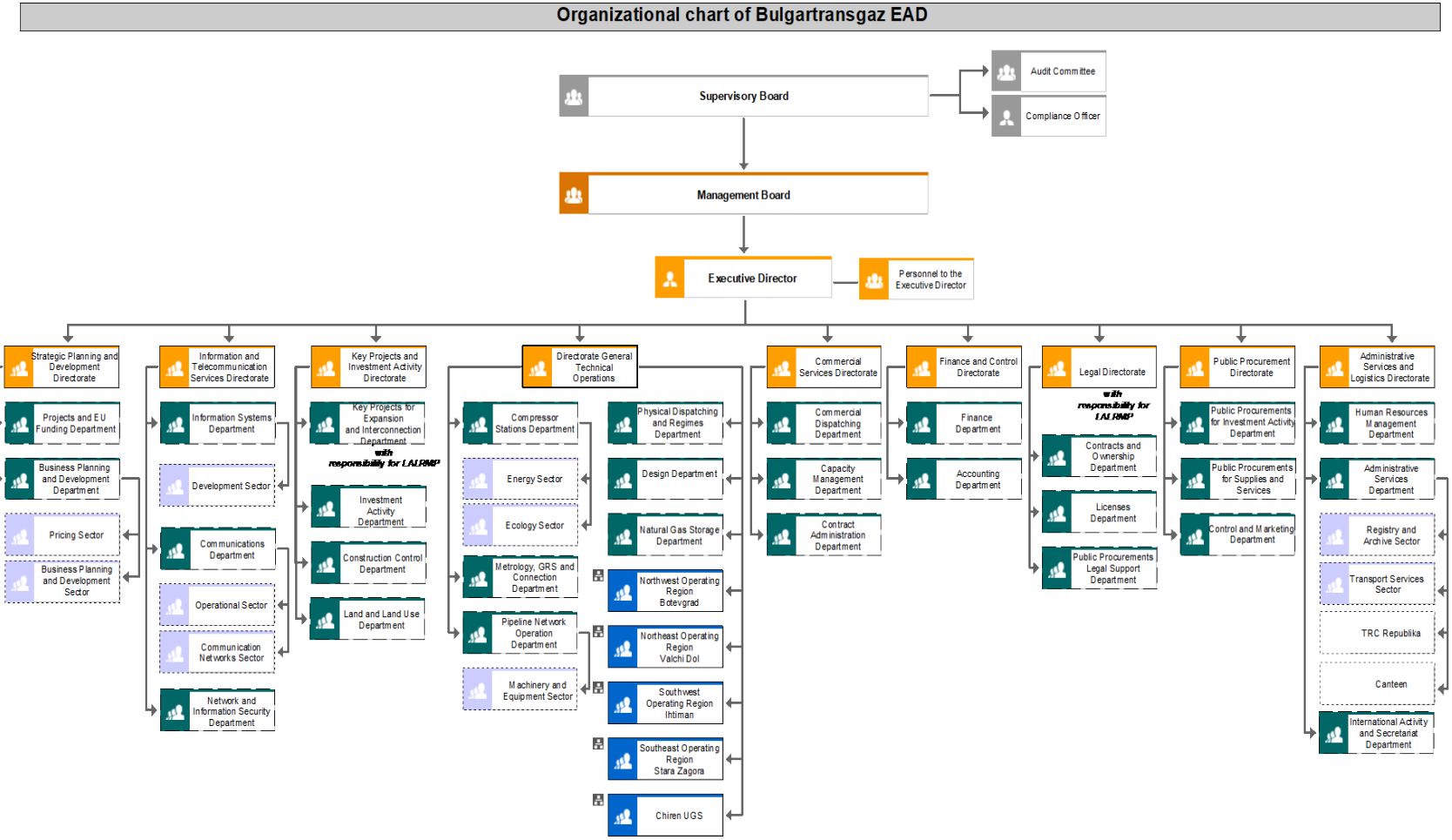

Figure 4.1: Bulgartransgaz Overall Organizational Chart

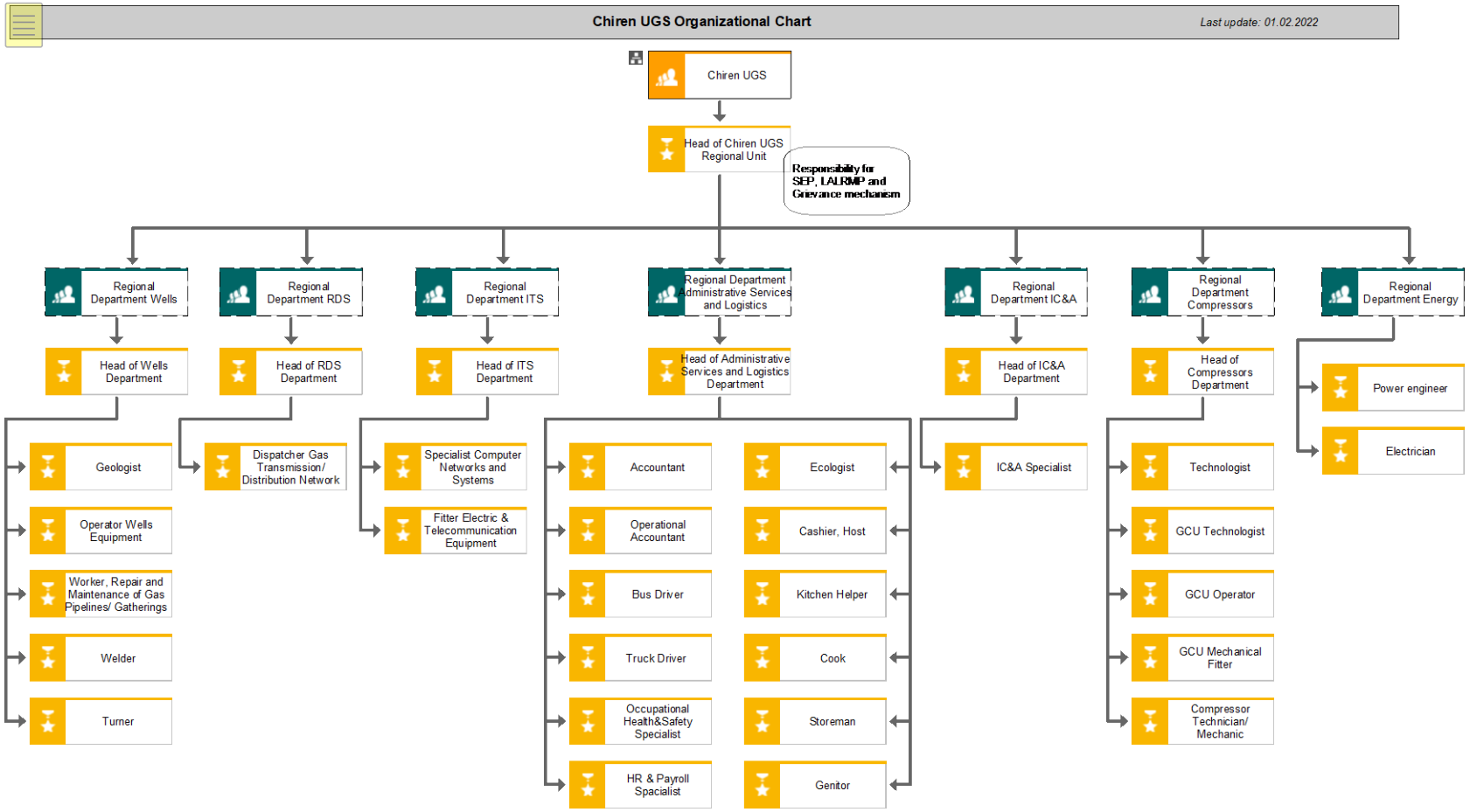

Figure 4.2. Gas storage Facility Chiren Organizational Chart

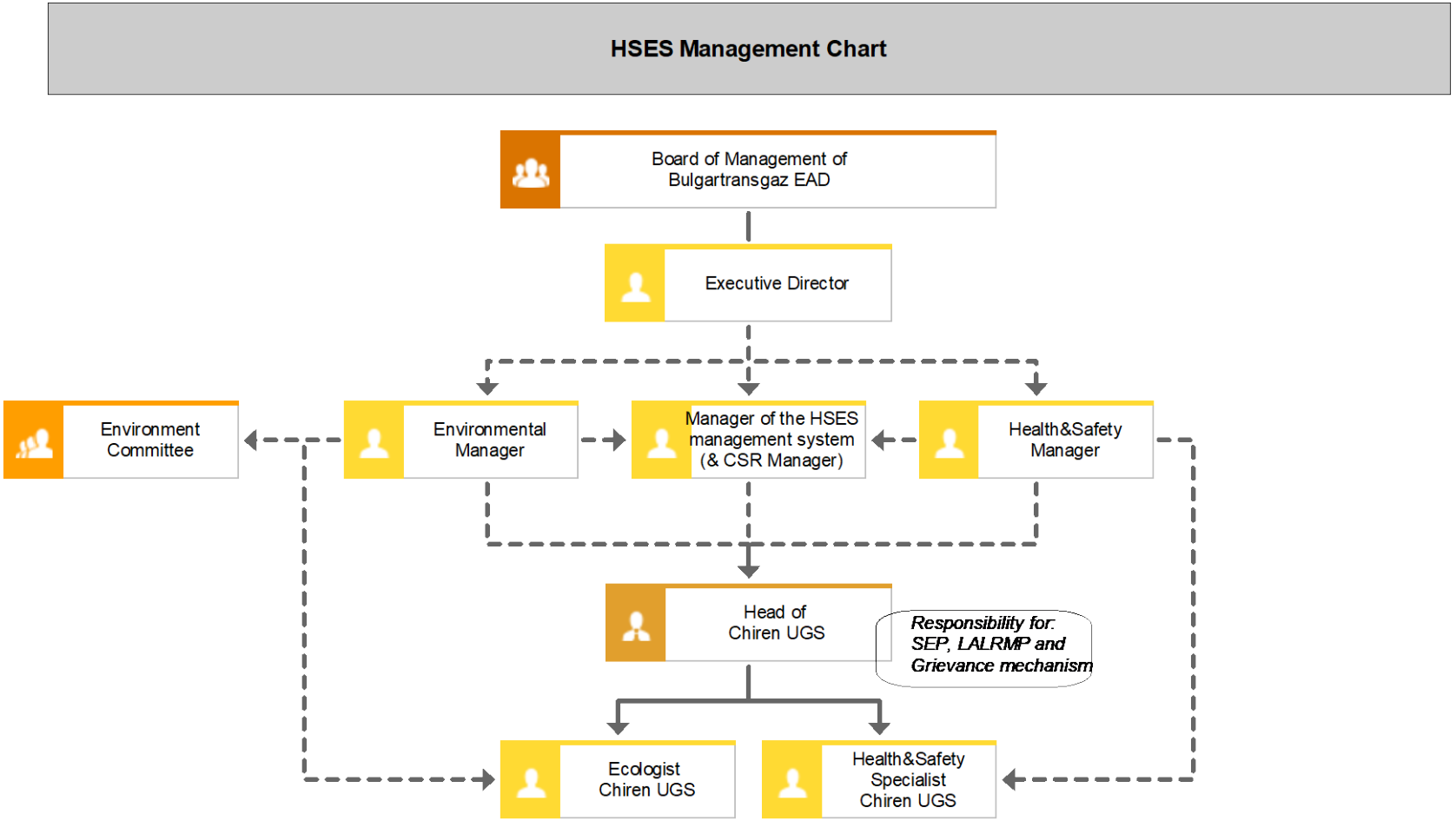

Figure 4.3: HSES Management Chart

The initial organigram(s) will be supplemented by the identification of all contact points with the Contractors. Bulgartransgaz will approve and monitor all Contractor management systems to allow for the identification of the management structure throughout the entire Project.

4.2 CONTRACTOR ROLES AND RESPONSIBILITIES

All contractors working on the Project are contractually obligated to comply with Bulgartransgaz environmental, social, health, safety and security policies, plans and procedures.

This requires that each contractor shall develop an HSES Plan (as part of the overall contractor implementation plan) that shall be submitted to Bulgartransgaz for approval, and the contractor shall ensure that the HSES plan is implemented.

In addition, each contractor is required to ensure that it meets all topic-specific requirements outlined in each MP of the Project Company that is relevant to its scope of work, therefore the contractor is also responsible for ensuring that any relevant subcontracted work meet these requirements. With this aim the Contractors will develop dedicated Implementation Procedures.

The IPs will provide the relevant details, including organisation, roles and responsibilities, procedures, method statements and work instructions, and performance indicators, developed to ensure and demonstrate compliance with Bulgartransgaz environmental and social requirements during Project's execution.

The Contractor IPs will be, however, living documents and they will be subject to modifications and updates as needed, according to a management of change procedure that will be part of the HSESQ-MS.

4.3 COMPETENCY AND TRAINING

Both the Project Company and Contractors must establish a process to ensure the necessary training and competency is provided to manage all environmental, social, health, safety and security issues. Both will need to develop a training program identifying all competencies and requirements that are relevant for each staff member based on the role.

Training is delivered to employees on a regular basis depending on the results of monthly assessments of needs carried out by the Company.

HSES training as a minimum will address the following topics:

- ✓ General principles, content and requirement of the Project HSESQ-MS;
- ✓ Documentation (including procedures, plans, directives etc.) specific to the roles, responsibilities and duties of each worker and way to access it; and
- ✓ Specific duties of workers involved in Project activities.

Contractor training programs will require to be approved by Bulgartransgaz prior to implementation and the Project Company will be further responsible for the supervision and monitoring of Contractor's compliance to the training regime.

5. MITIGATION, MANAGEMENT AND MONITORING

5.1. MITIGATION AND MANAGEMENT ACTIVITIES

Management actions and mitigation measures that are to be implemented before and during construction and operational activities in order to minimize environmental and social impacts are described in each MP.

An overview of the necessary actions is presented, and the actions themselves are detailed in tabular form in Appendix B.

5.2. ENVIRONMENTAL AND SOCIAL MONITORING ACTIVITIES

The monitoring provisions for the construction and operational phase of the Project have been developed by Bulgartransgaz in a staged process, as follows:

- ✓ Stage 1: through consideration of the 'source-pathway-receptor' linkages, monitoring requirements for the aboveground facilities have been identified in the ESIA and in the decision by the Competent authority regarding the connecting gas pipeline to the village of Butan for each significant construction and operational activity that are commensurate with:
  - 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 zone of influence of the activity;

- ✓ Stage 2: following Stage 1, regulatory monitoring programmes have been defined that are fully consistent with the principles developed in Stage 1.

The above approach ensures that monitoring plans are developed that meet both (i) Bulgartransgaz's judgement on the necessary monitoring required to adequately understand and manage the Project's potential impacts during each construction activity and at each location and (ii) any specific requirements of the Bulgarian authorities.
The monitoring requirements are presented in Appendix B. It will be updated with the monitoring and mitigation requirements for the wells, once the Competent authority issues its' decision for this project component.

6. VERIFICATION

Performance monitoring, reporting and auditing should be carried out to ensure compliance with the requirements of this ESMMP. The following provides an outline approach which is aligned to the requirements of ISO 14001, the reference point for Environmental Management Systems.

To ensure an appropriate, robust and effective environmental and social management commensurate to the scale of the Project through its lifetime the following actions will need to be implemented:

- ✓ the ESMMP framework will be reviewed and amended in accordance with the Project as it evolves. Key information about any changes to Project description will be reviewed monthly and site visits undertaken by the Project Proponent staff to identify the true impacts of the Project;
- ✓ specific Management Plans will need to be developed to meet the management and mitigation objectives set out here, and the outcomes of the monthly reviews; and

- ✓ evaluation of the effectiveness of measures included in the ESMMP framework need to be undertaken annually or whenever there is a significant change to the operational elements of the Project as it evolves through construction and operation. Evaluation will be undertaken through on-going communication with the Contractors, stakeholders and lenders supplemented by site audits and monitoring data review to identify weaknesses and / or gaps in the management plans. The ESMMP will be changed and / or updated accordingly to ensure appropriate, robust and effective environmental and social management commensurate to the scale of the Project through its lifetime.

6.1. KEY PERFORMANCE INDICATORS (KPI)

Key Performance Indicators (KPI) are quantitative or qualitative measurements used to measure the performance over time. They can be used to assess the effectiveness of control measures and demonstrate performance improvements during steady state operations.

Relevant KPIs are preliminary presented in Appendix B and detailed in each MP. Where relevant, Bulgartransgaz set minimum environmental and social standards and associated threshold values for environmental factors (i.e., in the EIA report for the aboveground facilities). If any of the KPI values exceed the levels predicted in the Project Standards Chapters then the need to refine mitigation measures will be investigated and implemented as necessary.

6.2. MONITORING

6.2.1. Bulgartransgaz Audit Procedure

The Bulgartransgaz audit procedure is described in the HSESQ-MS in the Audit and Inspection Procedure and is structured in four tiers, namely:

- ✓ **Tier 1** – Bulgartransgaz management system audits. These audits are aimed at assessing the Bulgartransgaz HSESQ - MS elements and assessing their continued suitability throughout the project life cycle;
- ✓ **Tier 2** – Bulgartransgaz ESMMP audits. These audits are aimed at assessing the Bulgartransgaz drafted MPs to ensure that they continue to deliver the required level of ES protection throughout the construction and operational phases and to ensure that any new requirements that arise are fully incorporated in to the ESMMP structure;
- ✓ **Tier 3** – Bulgartransgaz audits of the Contractors. Audits undertaken by Bulgartransgaz to confirm compliance of its contractors with Bulgartransgaz HSESQ-MS requirements (including the ESMMPs);
- ✓ **Tier 4** – Contractor and sub-contractor self-audits. These audits are undertaken by Contractors to confirm compliance by themselves and their sub-contractors with the Company's ESMMPs and their own HSE plans and Implementation Procedures.

In addition to the Bulgartransgaz-led audits and contractor audits there are also expected to be lender compliance assurance audits, the nature and structure of which is to be confirmed as part of the loan documentation.

Specific auditing requirements for the verification of Project compliance with the management and mitigation controls described within each MP will be identified in MP Appendices, which will include the identification of the relevant audit tier level (1 to 4) to be undertaken.

6.2.2. Contractor Auditing Activities

In line with the requirements of the Contractors HSE Management Plans, each Contractor overall Implementation Procedures shall include a description of how the Contractor will monitor its own HSE performance related to each specific work. Depending on the nature of the work, this could include:

- ✓ the method of measuring performance against objectives and targets (including KPIs);
- ✓ routine reports (e.g., weekly, monthly);
- ✓ arrangements for HSE inspection and audits (by the contractor);
- ✓ reporting of incidents (actual and near-miss);
- ✓ worker grievance registers of their respective workforces; and final HSE report at end of contract.

Specific contractor self-auditing (Tier 4) requirements will be identified in each MP.

6.3. NON-CONFORMANCE

Non-conformances and progress on associated corrective actions will be identified, recorded and managed in line with the HSESQ-MS procedures and action tracking system.

6.4. REPORTING

The following reports should be prepared for the Project:

- ✓ **Contractor monthly EHS report to be issued to the Project Proponent**, containing at least (i) progress in implementing the ESMMP and any management plans; (ii) findings of the monitoring programmes; (iii) outstanding Non-Compliance Reports (NCRs); (iv) detailed reporting of the environmental performance of construction activities; (v) detailed reporting on all H&S aspects presenting statistics and expanding on accidents and incidents; (vi) summary of any complaints by external bodies and actions taken/to be taken; and (vii) relevant changes or possible changes in legislation, regulations and international practices;
- ✓ **Project Proponent external reporting for regulatory compliance:** a register of all external stakeholder reporting requirements under Bulgarian Legislation and for regulatory compliance purposes should be developed where appropriate. The frequency of reporting, the required reporting format and the person(s) responsible for producing the report (along with any necessary specialist service providers/constructors required to assist for data collection or interpretation purposes) is to be noted in the register. The Project Proponent will need to ensure that all the necessary reports are produced and submitted in a timely manner in order to achieve on-going regulatory compliance throughout the life of the Project. Meeting regulatory reporting requirements is to also form part of the scope for any internal audits and management reviews;
- ✓ **Independent monitoring:** the IFC PS1 guidance notes state that Projects require an independent environmental and/or social expert to verify project monitoring information. During the construction phase and as a minimum, throughout the first year of the operations, arrangements should be made by the Project Proponent for an environmental and social management specialist to carry out an independent due diligence audit of the existing practices against the requirements of the ESMMP. The key objectives of the audit should be as follows:
  - report on the practical implementation of the ESMMP and progress since the last reporting period,
  - establish feasible improvement objectives for completion before the next reporting period. These audits should be used to re-examine the continued appropriateness of the ESMMP and to provide advice on any updates required. Attention should be given to lessons learnt in the light of experience. In particular, consideration should be given to the monitoring programmes in place to determine whether their purpose has been served and they can therefore be terminated or reduced in frequency.

The final scope and format of all reports proposed herein is normally agreed with the lender prior to them being required and produced.

7. MANAGEMENT OF CHANGE PROCEDURE

7.1. OBJECTIVES

The main objectives of the Management of Change Procedure are to:

- ✓ manage in an effective manner any change that may occur to the Project and ESMMS in order to minimize risks and improve the business performance;
- ✓ completely control the Project changes by deleting non –essential changes and minimizing changes following the steps provided by the procedure;
- ✓ ensure that approved changes are correctly and promptly implemented, widely communicated, and closed –out. Close – out of any change shall include relevant documentation and establish a permanent record;
- ✓ manage temporary and urgent changes within the overall change process; and
- ✓ identify deviations to the Project which are different than what may have originally been planned, documented, or assumed but are not considered changes to a Project baseline

7.2. POTENTIAL OCCURRING CHANGES

Changes to the Project (intended as modification of the context, design, controls and operation) may occur during its lifetime, during the Operational Phase.
Examples of changes may be, but are not limited to:

- ✓ changes to the planned Project time schedule (e.g., extension of the Construction Phase, Commissioning Phase deadlines);
- ✓ extension of the Construction site area with potential modification of the Project area of influence (as defined in the SIA);
- ✓ modification of the HSSE regulatory context and permits (e.g., setting of more stringent regulatory limits);
- ✓ changes to the voluntary commitment to international HSSE Standards undertaken by BTG; and
- ✓ changes in the Project organizational structure (e.g., changes in the BTG structure/organization).

BTG management has to identify those changes that may unintendedly result in negative social and/or environmental impacts (new or additional). These changes that may result in potentially negative impacts are referred to as “significant changes”. A significant change is a modification that entails different assumptions and a different (negative) impact assessment result with respect to those envisaged in the ESIA Study/ Decisions of the competent authority as applicable to each project component.

The present “Management of Changes Procedure aims at managing the significant changes through the following process:

- ✓ to obtain information regarding any changes that are being planned/considered by BTG or any unintended change to the project context;
- ✓ to identify significant changes;
- ✓ to assess the risk for ES components and related potential impacts (this assessment may need the support of a specialized contractor and may result in the need of existing ES documentation for the project component/s or in the need of providing supplementary impact assessment studies); and
- ✓ to take appropriate measures and actions to avoid or, when not possible, minimize and mitigate potential impacts (this assessment may result in the need of updating/revising ESMS documentation such as policies, ESMMPs and procedures).

In case of changes that may lead to risks or impacts on the HSE components (see it.7.3.2 below) for the classification of those changes), the present procedure ensures that HSSE aspects and related risks and impacts are adequately assessed when planning a change to the Project.

7.3. MANAGEMENT OF CHANGE PROCESS

Early identification, communication and management of change are responsibility of all members of the Company and Project. This Management of Change procedure provides the Company with an early warning of conditions. It is fundamental that the potential changes be circulated around the Company as quickly as possible to allow prompt feedback to the change initiator. BTG has to appoint a Change Management Coordinator (CMC).

7.3.1. Identifying a Change

Once a potential change is identified, the initiator shall notify his/her superior via a Change Notice Form (example Form included in Appendix C), complete the Scope and justification sections of the Change Notice form.

The most usual justifications for changes are listed on the Change Notice Form and include:

- ✓ Legal Change: a change is due to modification in the legal/authorization framework;
- ✓ Permitting Change: a change is required due to National Authority requirements, affecting, for example routing, equipment, construction or design;
- ✓ HSE Change: this change will potentially affect the health and safety of persons or the protection of the environment during fabrication, construction, commissioning, operations and maintenance. It may involve safe working limits being exceeded and risk mitigation measures being inappropriate or less effective, leading to the need for repeated risk assessment;
- ✓ Functional Change: the facilities cannot function, be operated or maintained without the change;
- ✓ Statutory Change: the change is necessary to comply with legislation or Code requirements. The change may be outside the scope of Permit approvals and may require additional notifications and approvals;
- ✓ Commercial Change: allowing for the cost of the change there is commercial benefit in making the change;
- ✓ Schedule Change: the schedule may be at risk if the change cannot be accommodated;
- ✓ Procurement Change: supplier cannot meet previous commitments and obligations; and
- ✓ Security Change: exposure to security risk increased/decreased.

7.3.2. Classification of changes

Any change will be screened for environmental and social consequences, including health & safety.

All changes referred through the Management of Change procedure are classified on the basis of three classes and the same classification has been adopted for environmental and social aspects. Here below is described the procedure for defining changes on the basis of how they may potentially affect the environment and on the effect that such change may have on related mitigation measures.
Three classes of change are recognized, referred to the change relevance with respect to the environmental and social aspects:

- ✓ Minor Change (Class 1): where the change is judged to have been addressed in the environmental and social assessment process and documentation for the three project components and the change is considered to be consistent with existing permits. The only needed action is to amend the 'Commitments Register' and project Environmental and Social Management and Monitoring Plan (ESMMP) to reflect how this change is ultimately resolved;
- ✓ Moderate Change (Class 2): where the change may not have been sufficiently addressed in the ESIA process and the change may be inconsistent with existing permits. The required action is to define the change and newly assess the relevant impacts and mitigations (if required). This may impact on one or more of the MPs and may require additional mitigation measures;
- ✓ Major Change (Class 3): where the change is judged to have not been addressed in the ESIA process and the change is considered to be inconsistent with existing permits. This would be expected to lead to changes to the Environmental and Social Management System (ESMS) and the development of additional mitigation measures. Class 3 changes will be notified to shareholders, appropriate regulators and the Project Lenders.

In case of changes that may lead to risks or impacts on the HSE components, the present procedure ensures that HSSE aspects and related risks and impacts are adequately assessed when planning a change to the Project.
In particular, changes that may imply risk for ES components and related potential impacts may need the support of a specialized contractor and may result in the need of updating the ESIA or in the need of providing supplementary impact assessment studies.
Appropriate measures and actions to avoid or, when not possible, minimize and mitigate those potential impacts may results in the need of updating/revising ESMS documentation (e.g.: relevant policies, ESMMPs and procedures).

7.3.3. Routing of the Change Notice

As shown in the following scheme, once a potential change is identified, the initiator shall notify his/her Manager or equivalent and, using the Change Notice Form (example Form included in Appendix C to the present Procedure).

The Manager is responsible for passing the Change Notice Form, with associated documentation to the designated Change Management Coordinator within the Project. The Change Management Coordinator (CMC) shall assign a unique change control number to the change and shall add this unique number to the Change Notice Log, which he shall maintain.

The CMC shall then manage the process and progress of the Change Notice through the various stages until approval/rejection.

At any stage of the review process, any of the reviewers may reject the basis of the change. Under such circumstances the Change Notice shall be returned to the originator for resubmission. In any case, the review and approval time must be minimized and certainly no longer than 5 working days. This requires that the CMC be in full control of the review/approval cycle and expediting responses from the reviewers.

When the CMC has all the relevant feed-back from the review team and approvals, the change shall be passed to the originator and the Executive Director. It is essential that the CMC remains in charge of both the Change process and all matters pertaining to Change Management.

7.3.4. APPROVAL OF CHANGES

Changes may be:
- ✓ rejected (no action required);
- ✓ approved according to the provisions of the following table.

Table 7.1: Approval of Changes

Rating	Approval
Class 1	Respective HSE Manager and Head of Key Projects for Expansion and Interconnection Department (Project Manager and CMC)
Class 2	Executive Director (Company Changes with reputational or permitting impacts and corporate changes)
Class 3	Board of Management

Note: Final, formal approval of changes shall be carried out in the Board of Management meetings

- Resulting Actions

Following the approval of a change, CMC shall notify all relevant Directors or equivalent of the outcome so that work may proceed accordingly.
The relevant Directors shall report the progress of implementation to the Board of Management.
The Change Notice Log shall be updated to show the status of each change by the CMC and completed, closed out Change Notices (either approved or rejected) shall, together with the relevant back up information, be archived.
All changes shall be tracked and monitored for approvals and close out by the Project Manager (Head of Key Projects for Expansion and Interconnection Department).
In case of changes that may lead to risks or impacts on the HSSE components, the Management of Change process shall be handled by the HSSE Manager that will report to BTG Management as soon as significant changes are identified, in the context of the management review. Additionally, a review of the possible changes that may have been introduced in the Project shall be carried out on a systematic basis during the periodical management review meeting.
Reporting on the supplementary assessments and related results have to be reviewed by the respective HSE Manager and approved by BTG Board of Management.
No work required by a change shall be initiated or a Contractor/Supplier instructed until the Change Notice is fully approved.