

Chapter 16: Environmental and Social Management

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16 Environmental and Social Management

16.1 Introduction

South Stream Transport is committed to develop and operate the South Stream Offshore Pipeline in an environmentally and socially responsible manner.

Further, South Stream Transport is seeking international financing and consequently must meet the legal and other requirements of all countries through which it passes (i.e. the Russian Federation, Bulgaria and Turkey), plus adopted standards and guidelines for international financing¹.

As the South Stream Offshore Pipeline will be constructed and operated as a single, coherent development across three countries, it will be managed by means of an overarching corporate management system. A Health, Safety, Security and Environmental Integrated Management System (HSSE-IMS) will form an important part of the corporate management system. Key elements of the HSSE-IMS relating to environmental and social management are described in more detail in Section 16.5.

This chapter explains how commitments identified during planning stages (i.e. during national and international impact assessments) are captured in Environmental and Social Management Plans (ESMPs) that in turn form an important element of the HSSE-IMS.

16.2 Environmental and Social Commitments

Commitments in the form of design controls, safeguards, mitigation measures and monitoring requirements that aim to avoid, prevent, minimise or where this is not possible, offset potential adverse impacts and enhance beneficial impacts, have been identified or developed during the planning stages of the Project and the wider South Stream Offshore Pipeline. Figure 16.1 describes the key sources of environmental and social commitments, and their incorporation via a Commitments Register into ESMPs.

Thus, the Commitments Register represents the principal link and provides coherence between various source documents (including this ESIA Report) and the South Stream Offshore Pipeline ESMPs. As such, a single Commitments Register is compiled from sources from all three countries – Russia, Turkey and Bulgaria.

¹ Including: the Japan Bank for International Cooperation (JBIC), Equator Principles, the Organisation for Economic Co-operation and Development (OECD) Common Approaches and International Finance Corporation (IFC) Performance Standards (2012) as outlined in **Chapter 2 Policy, Regulatory and Administrative Framework**.

16.3 Environmental and Social Aspects and Impacts Register

South Stream Transport has evaluated environmental and social aspects for the South Stream Offshore Pipeline (i.e. for all three countries – Russia, Turkey and Bulgaria), and as a result has prepared an Aspects and Impacts Register. This register lists environmental and social aspects and impacts, based upon ENVIID, ESIA and Environmental Due Diligence Assessments, and identifies those that constitute a significant risk. These are subsequently transferred to the EIA / ESIA and Project Risk Register.

The purpose of ESMPs is to ensure that appropriate control and monitoring measures are in place to deal with all significant potential environmental and social impacts of a project. The Aspects and Impacts Register therefore provides a focus for environmental and social management and development of the management plans for the Project and the overall South Stream Offshore pipeline as shown in Figure 16.1.

16.4 Environmental and Social Management Plans

ESMPs are the principal means by which environmental and social impacts are managed and compliance with Project Standards is assured. ESMPs will be subject to regular review to determine adequacy and effectiveness and therefore, may be adjusted in line with the model described by International Organisation for Standardisation (ISO) 14001:2004 in order to improve future performance.

The ESMPs will form the basis for subsequent, more detailed management plans to be prepared and/or implemented by construction and operations contractors (Section 16.4.3), who will be contractually obliged to comply with the relevant environmental and social requirements, specifications, and procedures set out in South Stream Transport ESMPs.

Consultation with stakeholders has been an on-going process and will continue over the coming months, including for disclosure of the ESMPs, as outlined in **Chapter 6 Stakeholder Engagement**.

16.4.1 ESMP Structure

The potential impacts are markedly different between Project phases, with many construction-related impacts ceasing during the Operational Phase. The HSSE-IMS will therefore include the development of phase-specific ESMPs:

- Construction Phase ESMP; and
- Operational Phase ESMP.

The Construction ESMP and the Operations ESMP will each comprise a suite of documents including a Framework Document and a set of management plans. The document structure is shown in Figure 16.2.

Figure 16.1 Inputs to Environmental and Social Management Plans

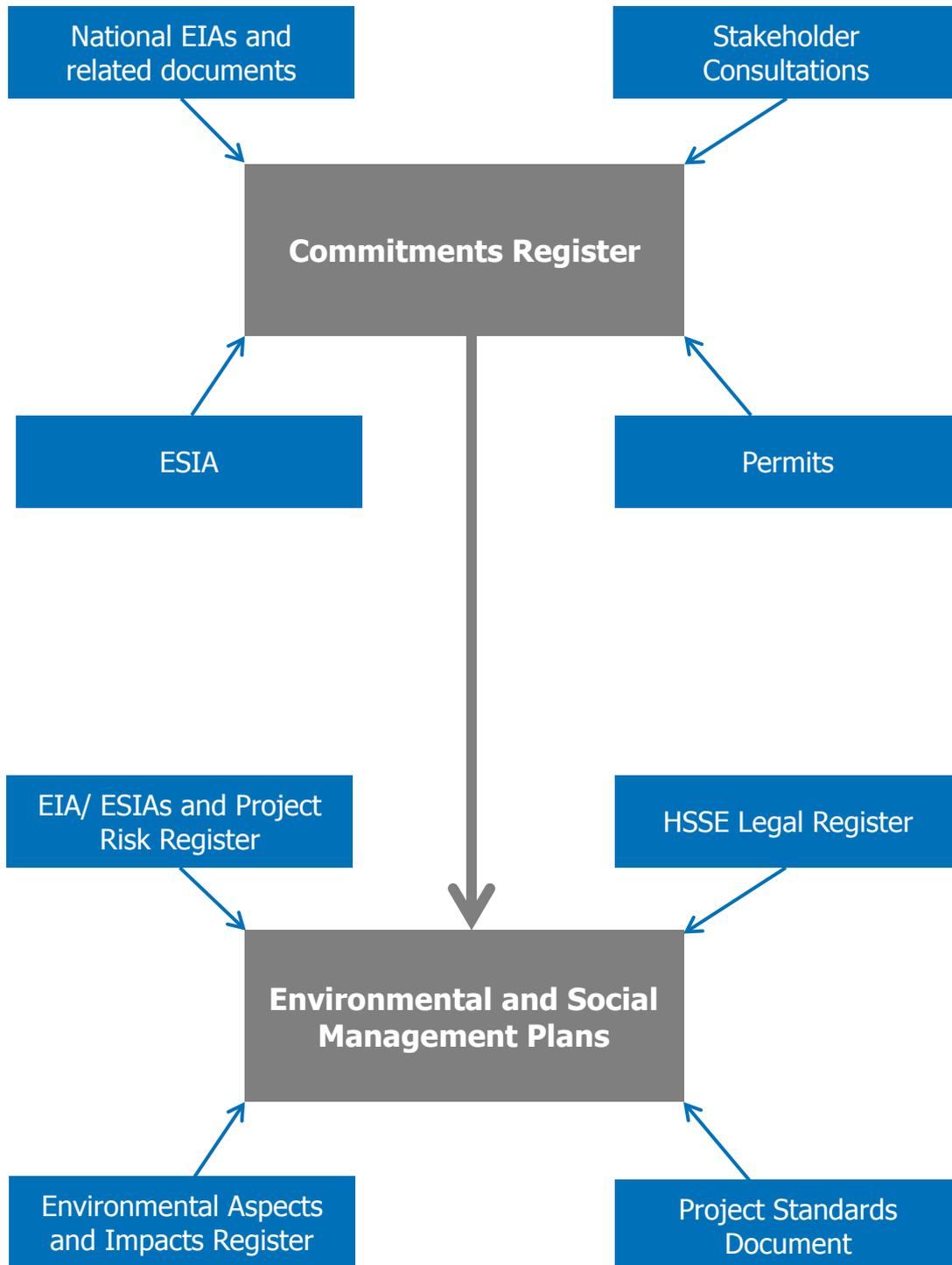
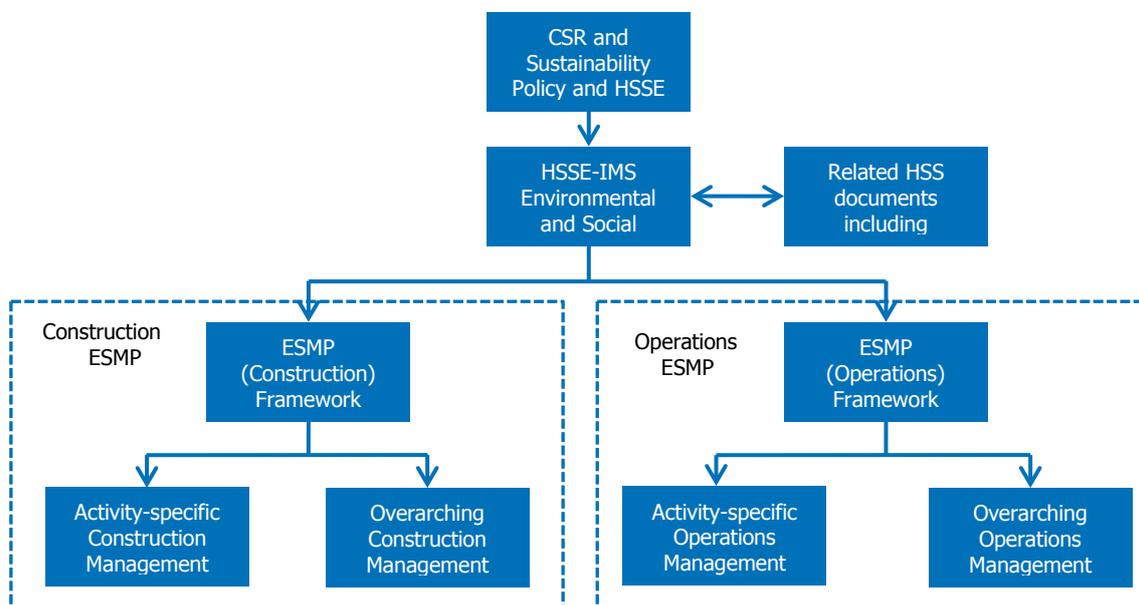


Figure 16.2 South Stream Offshore Pipeline HSSE-IMS and ESMP Structure

16.4.1.1 Construction ESMP

The Construction ESMP will comprise an “ESMP (Construction) Framework Document”, a suite of activity-specific Construction Management Plans (CMPs), and overarching CMPs. Between them, these documents will capture all relevant South Stream Offshore Pipeline commitments in terms of mitigation, management and monitoring actions defined in this ESIA Report and other documentation.

The ESMP (Construction) Framework Document will describe the Construction ESMP including its constituents and key linkages to other elements of the HSSE-IMS. In particular, it will set out the context and purpose of the activity-specific and overarching CMPs and will describe the rationale behind their development and how they will be implemented. This document will also include:

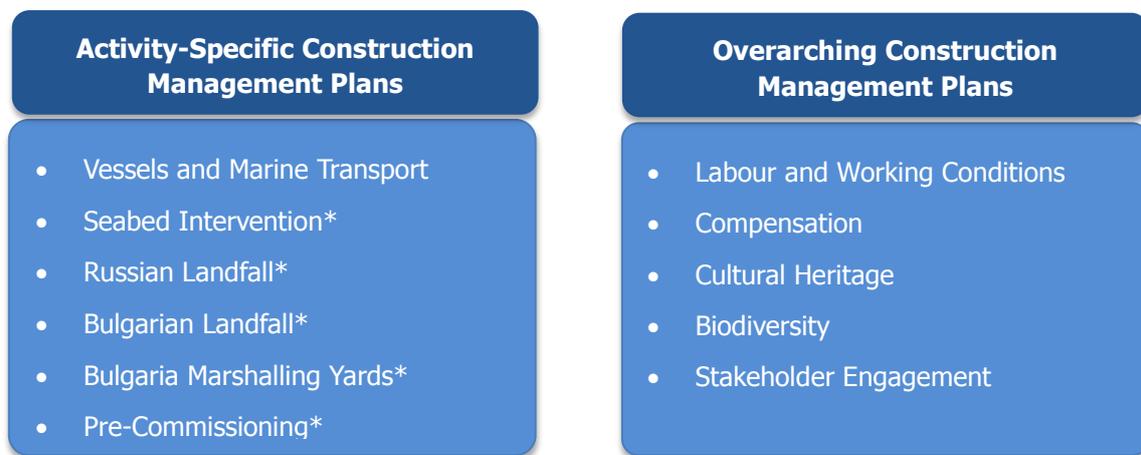
- Summary of the policies, legal and regulatory requirements and other applicable standards relevant to construction;
- Construction ESMP roles and responsibilities;
- Training requirements and standards;
- Performance milestones and indicators including key Performance Indicators (KPIs);
- Inspection, audit and reporting strategies; and
- General instructions as to how the Construction ESMP should be used.

Activity-specific CMPs will be designed for identifiable discrete Project activities (e.g. Vessel and Marine Transport). These plans will address environmental and, social impacts that are likely to occur as a result of the relevant activities.

As an example, the Vessels and Marine Transport CMP will address South Stream Offshore Pipeline commitments (mitigation, management and monitoring) applicable to all Turkish EEZ construction activities as well as offshore activities in the Russian and Bulgarian Sectors of the South Stream Offshore Pipeline.

The activity-specific CMPs will contain activity-specific requirements to be met by both South Stream Transport and appointed contractors (and sub-contractors). The activity-specific CMPs will be developed for contractors as the primary users (as opposed to South Stream Transport personnel). Figure 16.3 presents the activity-specific CMPs and overarching CMPs.

Figure 16.3 Activity-Specific and Overarching CMPs



* Identifies plans that are not relevant to the Project (i.e. Turkish Sector)

The overarching Stakeholder Engagement CMP is supplementary to the country Stakeholder Engagement Plans (SEPs) (see **Chapter 6 Biological Environment**) and will be implemented primarily by contractors. In particular it aims to ensure that any stakeholder engagement undertaken by contractors is aligned with South Stream Transport procedures.

In addition to the activity-specific CMPs, it is recognised that some Project Activities are applicable to the South Stream Offshore Pipeline, independent of the location or nature of the activity in question.

The overarching CMPs, as shown in Figure 16.3 will address the South Stream Offshore Pipeline requirements, the majority of which will primarily be the responsibility of South Stream Transport.

16.4.1.2 Operations ESMP

The Operations ESMP will follow the same structure as the Construction ESMP, including both the development of an ESMP (Operations) Framework Document to describe the ESMP and key linkages to other elements of the HSSE-IMS, as well as a suite of activity-specific Operations Management Plans (OMPs) and overarching OMPs. The anticipated OMPs for the Operations ESMP are presented in Figure 16.4.

Figure 16.4 Activity-Specific and Overarching OMPs

* Identifies plans that are not relevant to the Project (i.e. Turkish Sector)

Each OMP describes environmental and social mitigation, management and monitoring requirements and actions in relation to normal operating conditions and planned maintenance, minor repairs and minor incidents. Unscheduled major repair work relating to the offshore pipelines will be subject to permitting and impact assessment activities and development of bespoke management plans and procedures. Emergency situations will be covered by separate emergency response plans and procedures described in **Chapter 13 Unplanned Events**.

Decommissioning activities will be covered by specific management plans to be developed during the Operational Phase.

16.4.2 ESMP Content

Each of the individual management plans within the ESMPs consists of two main components:

- Management and Mitigation Plan; and
- Monitoring Plan.

These two components are contained within the appendices to each of the management plans. The main body of the management plans contains supporting information specific to the topic of the management plan including scope, responsibilities, linkages to other documents, implementation and verification and a summary policies and standards (including legal requirements).

16.4.2.1 Management and Mitigation Plan of ESMP

The Management and Mitigation Plan component captures all management and mitigation measures outlined in the source documents described in Figure 16.1. Those measures play a vital role in reducing the potential impacts associated with activities, and include:

- *Design Controls* As part of the Project design process, measures to avoid or minimise impacts were identified and incorporated into the design. These are referred to as design controls and include design features and management measures. They are based on Good International Industry Practice (GIIP) and are intended to avoid or control unacceptable impacts. Specific design controls are described in greater detail in **Chapter 5 Project Description** and the relevant technical chapters. Their role in controlling impacts on

environmental and social impacts is discussed more in **Chapter 3 Impact Assessment Methodology**; and

- *Management and Mitigation Measures* Where the outcome of the ESIA Report indicates that design controls are insufficient to manage an impact to an acceptable level, further measures have been identified. These measures have been termed 'mitigation measures' and are described in respective chapters and detailed in Environmental and Social Management Plans.

Management and Mitigation Actions

The ESMPs provide a detailed list of mitigation measures and actions that are required to reduce to acceptable standards the potential adverse environmental and, social impacts and enhance the positive impacts of the Project as presented in Section 16.3.

The management and mitigation measures are presented in a tabular format in the ESMPs (and associated CMPs) setting out the location and impact that each mitigation measure or action relates to, the entity responsible for implementing each measure or action, details of the mechanisms that will be used to monitor each measure or action and the performance criteria to be utilised in order to define or measure the success or failure of the measure or action.

16.4.2.2 Monitoring Plan of ESMP

The Monitoring Plan component of the ESMPs details the monitoring requirements based on the findings of this ESIA Report and other source documents (Figure 16.1) as applicable to the specific phase and activity or overarching topic.

For each of these monitoring requirements, the management plans specify:

- The parameters to be assessed as part of the monitoring;
- The proposed scheduling of monitoring activities;
- The proposed location of monitoring activities;
- The means of verification; and
- The roles and responsibilities for the monitoring activity.

In addition, South Stream Transport is developing a detailed overarching Environmental and Social Monitoring Programme for the South Stream Offshore Pipeline which will detail all monitoring requirements applicable to the South Stream Offshore Pipeline, discussed below.

Monitoring is required in order to both demonstrate compliance with legal limits and South Stream Transport's Project Standards as well as provide verification of the overall design and effectiveness of the implemented mitigation and management measures. The key objectives of South Stream Transport's proposed monitoring activities are as follows:

- To monitor compliance with relevant standards and South Stream Transport's environmental and social objectives;
- To provide an early indication of any mitigation and management measures or practices that are failing to achieve objectives;

- To determine whether environmental and social changes are attributable to construction and operational activities; and
- To provide a basis for continuous review of, and improvement to, the monitoring activities.

Overarching Environmental and Social Monitoring Programme

The monitoring plan requirements outlined in the ESMPs are defined in more detail in the overarching Environmental and Social Monitoring Programme. The overarching Monitoring Programme takes the monitoring requirements described in the ESMP monitoring plans and provides greater specificity and instruction on the monitoring locations, parameters to be monitored, sampling and storage methodologies, sampling frequency, analytical techniques and reporting.

In developing the overarching Environmental and Social Monitoring Programme, the following factors have been considered:

- Significance of environmental and social aspects identified through impact assessment;
- National legislative requirements;
- Good International Industry Practice (GIIP);
- Responsiveness to the detection of environmental and social changes or trends;
- Logistical practicality; and
- Cost effectiveness.

The following monitoring activities may be included in the overarching Monitoring Programme for the South Stream Offshore Pipeline (not all are of relevance to the Project):

- Air Quality Monitoring;
- Noise Monitoring;
- Vibration and Seismicity Monitoring;
- Terrestrial Soils, Groundwater, and Surface Water Monitoring;
- Seabed Sediments and Marine Water Quality Monitoring;
- Biodiversity, Ecological and Natural Resources Monitoring;
- Solid and Liquid Wastes Monitoring (Onshore and Offshore);
- Landscape and Visual Amenity Monitoring;
- Land Use and Ownership Monitoring;
- Community, Local Economy and Traffic Monitoring;
- Cultural Heritage Monitoring; and
- Unplanned Events Monitoring.

16.4.3 ESMP Responsibilities and Implementation

Construction ESMPs will be implemented primarily via construction contracts and as appropriate will be issued to contractors who will be required to demonstrate how they will comply with the ESMPs through the development of their own contract-specific HSSE plans and procedures. These will be approved by South Stream Transport.

16.5 South Stream Offshore Pipeline HSSE-IMS

16.5.1 Introduction

As already described under the preceding sections of this chapter, the ESMPs – based on commitments raised in EIAs, ESIA's and other documents – form an important part of South Stream Transport's HSSE-IMS. The HSSE-IMS, which provides the framework for implementation of the ESMPs, has been developed to align with the requirements of the two relevant international standards:

- ISO 14001:2004: Environmental management systems – requirements with guidance for use; and
- OHSAS 18001:2007: Occupational health and safety management systems – requirements.

In addition, the system has been developed to meet the requirements of an Environmental and Social Management System (ESMS) defined in International Finance Corporation (IFC) Performance Standard 1 Assessment and management of environmental and social risks and impacts (Ref. 16.1).

The main objective of the HSSE-IMS is to provide a robust framework for meeting the Project's HSSE objectives during the entire Project lifecycle, from development to decommissioning. More specifically, the system has been designed to:

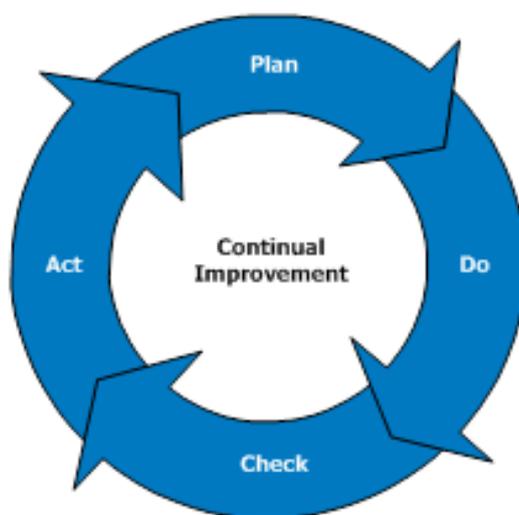
- Manage health, safety, security and environmental issues in an integrated manner;
- Clearly define the interface with other South Stream Transport management systems (e.g. quality assurance, corporate management system);
- Ensure high standards of management;
- Provide a mechanism to ensure that contractors meet South Stream Transport HSSE performance requirements;
- Establish procedures to allow South Stream Transport to monitor its HSSE performance and to report such information to its stakeholders;
- Provide South Stream Transport with a mechanism to meet its HSSE policy and associated corporate social responsibility (CSR) and sustainability goals; and
- Allow South Stream Transport to demonstrate to its stakeholders that it is committed to effective HSSE management through adopting the requirements of the relevant international standards.

The HSSE-IMS covers all persons employed directly and indirectly by South Stream Transport, including contractor and sub-contractor personnel.

The HSSE-IMS draws on the elements of the established business management process, outlined in IFC PS1, of “plan, do, check and act” which provides a methodological approach to managing environmental and social risks and impacts in a structured way on an on-going basis. (Figure 16.5):

- *Plan*: Establish the objectives, and design the processes necessary to achieve those objectives and their associated targets;
- *Do*: Implement the plan and execute the processes;
- *Check*: Monitor implementation (usually through regular monitoring procedures or through audit), and analyse data against targets and requirements. Determine root causes of non-conformity where necessary, and design and implement corrective actions where required in order to achieve objectives and targets; and
- *Act*: Management Review of system performance to determine if policy, objectives and targets have been met, and where necessary to adapt these to reflect changing circumstances. The requirements of the system (e.g. organisational structure, resources and competence) that will enable it to achieve policy, objectives and targets, are also reviewed. The Management Review process concludes on the suitability, adequacy, and effectiveness of the management system, and decisions are made in order to improve the overall system.

Figure 16.5 The Plan-Do-Act-Check Cycle



The following sections provide a brief description of some of the key elements of the HSSE-IMS that are necessary to meet the HSSE objectives listed above and ensure implementation of the ESMPs.

16.5.2 Strategic Objectives and Targets

The approach to setting strategic HSSE goals by senior management is to define:

1. Annual strategic objectives and targets;
2. Performance Indicators (including KPIs); and
3. Injury and other statistics to benchmark performance.

Annual strategic objectives are set by senior management, with associated targets determined at the expert-level as appropriate. The objectives and targets support the CSR Policy and HSSE Policy, and are connected to significant aspects and impacts, and/or risks, related to the Project.

Performance indicators are defined to provide proactive and leading measures of HSSE performance over time. They act as a positive incentive for the delivery of the intended management tasks dictated by the HSSE-IMS to prevent incidents and adverse outcomes, and measure how well the HSSE-IMS is being applied.

A limited subset of the performance indicators related to key HSSE risk areas are selected as KPIs. KPIs are limited in number in order to optimise performance monitoring, analysis and reporting by South Stream Transport and its contractors and to allow senior management to track headline HSSE performance in an effective and efficient manner.

Injury and other safety statistics are used to benchmark Project performance against industry or sector statistics for similar activities, e.g. oil and gas industry, offshore pipeline construction, etc.

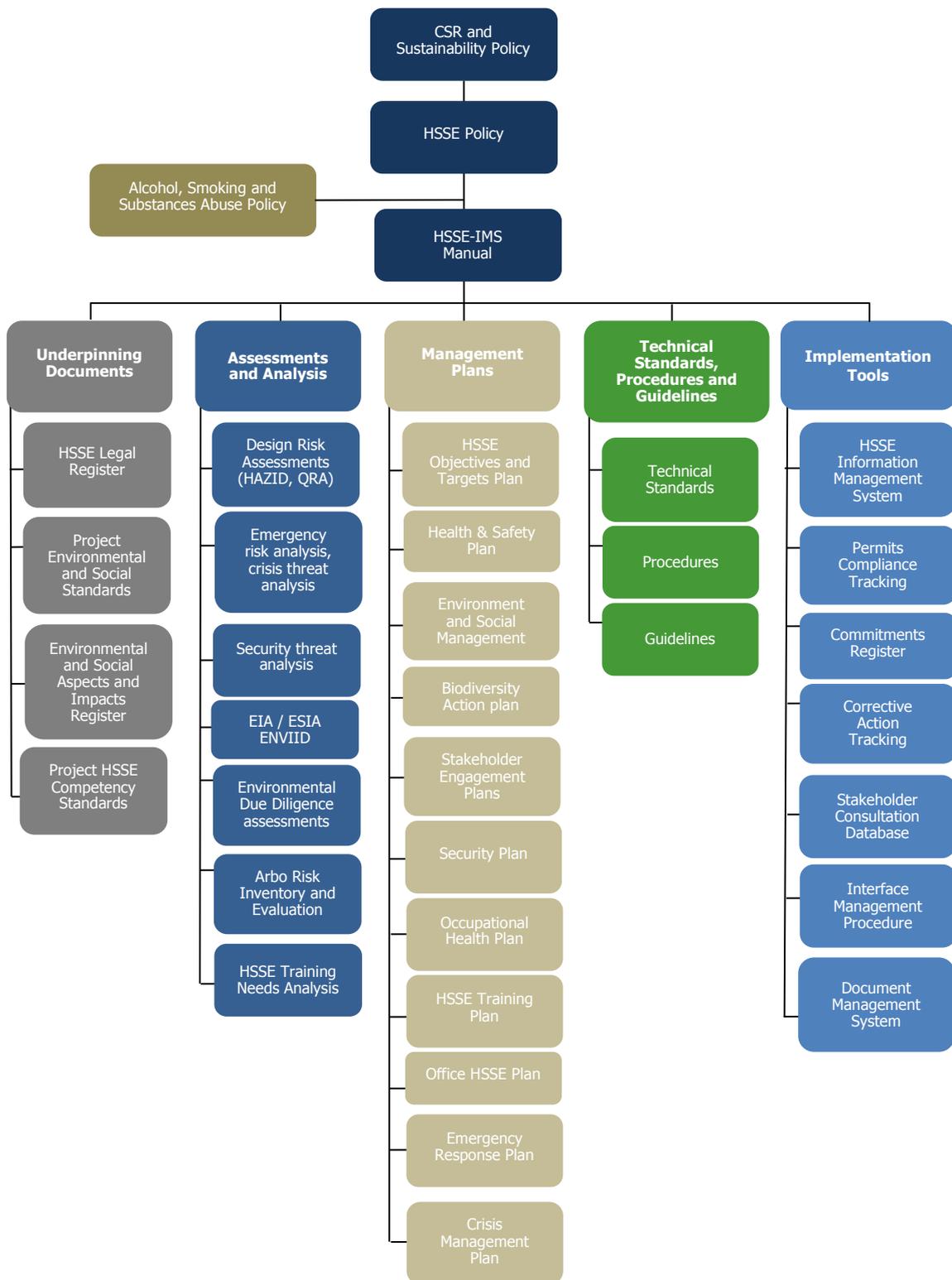
16.5.3 Management System Structure

An overview of the HSSE-IMS document structure is shown in Figure 16.6.

16.5.4 Contract Management

South Stream Transport has developed a Contract Management Procedure. The procedure stipulates that contractors are held responsible as a condition of contract for the compliance of their workers and any subcontractors with the requirements of the HSSE-IMS and other relevant commitments defined in their tender. All contractors are required to provide their workers and subcontractors with the means to ensure compliance, e.g. information, instruction and training, work equipment and personal protective equipment.

Figure 16.6 HSSE-IMS Document Structure



The ESMPs, or relevant parts thereof, will be issued to contractors who will be required to demonstrate how they will comply with the ESMPs through the development of their own contract-specific plans and procedures.

Compliance will be assured through a range of means, including HSSE audits and inspections (pre-contract, pre-mobilisation, and during contract execution).

The contractors will develop an overarching HSSE Plan that describes how the CMP requirements will be met and provide cross-references to more detailed supporting plans prepared by the Contractor, or bridges to existing company or vessel plans and/or procedures. The precise structure of the Contractors HSSE plans and procedures will be decided by the Contractor, however it is envisaged that the Contractor will have its own Management System (equivalent to South Transport's HSSE-IMS). The HSSE-IMS will address the management of environmental and social issues via a 'Contractor's Environmental Management Plan' (equivalent to South Stream Transport's Construction ESMP) which in turn will be underpinned by a number of supporting plans.

Examples of detailed supporting plans, which contractors may develop or bridge to in order to meet the requirements of the CMPs include, but are not limited to:

- Chemicals and Hazardous Substances Management Plan;
- Integrated Waste Management Plan;
- Environmental Monitoring Plan;
- Fuel Delivery, Storage and Handling Plan;
- Emergency Response Plan;
- Spill Prevention and Response Plan;
- Training Plan;
- Unexploded Ordnance (UXO) Clearance Plan; and
- Ballast Water Management Plan

16.5.5 Emergency Response

South Stream Transport will prepare an Emergency Preparedness and Response Plan (EPRP) for the South Stream Offshore Pipeline. South Stream Transport will work with its construction contractors to ensure that South Stream Transport and contractor plans are integrated with regional contingency plans. Emergency Response Plans are discussed in more detail within **Chapter 13 Unplanned Events**.

16.5.6 Management of Change

During the different phases of the Project, there may be a requirement to amend design elements or processes which results in a deviation from that presented in **Chapter 5 Project Description**. Accordingly, South Stream Transport has a management of change process to

manage and track any such amendments which includes a screening process to identify potential environmental and social consequences.

Where a change has the potential to result in significant environmental and/or social impact it will be subject to a health, safety, security and environmental evaluation as part of the change management process, including review and revision of:

- Health, safety and environmental hazards and risks;
- Environmental aspects and impacts;
- Environmental and Social Management Plans;
- HSSE risk assessments, including updating of risk registers;
- HSSE mitigation measures and operational controls;
- Competency and training;
- Emergency preparedness and response; and
- Regulatory compliance.

For changes where a significant environmental and social impact is likely to arise, South Stream Transport will inform and consult with relevant parties on the nature of the impact and on proposed mitigation measures, where practical and appropriate.

All design changes will be added to a register of changes, which will summarise the change, the assessment, and the justification for South Stream Transport actions.

16.5.7 Performance Management

16.5.7.1 Audits and Inspections

HSSE performance will be assessed by a number of inspections and audits that are designed to identify positive implementation and also missing elements or non-compliance with the HSSE-IMS. Periodic inspections and audits will include:

- Marine vessel inspections; and
- Internal (South Stream Transport) and external (third party) audits.

This will provide assurance that the requirements of the HSSE-IMS, including the ESMPs, have been met.

16.5.7.2 Corrective Action Procedures

Corrective actions are necessary to address new hazards or changes to hazards, inadequate implementation of control and mitigation measures, and non-compliances or non-conformances with the performance standards and requirements defined for the Project.

Corrective actions are identified from any of:

- Examinations and inspections;

- Environmental and social monitoring;
- Meetings;
- Performance reviews and analysis;
- Observations made by workers or other parties;
- Incidents (and subsequent investigations);
- Near-miss or unsafe conditions;
- Emergency drills and exercises;
- Internal and external audits;
- Management Review of the HSSE-IMS; and
- Other communications.

All corrective actions that are not possible to implement immediately will be managed by a Corrective Action Procedure. The procedure includes a Corrective Action Tracking Register (CATR), through which appropriate corrective and preventative actions are identified, documented, tracked and closed-out.

16.5.8 HSSE Reporting

The format and protocols for HSSE reporting is specified by the HSSE-IMS, which requires periodic internal and external reporting. Reports will be prepared for a range of stakeholders, including Project Lenders, and will range from weekly contractor HSSE report to annual Project HSSE reports (in which the findings of more frequent reports are consolidated). Reports necessary to satisfy applicable law, regulations and permits will also be produced.

Annual Project HSSE reports will provide an annualised summary of HSSE performance against objectives and targets, performance indicators and industry benchmarks, together with supporting information on the implementation of the HSSE-IMS.

16.5.9 Management Review

The HSSE-IMS is subject to an annual review to comprehensively assess HSSE performance and the continued effectiveness and relevance of the HSSE-IMS to the Project and to encourage continual improvement in the management system and HSSE performance overall. The management review is carried out by senior management in consultation with the Project HSSE Manager and based largely on the findings of monitoring, inspections and audits described in Section 16.5.7.

References

Number	Reference
Ref. 16.1	IFC 2012. Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts. http://www1.ifc.org . Accessed on 21 January 2013.