TANAP

TANAP
TRANS ANATOLIAN NATURAL GAS PIPELINE PROJECT

ENVIRONMENTAL MONITORING PLAN

Rev	Status	Date	Status Description	Issued by	Checked by	IMS Review by	Approved by
P3-A	DIC	07.01.2015	Discipline Internal Check	ARID/EROE/ KILS	MELC	ISIB	
P3-B	IDC	19.01.2015	Interdisciplinary Check	ARID/EROE/ KILS	MELC	ISIB	
P3-0	IAA	26.01.2015	Issued As Approved	ARID/EROE/ KILS	MELC	ISIB	DUZS
P3-1	Re-IAA	25.11.2015	Re-Issued As Approved	ARID/ARIT/ KILS	MELC	ISIB	DUZS
P3-2	Re-IAA	01.07.2016	Re-Issued As Approved	MENA/ARID/KILS	POYS/RUSP/AYAM	ISIB	DUZS

DOCUMENT REVISION HISTORY SHEET

Rev.	Revision Description	Date Issued	Update / Amendment Details
P3-A	DIC	07.01.2015	Discipline Internal Check
P3-B	IDC	19.01.2015	Interdisciplinary Check
P3-0	IAA	26.01.2015	Issued As Approved
P3-1	Re-IAA	25.11.2015	Re-Issued As Approved
P3-2	Re-IAA	01.07.2016	Re-Issued As Approved

HOLDS

No.	Section	Description	Input From	Planned Date

CONTENTS

TABLES

1 GENERAL

1.1 Purpose and Scope

This Plan outlines the Environmental Monitoring requirements for the Project, which is established based on the FEED phase "Environmental and Social Monitoring Procedure (ILF-PCD-ENV-GEN-001)" and defined in "Environmental and Social Impact Assessment Report (ESIA Report)" of the Project. The Environmental Monitoring Plan (TNP-PLN-ENV-GEN-003) ensures the appropriate management of environmental impacts in all phases including construction, operation and de-commissioning of the Project and mitigations are implemented in accordance with the national and international legislation, as detailed in the "Environmental Action Plan (TNP-PLN-ENV-GEN-002)".

1.2 Custodian of the Document

The Custodian of this Plan is the Environmental Manager.

The Custodian is responsible to ensure a regular organized review[1] of this document in addition to ensure updating of identified improvements.

The Custodian is to be contacted for any reasons of changes.

1.3 Abbreviations, Acronyms

Abbreviations/acronyms appearing within the text of this document are given below with their meanings:

Abbreviations / Acronyms / Terms	Meaning
AoI	Area of Influence
ABC	Anti-bribery and Corruption
BAP	Biodiversity Action Plan
BOD	Board of Directors
CC	Construction Contractor
EMP	Environmental Monitoring Plan
EPCM	Engineering Procurement Construction Management Contractor

[1] This document shall be reviewed in the first year after first approval every six months, after the first year, unless the application of the plan has been found requiring further major improvements, the review will be performed once a year.

	awarded with the EPCM contract.
EPC	Engineering Procurement Construction Contractor
ESA	Environmentally Sensitive Area
ESIA	Environmental & Social Impact Assessment
ESMS	Environmental and Social Management System
FEED	Front End Engineering & Design
FTE	Full Time Equivalent
ha	Hectare
HSE	Health Safety Environment
HSSE	Health, Safety , Social, Environmental
IFC	International Finance Corporation
IMS	Integrated Management System
KPI	Key Performance Indicators
LOT	Means those components comprising the onshore pipeline Lot [1, 2, 3 and 4] of the Trans-Anatolian Pipeline System (but expressly excluding offshore pipeline, compressor stations and the SCADA/telecommunications system).
MoEU	Ministry of Environment and Urbanization
NCR	Non-Conformity Report
PHSER	Project Health & Safety and Environmental Review
ROW	Right of Way
TANAP	Trans Anatolian Natural Gas Transmission Company / TANAP Doğalgaz İletim AŞ
TPMC	Third Party Monitoring Company

Table 1 Acronyms and Abbreviations

1.4 Definitions

Definitions appearing within the text of this document are described below:

Definitions	Meaning
ESIA Report	The Turkish ESIA Documentation which were approved as of 24.07.2014 by Ministry of Environment and Urbanization and the English version of the ESIA Report which was approved by TANAP after public disclosure process.
Area of Influence	The areas likely to be affected by the physical facilities constituting the Pipeline system that shall be directly owned operated or managed by

	TANAP and its contractors.
Board of Directors	The Board of Directors of TANAP
Commitments Register	The register which outlines the requirements committed in ESIA Report and its monitoring planning throughout the project life.
Contracts	The Contracts established by and between TANAP and Contractors to provide service and/or material to TANAP.
Construction Phase	The execution phase of the Project when site activities including pipe delivery and storage, installation of pipeline system takes place.
Commissioning Phase	The execution phase of the Project when the pipeline system is tested and handover to operation.
General Manager	The General Manager of TANAP
Host Governmental Agreement (HGA)	"The Host Government Agreement Between the Government of the Republic of Turkey and the Government of the Republic of Azerbaijan Concerning The Trans-Anatolian Natural Gas Pipeline System", and its attachment, "The Host Government Agreement (HGA) between the Government of the Republic of Turkey and The Trans Anatolian Gas Pipeline Company B.V Concerning Trans-Anatolian Natural Gas Pipeline System", were signed on 26 June 2012 in Istanbul.
Critical Habitats	Critical habitats are defined as areas of high biodiversity value that include at least one or more of the five values specified in paragraph 16, IFC (2012)[2] Performance Standard 6 and/or other recognised high biodiversity values.
Department Managers	The Department Heads of TANAP in all managerial level(chief technical officer, chief financial officer, directors, group managers, managers, consultants, delivery managers, etc.
Environmental Manager	The Environmental Manager of TANAP
HSSE Group Manager	Health, Safety, Environmental and Social Group Manager of TANAP
TANAP Policies	The TANAP Policies, either approved by Board of Directors or the General Manager including, but not limited to: • TANAP Integrated Management System Policy (TNP-POL-PRM-GEN-001), • Social Policy (TNP-POL-SOC-GEN-001), • TANAP Security Policy (TNP-POL-SEC-GEN-001) • Stakeholder Management Policy (TNP-POL-SOC-GEN-003) • Information Security Policy (TNP-POL-ITM-GEN-003); • Corporate Communication Policy (TNP-POL-CCO-GEN-001); • Human Resources Policy (TNP-POL-HRM-GEN-006); • TANAP Approach to Health, Safety, Social and Environmental Aspects (BOD); • TANAP Procurement Policy (BOD);

[2] IFC, 2012, IFC Sustainability Framework - Effective January, 1, 2012, 1st January 2012. ed. International Finance Corporation, Washington DC, USA.

	• TANAP Conflict of Interest Policy (BOD); • TANAP Anti-Bribery and Corruption Policy and Code of Conduct (BOD)
Intergovernmental Agreement (IGA)	"The Intergovernmental Agreement Between the Government of the Republic of Turkey and the Government of the Republic of Azerbaijan Concerning The Sales of Natural Gas To The Republic of Turkey and the Transit Passage of Natural Gas Originating From The Republic of Azerbaijan Across The Territory of The Republic of Turkey and The Development of A Standalone Pipeline For The Transportation of Natural Gas Across The Territory of the Republic of Turkey", was signed in İzmir on 25 October 2011.
Memorandum of Understanding	"Memorandum of Understanding between the Government of the Republic of Turkey and the Government of the Republic of Azerbaijan Concerning the Development of a Standalone Pipeline for the Transportation of The Natural Gas Originating and Transiting from the Republic of Azerbaijan across the Territory of the Republic of Turkey", was signed on 24 December 2011 in Ankara.
Performance Standards of International Finance Corporation (IFC)	IFC 2012 Performance Standards (PSs) are the environmental and social standards issued by World Bank International Financial Institution. There are eight PSs and which the projects should meet throughout the life of an investment by IFC or other relevant financial institutions
Project	Design, Engineering, Procurement, Construction, Commissioning actions & activities to realize the TANAP gas transmission facilities
Site	The areas where TANAP Project's survey, material storage, construction and commissioning activities take place.
Site Activities	TANAP Site Activities comprises at minimum but not limited to Project's Site survey, soil investigation, material storage, construction and commissioning processes.
Stakeholders	Stakeholders are a group of people or groups who are directly or indirectly affected by a project, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively (including authorities, NGOs etc.).
State Authorities	All central and local authorities or bodies and any and all instrumentalities, branches and subdivisions of any of the foregoing, and any entity that is directly or indirectly controlled by the State or one or more of its State Authorities;
Third Party Monitoring Company	The Consultant Company contracted by TANAP to monitor the compliance of Site Activities with the environmental and social management requirements and commitments of the Project

Table 2 Definitions

1.5 References

In this document references have been made to the following documents:

Reference No.	Reference Title
HED-PCD-HSM-GEN-003	Transport Operations Procedure
ILF-PCD-ENV-GEN-001	Environmental and Social Monitoring Procedure

TNP-REP-ENV-GEN-001	ESIA Report (Turkish)
TNP-REP-ENV-GEN-002	ESIA Report (English)
TNP-PCD-IMS-GEN-003	Integrated Management System Audit Procedure
TNP-PCD-HSE-GEN-001	Safety And Environment Inspections And Observations Procedure
TNP-PLN-ENV-GEN-001	Environmental & Social Management Plan
TNP-PLN-ENV-GEN-002	Environmental Action Plan
TNP-REP-ENV-GEN-001, TNP-REP-ENV-GEN-002, ESIA Report Appendix 5.10	Pollution Prevention Plan
TNP-REP-ENV-GEN-001, TNP-REP-ENV-GEN-002, ESIA Report Appendix 5.1	Construction Impacts Management Plan
TNP-REP-ENV-GEN-001, TNP-REP-ENV-GEN-002, ESIA Report Appendix 5.11	Waste Management Plan
TNP-REP-ENV-GEN-001, TNP-REP-ENV-GEN-002, ESIA Report Appendix 5.9	Erosion, Reinstatement and Landscaping Plan
TNP-REP-ENV-GEN-001, TNP-REP-ENV-GEN-002, ESIA Report Appendix 5.18	Cultural Heritage Management Plan
CIN-REP-ENV-GEN-017	Biodiversity Action Plan
TNP-REP-ENV-GEN-001, TNP-REP-ENV-GEN-002, ESIA Report Appendix 5.6	Aggregate Management Plan
TNP-REP-ENV-GEN-001, TNP-REP-ENV-GEN-002, ESIA Report Appendix 5.7	Traffic Management Plan
TNP-REP-ENV-GEN-001, TNP-REP-ENV-GEN-002, ESIA Report Appendix 5.12	Emergency Response Plan

Table 3 Referenced documents

2 ENVIRONMENTAL MONITORING PROCESS OF TANAP

2.1 Roles and Responsibilities

Entity	General Role & Responsibility
General Manager	• Ensures this Plan is implemented • Provides necessary resources to implement this Plan
Project Director	• Ultimately responsible for ensuring that environmental monitoring requirements outlined in this Plan are properly implemented according to Project's policies, applicable local and international standards, and ESIA commitments
Delivery Managers	• Ensures that the ESIA commitments and requirements of TANAP Environmental Management System at Site are understood, implemented and monitored regarding the steps defined in this Plan.
Contractors	• Are responsible for the implementation of TANAP's environmental requirements and all ESIA commitments. • Ensures construction in compliance with technical specifications • Prepares and implements their own EMPs and related procedures which are required to assure the compliance of the commitments given in the ESIA Report as well as the additional legislative requirements received from the State Authorities • Ensures that any non-conformity reported via third party monitoring, as well as TANAP audits and inspections are considered and corrective actions are taken immediately.
EPCM	• Manages and monitors the implementation of TANAP's environmental requirements for the Contractors and all ESIA commitments. • Assures ESIA implementation with suitable environmental management plans produced to control and manage the Contractors • Reviews and approves the EMPs of Contractors • Supervises construction in compliance with specifications • Administers Contracts so that time and cost and environmental targets are met • Assures appropriate pre-construction and on-site studies, training and mobilization of the Environmental & Social Monitors to assure Contractor compliance • Execute Project Health & Safety and Environmental Review (PHSER) activities throughout the Project Lifecycle. • All observations and concerns identified during these reviews and inspections shall be formally communicated to contractors for the implementation of corrective / preventive actions. • Informs TANAP about the NCRs and the corrective actions
HSSE Group Manager	• Ensures and regularly re-assesses compliance with IMS policy and TANAP policies, applicable laws and regulations during the implementation of this Plan; • Ensures that this plan is implemented and understood by all related personnel;
Environmental Manager	• Has the overall responsibility for the implementation of the activities stated in this Plan in communication with all related departments of TANAP. • Fully responsible for meeting applicable environmental project requirements, goals and objectives and operating in accordance with the project EMS and ESIA commitments. • Fully responsible for organizing, managing and monitoring the

	environmental activities carried out • Liaises with stakeholders, relevant state authorities and EPCM to approve project changes and IMS policy implementation • Assigns tasks and reviews output to ensure that environmental policies are implemented and Project goals are met • Ensures third party / external monitoring inspections of construction regarding environmental performance are conducted. • Ensures that EMPs and procedures submitted by EPCM is reviewed and approved as per Project monitoring requirements and ESIA commitments
Environmental/ Archaeological Specialists	• Report the performance of EPCM at site to Delivery Manager and TANAP environmental manager. • Responsible for conducting the activities and achieving the targets and goals assigned within TANAP's environmental management system.
Department Managers	• Responsible for ensuring that there is a consistent approach and standard applied to environmental management across the project and providing overall assurance to the senior management of TANAP
Employees	• Responsible for meeting the project's environmental requirements interacting with their activities • Considers environmental improvement at all stages of their activities • Complies with the requirements of this Plan
Third Party Monitoring Company	• Provides range of expertise from archaeological to ecological and advises project management on compliance • Monitors contractor activity to assure ESIA commitments are complied with and EMS of the project is implemented • Reports regularly to TANAP and relevant authorities on compliance status • Sets recommendations for the corrective actions
Archaeological Consultants	• Archaeology experts which provides professional guidance to TANAP on management of archaeological and cultural heritage findings and the related permits

2.2 Compliance Monitoring of TANAP

2.2.1 Audits and Inspections

Primary responsibility for day-to-day performance of the monitoring programme resides with the Contractors. However, TANAP shall maintain an oversight and audit role for all aspects of the monitoring programme. This shall include third party monitoring at Sites to verify the results of Contractor monitoring programmes.

TANAP shall undertake environmental assurance audits and inspections to review Contractors' ESMS implementation and site activities. The audits and inspections shall be planned and conducted as per TANAP's "Integrated Management System Audit Procedure (TNP-PCD-IMS-GEN-003)" and "Safety and Environment Inspections and Observations Procedure (TNP-PCD-HSE-GEN-001)". Following an audit or an inspection conducted by TANAP, the Contractors are required to take corrective actions for the findings in a timely manner. The reported findings and observations

shall be tracked and the performance is scored to follow up the improvement of the Contractors.

Environmental Action Plan of TANAP (TNP-PLN-ENV-GEN-002) defines each types of audit, inspection and monitoring requirements including external monitoring by authorities, lenders etc. and explains how corrective actions are managed.

2.2.2 Third Party Monitoring

Third Party Monitoring Company (TPMC) shall be in charge of monitoring, inspecting and reporting the relative compliance of the activities of the Contractors with respect to the environmental Project standards and requirements. The respective scope, roles and organisational requirements of TPMC are given in Appendix 1. The summary of TPMC role with respect to overall monitoring program is listed in Appendix 2.

TPMC reports the performance of the activities to TANAP and assures that oversight is coordinated in line with their Project Execution Plan (CIN-PLN-ENV-GEN-002)

TANAP coordinates that the findings are addressed and corrected by EPCM and Contractors in due time.

2.2.3 Performance Review by TANAP

Performance monitoring intends to identify the non-conformities with respect to the project activities and to check the compliance status of the environmental management, defining the required actions to improve the environmental performance of the company.

TANAP reviews all monitoring data, audits and inspection results and KPIs in order to assess compliance with the Project standards as well as the ESIA commitments, BAP and on-site legal requirements. TPMC and the Contractors therefore are required to supply all monitoring records and results to TANAP on a monthly basis and to make all monitoring records available for reviewing. Where monitoring results indicate an area of concern or that Project standards are not being met, TANAP ensures that non-corrective actions are issued and/or a corrective course of action is followed on site by the Contractors and results are reported to TANAP.

2.3 Environmental Monitoring of the Contractors

TANAP assigns the construction management and monitoring role to EPCM; to ensure that all site activities are efficiently monitored, non-conformities are detected and managerial decisions are developed adequately to mitigate these deficiencies.

The key environmental subject areas and the respective sub-management plans to be monitored during construction and operation are listed below:

- Air emissions (Pollution Prevention Plan, ESIA Report, Appendix 5.10);
- Ambient air quality (Pollution Prevention Plan, ESIA Report, Appendix 5.1);
- Noise and vibrations (Pollution Prevention Plan, ESIA Report, Appendix 5.10);
- Effluent water discharge (Pollution Prevention Plan, ESIA Report, Appendix 5.10);
- Surface water including river crossings (Pollution Prevention Plan, ESIA Report, Appendix 5.10);
- Water abstraction/supply - for water consumption in construction camps and hydrostatic testing (Pollution Prevention Plan, ESIA Report, Appendix 5.10);
- Groundwater quality and level in community wells and monitoring wells at compressor stations (Construction Impacts Management Plan, ESIA REPORT, Appendix 5.1);
- Waste production and disposal (Waste Management Plan, ESIA Report, Appendix 5.11);
- Soil contamination - oil spills etc. (Pollution Prevention Plan, ESIA Report, Appendix 5.10)
- Vegetation surveying and reinstatement (Erosion, Reinstatement and Landscaping Plan, ESIA Report, Appendix 5.9);
- Reinstatement of AoI focusing on ESAs and Critical Habitats (Erosion, Reinstatement and Landscaping Plan, ESIA Report, Appendix 5.9);
- Cultural and archaeological resources (Cultural Heritage Management Plan, ESIA Report, Appendix 5.8);
- Ecological Monitoring (Biodiversity Action Plan, CIN-REP-ENV-GEN-017)

A guidance monitoring scheme for Construction phase is given in Appendix 2. However, Contractors are required to develop a detailed monitoring and sampling plan which includes as a minimum and subject to TANAP approval:

- The legal requirements and project standards
- Parameters to be monitored/sampled
- The sampling and monitoring methods
- Quality requirements of sampling and monitoring activities (e.g. accreditation and calibration records)
- The necessary equipment and sampling storage procedures
- Responsibilities

- Recording and reporting requirements
- Review and auditing requirements
- Training and capacity improvement requirements

The Contractors report on the monitoring results on monthly basis and ensures that the commitment register which is submitted in Annex 1 of this plan are met in accordance with the Project ESIA requirements and environmental standards.

Contractors shall also have "environmental audits and inspections programme" to demonstrate that the requirements of ESIA and ESMS, legal and other Project requirements, applicable commitments and contractual requirements are being monitored and necessary actions are in place to comply with these requirements.

The Contractors record the non-compliances in the Contractor environmental non-compliance register. The non-compliance register shall be submitted to TANAP on a monthly basis (as part of the monthly report). In addition, Contractor shall prepare an action tracking register to record all findings and respective actions which shall be updated and submitted to TANAP on a monthly basis (as part of the monthly report).

TANAP has a right to request evidence on the performance follow-up and evaluation of the Contactors. The Contractors shall ensure that the system is being inspected, audited based on programme and findings are shared with respective departments for improvement.

The monthly report can be used as an evidence for the progress of the construction activities.

2.3.1 Environmental Standards

National and International Standards of TANAP project are listed in "Environmental Action Plan (TNP-PLN-ENV-GEN-002)", whereas environmental standards for monitoring and respective methods are summarized in Annex 2. The Contractors shall take into account these standards and methods in their monitoring program, as well as the other mitigations and recommendations given within the related sections of the ESIA Report, referred standards in the modelling reports of the ESIA Report and the related section of BAP.

2.3.2 Commitments Register

Annex 1 defines the details of all the environmental commitments of the Project and summarizes the respective monitoring activities, frequencies, responsibilities and reporting of the performance indicators. The monthly reports of the Contractors shall include the results of the monitoring activities mentioned in Annex 1 as a follow up of commitment register.

2.3.3 Key Performance Indicators

The Contractors shall establish their own methodology to follow-up the environmental performance of themselves and their sub-contractors and be required to develop their respective measurable key performance indicators in line with TANAP's system performance requirements and ESIA Commitments.

The Contractors shall report the key performance indicators and measures given in Appendix 3 in the monthly reports. TANAP shall review the Contractor's KPI system and approves. TANAP might include new KPIs if deemed necessary.

2.4 External Monitoring

2.4.1 Quarterly Monitoring to MoEU

External monitoring by the competent authority representatives (e.g. Ministry of Environment and Urbanization-MoEU, local competent authorities such as the "Turkish Ministry of Culture and Tourism"), and third parties are also expected during the Construction phase to assure compliance with project commitments. As per national ESIA requirements, TANAP, as the Project owner, assigned a TPMC company who shall report directly to the MoEU during the construction phase at intervals defined in the local ESIA Report approved by the MoEU. Thus, the MoEU oversees Construction monitoring through the certified local ESIA company assigned by the project owner; and may suspend Construction works in case of significant non-compliance with ESIA commitments.

2.4.2 Continuous Monitoring to TANAP

In addition to MoEU reporting monitoring activities started to be conducted by Third Party Monitoring Company (TPMC), for the construction, operation and decommissioning periods in order to follow up the implementation and the efficiency of the environmental and social mitigation measures which were identified within the ESIA Report. Besides, the technical documentation is reviewed during monitoring.

Reported non-compliances by TPMC are followed-up continuously through the daily, weekly and monthly reports.

Contractor shall be responsible for providing access to all necessary information and assistance to facilitate monitoring by TANAP or any other approved organisation.

2.5 Deliverables

The output from environmental monitoring shall be the periodic progress/monitoring and inspection/audit reports prepared by the various monitoring programmes, and the daily/weekly record forms filled out by the Contractors:

- Daily and weekly record forms of CCs;
- Weekly, monthly, quarterly and annual progress/monitoring reports by CCs;
- Weekly, monthly, monthly summary (for CCs' performance), quarterly and annual progress/inspection reports by the EPCM;
- Daily and Weekly Site Inspection Reports of EPCM;
- Daily, weekly, monthly, quarterly (official MoEU declaration report aligned with the mandatory format) and/or bi-annual inspection/audit reports by third party monitors (internal and external)
- Annual and/or as scheduled inspection/audit reports by TANAP and management review reports by TANAP.
- Non-conformance reports
- Minutes of meetings (community and local authority)

The daily and weekly record forms shall be mostly for internal use and kept at the Construction Sites; however, shall be made available during inspections and audits. These record forms are generally in hard copy (for use on site) and maintained by CCs. Electronic copies shall be submitted to TANAP for archive when requested.

The periodical weekly, monthly, quarterly, bi-annual and annual monitoring/progress reports shall also be submitted to TANAP for review.

3 APPENDICES

3.1 APPENDIX 1: Technical Scope of Third Party Monitoring Company

3.1.1 Introduction

TANAP has made commitments related to the management of environmental impacts in the ESIA Report, as summarised in Annex 1. These Commitments are transferred into a set of Environmental Management Plans ESMS including sub management plans for the following topics:

- Construction Impacts Management Plan (ESIA Report, Appendix 5.1)
- Aggregate Management Plan (ESIA Report, Appendix 5.6)
- Traffic Management Plan (ESIA Report, Appendix 5.7)
- Cultural Heritage Management Plan (ESIA Report, Appendix 5.8)
- Erosion, Reinstatement and Landscaping Plan (ESIA Report, Appendix 5.9)
- Pollution Prevention Plan (ESIA Report, Appendix 5.10)
- Waste Management Plan (ESIA Report , Appendix 5.11)
- Emergency Response Plan (ESIA Report , Appendix 5.12)

The Construction Impacts Management Plan also covers a wide range of topic areas, partly separate from and partly overlapping with the other listed management plans.

A summary of the monitoring commitments is provided in the **"Monitoring Table"** in *Appendix 2* of this plan. These commitments will be implemented by the respective EPC and CC responsible for that aspect of the construction.

3.1.2 Role of TPMC

The role of the TPMC is to monitor - on behalf of TANAP - the conformance of the EPC and CC against the ESIA commitments. The TPMC will be engaged directly by TANAP and will report to TANAP.

The scope of work of the TPMC can be divided into several types:

Desktop Reviews: TPMC will review at a minimum the following documents:

- Monthly, quarterly and annual reports prepared by the EPCM, EPC and CCs
- Records of complaints, incidents and the results of the grievance procedure (for workers and communities)
- Procurement, employment and recruitment records.

Field Spot Checks: TPMC staff will spend a large part of the time in the field, including at the areas being prepared for construction, active construction sites and sites undergoing re-instatement, as well as at the various worker camps and associated facilities.

The right-hand column of the **Monitoring Table** in Appendix 2 shows the suggested scope and frequency of the field monitoring efforts by the TPMC corresponding with each requirement of the EPC and CCs.

Ad hoc Field Checks: In case of any particular events or issues of concern arising in the field, the TPMC may be requested to conduct additional visits to relevant locations along the route. Depending on case-by-case situation, additional visual monitoring or field testing may be warranted.

Document Preparation: TPMC may also be requested to prepare any kind of documentation depending on the Services.

The timescale of the TPMC scope of work covers:

- pre-construction surveys (i.e. collection of the first dataset as a baseline for monitoring schemes);
- throughout the construction phase (note that there may be multiple open construction fronts at any given time);
- post-construction phase (clean-up and reinstatement), where most of the remediation efforts will be executed and monitored for their successful application.
- Operational phase, one year following re-instatement of river crossings, side and steep slopes will be monitored for their successful application. It will continue for a successful hand over of the data base to operations.

3.1.3 Reporting and Data Management Requirements

The TPMC is required to develop their own "TPMC Monitoring Plan", to be discussed and agreed with TANAP. This may be based on the content and related assumptions of the attached table in *Appendix 2*.

This TPMC Monitoring Plan should outline at a minimum:

- How all commitments and actions of the EPC and CCs will be covered;
- How any non-compliances or unfulfilled actions by the EPC and CCs will be resolved;
- Schedule;
- Personnel including any subcontractors to carry out monitoring; and
- Health and safety procedures.

The TPMC will make a daily verbal de-briefing summarizing any urgent issue to be managed arising from the TPMC Monitoring Plan.

TPMC will provide daily, weekly, monthly reports, quarterly summary reports and annual reports (Action Status Reports) to TANAP. The quarterly reports will be formatted to align with the mandatory monthly reporting via the web-based reporting scheme of the MoEU.

The monthly monitoring report will cover, at a minimum, the following contents:

- Description of the work undertaken during the month;
- Summary of the implementation status of environmental protection, mitigation and pollution control measures;
- Monitoring results (in both hard and digital copies) together with the following information:
  - monitoring methodology;
  - equipment used and calibration details;
  - parameters monitored, sampling and chain of custody records, original lab records;
  - monitoring locations (maps should be provided where relevant);
  - monitoring date, time, frequency, and duration;
- Summary of non-conformance identified for EPC and CC activities against the applicable commitments for environmental and social quality performance, complaints and legal actions, including explanations of the reasons for these (where possible);
- Description of the actions taken by the EPC and CC in the event of noncompliance and deficiency reporting and any follow-up procedures related to earlier noncompliance;
- Forecast of the monitoring schedule and plan for allocation of staff for the next month; and
- Comments, recommendations and conclusions for the monitoring period.

3.1.4 TPMC Staff Organisation

The TPMC staff will mainly be located at the construction camps, with a manager and assistant located in Ankara at the TPMC Head Office. One (1) full-time equivalent (FTE) member of TPMC staff should be located at each LOT along the route.

Site-Based Staff

It should be assumed that one (1) FTE will be based at each LOT.

Site-based staff will work on rotation shifts as 8:2 (8 weeks on and 2 weeks off). Therefore, TPMC should ensure that sufficient staff is available to cover the rotation breaks.

Office-based Staff

TPMC will provide one (1) FTE overall Project Manager based in Ankara, plus an admin assistant/coordinator.

Logistics

TPMC will need to provide a suitable vehicle for each FTE in the field, and one for the Project Manager during site visits, including all appropriate safety equipment for off-road travel. All potential journeys that involve driving and/or road transport should be screened and assessed in terms of hazards, risks and costs as per the Journey Management requirements given in Transport Operations Procedure (HED-PCD-HSM-GEN-003). If the results of risk assessment require 2 (two) vehicles, then TPMC is advised to provide 2 (two) suitable vehicles.

3.2 APPENDIX 2 Summary of applicable monitoring schemes to the TANAP Project Construction Phase

This table represents a summary of the environmental testing and monitoring required of the Contractors in the ESIA Report and related documents; many of the items are based on specific Turkish regulations. Where items are in *italics*, these are good practice recommendations but are not explicitly specified in the ESIA Report. The CCs and EPCs should choose a methodology that will ensure that the requirements of the ESIA, BAP and related reports are addressed e.g. abundance/distribution of flora & fauna.

All EPCM, EPC, CC and TPMC need to consider the entire ESIA Report including all Appendices, and BAP and related further studies it will be their responsibility to develop their own detailed Monitoring Plan.

Anticipated Scope of Testing and Monitoring by EPC and CCs						**Scope of TPMC**
Topic	**Location**	**Frequency**	**Parameter**	**Methodologies**	**Additional considerations**	
I. Physical Environmental Quality Monitoring						
Water: Wastewater Discharges	Wastewater discharge points, e.g. from storm water and site drainage systems that contains sewage	*Weekly*	Biochemical Oxygen Demand (BOD5) Chemical Oxygen Demand (COD) Suspended Solids (SS) pH Oil and Grease Total Coliform Bacteria	As per Turkish Regulation on Water Pollution Control (dated 31.12.2004 and numbered 25687) In 2 hours and 24 hours composite samples.	After December 2014, Turkish Urban Waste Water Regulation (dated 08.01.2006 and numbered 26047) will apply	Monitoring to be undertaken quarterly
Water: Hydrotest Water Discharges	Discharge points to fresh and marine water	*Daily during discharge*	Biochemical Oxygen Demand (BOD5) Chemical Oxygen Demand (COD) Total Hydrocarbon Content Suspended Solids (SS) pH Total P, Total N Total Phenols Sulphides Total Heavy Metals Total Cr, Cr+6 Pb, Cd, Fe, Cu, Zn, Hg Total Cyanide Chlorides	As per Turkish Regulation on Water Pollution Control (dated 31.12.2004 and numbered 25687) In 2 hours and 24 hours composite samples		Monitoring to be undertaken once prior to each discharge

Anticipated Scope of Testing and Monitoring by EPC and CCs						Scope of TPMC
Topic	**Location**	**Frequency**	**Parameter**	**Methodologies**	**Additional considerations**	
			Fluorides Colour Fish Biotest (ZSF)			
Water: Hydrotest Water Discharges	Discharge points to fresh water	*Daily during discharge*	Scouring of fresh water course bed	*Visual Inspection*	Marine Water discharge may be relevant depending on depth of test water discharge in relation to sea bed	Monitoring to be undertaken once prior to each discharge
Water: Potable water (at camp sites)	All water sources (groundwater, surface water)	*Once in Preconstruction.* *Regularly during camp operations*	According to Turkish Regulation on Water Intended for Human Consumption (dated 17.02.2005 and numbered 25730)	According to Turkish Regulation on Water Intended for Human Consumption (dated 17.02.2005 and numbered 25730)	Relevant where potable water is drawn from non-tap, non-bottled sources (i.e. fresh surface or groundwater)	Monitoring to be undertaken quarterly
Water: Surface water quality	*Downriver* from all river and wetland pipeline crossings. *Downriver* from aggregates supply areas, if relevant	*Once in preconstruction* *Every three (3) days during construction works at each location*	pH; dissolved oxygen Turbidity, Oil & Grease, visual appearance	*As per Section 7.3.1.9.4 of ESIA Report* *Visual inspection*		Monitoring to be undertaken: •Once before construction, •Once during construction •Once approximately one (1) month after completion
Water: Surface water quality	*Downriver* from all river and wetland pipeline crossings. *Downriver* from aggregates supply areas, if relevant	*Preconstruction. Once* *Monthly during construction works at each location*	*Aquatic Invertebrates (WQ Indicator)*	*As per Section 7.3.2.11 of ESIA Report*		Monitoring to be undertaken: •Once before construction, •Once during construction •Once approximately one (1) month after completion
Water: Freshwater consumption	All water sources (groundwater, surface water)	*Weekly*	Volume of consumed water	*Records/registers for all uses (domestic, cleaning, hydrotesting, other) to be proposed by Contractor*		Check records
Groundwater quality	Existing wells *within the 500 m-RoW* area along the pipeline route and new	Pre-construction: Once	Dissolved oxygen pH Total P	*As per Section 7.3.1.5 of ESIA Report*	Applicable law is Regulation on Conservation of Groundwater Against Pollution and Deterioration (dated	Check volume records

Anticipated Scope of Testing and Monitoring by EPC and CCs						Scope of TPMC
Topic	**Location**	**Frequency**	**Parameter**	**Methodologies**	**Additional considerations**	
	access roads. Existing wells *within 500 m radius* around the Compressor Station construction areas and aggregate supply areas.	*Regularly during construction works, depending on site specific conditions, e.g. depth of well and hydrogeology*	Total N Conductivity Nitrates Ammonia Sulphides Sulphate Chlorides Total Hydrocarbon Content Total Cr, Cr+6 Pb,Cd,Fe,Cu,Zn,Hg Total Cyanide Fluorides		07.04.2012 and numbered 28257)	One set of QC samples checked of groundwater in case of soil contamination in vicinity •once during remediation •once afterwards to confirm completion
Groundwater consumption (quantity)	All groundwater extraction sources, with particular emphasis on hydrotesting abstraction points and camp sites	*Pre-construction: Once, calculation of sustainable withdrawal volumes* *Monthly during construction period*	*Sustainable groundwater abstraction, measured withdrawal volumes*	*Registers, to be proposed by contractor*		Review volume records
Noise: Human receptors	Nearest building to RoW if within 500 m from pipeline route centre line or new road access. Nearest human habitation or building to 500 m from fence line at compressor construction sites, camp sites, pipe stock yards, aggregates supply sites	*Once before construction* *During construction: Twice a week, once in a weekday and once in weekend, Continuous measurement over 12 hours daylight working shift*	Noise statistical indicator (LAeq), etc. as required in Turkish Regulation on Environmental Noise Assessment and Management (dated 04.07.2010 and numbered 27601)	As required in Turkish Regulation on Environmental Noise Assessment and Management (dated 04.07.2010 and numbered 27601). *Where parameters are not specified in the regulation, these should be proposed by contractor*	Noise emission complaints that arise from construction activities also to be registered and reported	Monitoring quarterly and ad hoc site specific monitoring at sensitive areas

Anticipated Scope of Testing and Monitoring by EPC and CCs						Scope of TPMC
Topic	**Location**	**Frequency**	**Parameter**	**Methodologies**	**Additional considerations**	
Noise: Nuisance to Fauna	Entrance, mid-point and exit of the intersection of the pipeline construction 500 m RoW (and if relevant other project structures) with the following sensitive receptors: •Putka-Gölbası area (from March to May and from September to November) •Erzurum Marsh area (from March to April and from September to November) *A point located 500 m* from nearest compressor station construction site fence, on the direction towards Ardahan and Sivas areas.	*Once before construction* *Once a week, 12 hours daylight working shift, continuous measurement, during construction*	*To be proposed by contractor*	*To be proposed by contractor*		Monitoring quarterly and ad hoc site specific monitoring at sensitive areas
Air quality	As a minimum, air quality monitoring will be undertaken at the following locations: • Putka Gölbaşi; • Ardahan; • Erzurum Marshland; and • Bataklikdüzü, Sivas; and • Any construction activities located within 1 km of settlements.	*Prior to construction activities, and once at the midway point of construction activities at each location*	PM10 and PM2.5; and SO_2, NO_2 NOx, O_3	*To be determined by contractor.*	Applicable regulations Regulation on Air Quality Assessment and Management Appendix-I (dated 06.06.2008 and numbered 26898); Industrial Air Pollution Control (dated 03.07.2009 and numbered 27277); Regulation on Exhaust Gas Emission Control and Diesel Quality (dated 30.11.2013 and numbered 28837) Dust nuisance complaints that arise from construction activities also to be registered and reported	Monitoring at a minimum quarterly, using diffusion tubes over one-month periods.
Geohazards: Fault Rupture Hazard Assessment	As per Table 8.1.3A in Section 8.1.3.5 of the ESIA Report	Pre-construction: Once	As per Table 8.1.3A in Section 8.1.3.5 of the ESIA Report	As per Section 8.1.3.5 of the ESIA Report		Once annual visual inspection by geohazards expert
Geohazards: General	Vulnerable areas in all project related activities (also new road accesses and aggregate supply)	*Daily when working in vulnerable areas*	Appearance of landslides, slope instability, flooding, altered drainage patterns, other geohazard related processes	*Visual*	*Other methods could be proposed (clinometry etc.)*	Quarterly and more frequently at vulnerable areas, based on sited specific conditions

Anticipated Scope of Testing and Monitoring by EPC and CCs						Scope of TPMC
Topic	**Location**	**Frequency**	**Parameter**	**Methodologies**	**Additional considerations**	
Soil contamination	1 sample location inside boundary of each camp site, compressor station and pipe storage yard. 1 sample location in the vicinity of each camp site, compressor station and pipe storage yard.; *y*	Pre-construction. Once for metals at nine (9) stations in pipe and camps, plus new sites (aggregates, roads) *Once after construction has taken place at each area*	*pH, As, Hg, Se, Sb, Mo, Ti, Sn, Be, Ba, B, Tl, U, Ag, Cd, Cr, Co, Cu, Pb , Ni, Zn, V, Total Petroleum Hydrocarbons (TPH), Benzene, Toluene, Ethyl benzene, and Xylene (BTEX), LOI (Loss of Ignition) and Humidity*	*As per Section 7.3.1.9.6 of ESIA Report*	Applicable law is Regulation on Control of Soil Contamination and Contaminated Lands by Point Sources (dated08.06.2010 and numbered27605)	Review records and visual check. Testing of one set of composite samples to confirm successful clean-up (composite samples (from 4 borings) at 3-4 locations minimum, depths of 0-15 cm and 50cm.)
Soil Erosion Potential	Specific areas with high erosion potential, including new access roads and aggregate supply sites	Pre-construction. Once *Once more at each area after construction*	Data required for Universal Soil Loss Equation (USLE) calculation	*As per Section 7.3.1.2 of ESIA Report*	Law on the Soil Conservation and Land Use (dated 19.07.2005 and numbered 5403)	Quarterly visual check, including during rainfall and when necessary
Soil Handling	Vulnerable areas in all project related activities (also new accesses and aggregate supply)	*Daily*	Proper handling of top soil	*Visual inspection*	Focused in availability for vegetation re-instatement	Quarterly visual check
Waste (general)	All locations where excavation works take place during the land preparation and construction phase. Construction camps. Construction sites.	*To be determined by Construction Contractor*	Solid waste generated during excavation activities in the form of construction debris; from canteen and accommodation facilities; and at construction sites in the form of excess construction material packaging, discarded construction equipment, tools etc.	*Visual inspection / audit: details to be determined by Construction Contractor hours composite samples*	Excavation wastes should be managed in line with Pollution Prevention Plan, Waste Management Plan and Construction Impacts Management Plan Solid waste should be managed in line with Pollution Prevention Plan and Waste Management Plan	Quarterly visual check to check waste management areas. All external landfills audited once a year
II. Biodiversity Monitoring						
Terrestrial Flora pre-construction survey	Throughout the pipeline right-of-way and other areas to be cleared (i.e. compressor stations, camp sites and pipeline yards) before activities commence	Continuous throughout vegetation clearing activities.	- GPS location of sampling sites - Species identification - Species numbers - Species density - Plant cover (Braun-Blanquet)	- *Tree inventories* - *Quantitative rapid flora diversity assessment (sampling plots/quadrats)* - Original ESIA	The ESIA has identified particular species/areas where these schemes will have to be applied (see Appendix 5.1 of the ESIA Report): •Group 1: includes 24 species vulnerable (VU) and predominantly of steppe/grassland •Group 2: includes 10 species vulnerable (VU) and not predominantly of steppe/grassland habitats;	All reinstatement works visited and visually checked: •At least once during reinstatement works •At least once

Anticipated Scope of Testing and Monitoring by EPC and CCs						Scope of TPMC
Topic	**Location**	**Frequency**	**Parameter**	**Methodologies**	**Additional considerations**	
			-Ecological conditions - Species of concern (SCC) - Photographs	baseline methodologies (control-impact locations; Section 7.3.2.3)	limited to two areas within the provinces of Ardahan and Kütahya for a total area of 4.8 hectares. The SCC species potentially present in these areas are *Centaurea hedgei*, *Reseda armena* var. *armena*, *Centaurea macrocephala*, *Lathyrus karsianus* and *Tanacetum coccineum* ssp. *chamaemelifolium* in the province of Ardahan and *Astragalus densifolius* subsp. *ayashensis* and *Onosma briquetii in Kütahya.* •Group 3: includes 29 species endangered (EN) and predominantly of steppe/grassland habitats •Group 4: includes 5 species endangered (EN) and not predominantly of steppe/grassland habitats •Group 5: includes 11 species critically endangered (CR) and predominantly of steppe/grassland habitats •Group 6: includes 4 species critically endangered (CR) and not predominantly of steppe/grassland habitats (Please also refer to KP TABLE for BIODIVERSITY ACTION PLAN (TNP-TDT-ENV-GEN-001, P3-0)	during Acceptance of EPCC at completion Sensitive areas checked quarterly and when soil and vegetation activities are cleared
Terrestrial Vegetation Monitoring Programme (during and post-construction)	Throughout the pipeline right-of-way and other areas that have been cleared (i.e. compressor stations, camp sites, and pipeline yards) in selected plots that are representative of the habitats in the area. May take advantage of baseline sampling sites	*Monthly during construction/ post construction phase*	- GPS location of sampling sites - Species identification - Species numbers - Species density - Plant cover (Braun-Blanquet) -Ecological conditions - Species of concern (SCC) - Invasive species - Photographs The assessment will report general plant diversity/ abundance, but will also address: - loss/alteration of rare plants and/or communities - alteration of natural vegetation patterns - introduction of non-native species - loss of old growth forests	- *Quantitative rapid flora diversity assessment (sampling plots/quadrats)* - *Original ESIA baseline methodologies (control-impact locations; Section 7.3.2.3)*		All reinstatement works visited and visually checked: •At least once during reinstatement works •At least once during Acceptance inspection of EPCC at completion Sensitive areas checked quarterly
Revegetation / Reforestation / Visual Aesthetics	Throughout the pipeline right-of-way and other areas that have been cleared (i.e. compressor stations, camp sites, and pipeline yards) in selected plots *that are representative of the habitats in the area and/or highly visible*	*Monthly during post construction phase (after sites have been reinstated) until contractual guarantee period expiry date*	- GPS location of sampling sites - Species identification - Species numbers - Species density - Plant cover (Braun-Blanquet) -Ecological conditions - Species of concern	- *Quantitative rapid flora diversity assessment (sampling plots/quadrats)* - Original ESIA baseline methodologies (control-impact	Special attention will be focused in areas where significant land clearance has taken place (e.g. Camps).	All reinstatement works visited and visually checked: •At least once during reinstatement works •At least once during Acceptance of EPCC at

Anticipated Scope of Testing and Monitoring by EPC and CCs						Scope of TPMC
Topic	**Location**	**Frequency**	**Parameter**	**Methodologies**	**Additional considerations**	
			(SCC) - Invasive species - *Revegetation success (%)* - Photographs	locations; Section 7.3.2.3)		completion Sensitive areas checked quarterly
Terrestrial Habitat	Throughout the pipeline right-of-way and other areas to be cleared (i.e. compressor stations, camp sites and pipeline yards)	*Once during preconstruction, construction and post construction phases at each construction site* *Monthly reporting*	- *Percentage habitat cover* - *Percentage revegetated area*	- *Satellite Imagery Analysis and Visual observations*		Review documentation and ground-truth in field
Terrestrial Fauna pre-construction survey	Throughout the pipeline right-of-way and other areas to be cleared (i.e. compressor stations, camp sites and pipeline yards) before activities commence	Continuous throughout vegetation clearing activities.	- Observations to be logged (e.g. road kills, impacts from personnel actions, etc.) - GPS location of sampling sites - Presence of animal tracks - Species identification - Species of concern (SCC) - Photographs	- Visual observations	Clearance activities will check for bird nests, particular attention should be paid to the Montagu's harrier (*Circus pygargus*) in Ankara and Ardahan regions because it nests in tall vegetation on the ground (Please also refer to KP TABLE for BIODIVERSITY ACTION PLAN (TNP-TDT-ENV-GEN-001, P3-0).	Site specific checks
Terrestrial Fauna Monitoring Programme	Throughout the pipeline right-of-way and other areas that have been cleared (i.e. compressor stations, camp sites, and pipeline yards) in selected areas *that are representative of the existing habitats. May take advantage of baseline sampling sites*	Monthly during construction/ post construction phase	- Observations to be logged (e.g. road kills, impacts from personnel actions, etc.) - GPS location of sampling sites - Species identification - Species numbers - Species density - Species Abundance/ Distribution - Species of concern (SCC) - Invasive species - Photographs	- Visual observations - Quantitative rapid fauna diversity assessment - Original ESIA baseline methodologies Mammals (Section 7.3.2.5) Birds (Section 7.3.2.6) Reptiles (Section 7.3.2.7) Amphibians (Section 7.3.2.8) Terrestrial	Particular attention should be paid in the construction work of compressor station of Ardahan and Sivas to prevent any potential disturbance to the bezoar goat (*Capra aegagrus*) Construction activities should be carried out in Erzurum and Kars minimizing the habitat loss and disturbance for the SCC species (Wagner's viper [*Montivipera wagneri*], Uzzell's lizard [*Darevskia uzzelli*], Unisexual lizard or white-bellied lizard [*Darevskia unisexualis*]) prior to vegetation clearance in the habitats E4.4 (Calciophilus alpine and subalpine grasslands) and E1.2E (Irano-Anatolian Steppes). Pipeline route from the Georgian border to KP 36+500 in Ardahan province should be regarded with a major importance for Caucasian salamander	Site specific checks

Anticipated Scope of Testing and Monitoring by EPC and CCs						Scope of TPMC
Topic	**Location**	**Frequency**	**Parameter**	**Methodologies**	**Additional considerations**	
				Invertebrates (Section 7.3.2.9)	(*Mertensiella caucasica*) (Please also refer to KP TABLE for BIODIVERSITY ACTION PLAN (TNP-TDT-ENV-GEN-001, P3-0)	
Aquatic Resources Monitoring Programme (Freshwater)	In water crossings throughout the pipeline right-of-way	*Before, during and after construction of any sort of passageways that may affect river/stream/lake habitat.*	- GPS location of sampling sites - Species identification - Species numbers - Species density - Species Abundance/ Distribution - Species of concern (SCC) - Invasive species - Biological Monitoring Working Party score (BMWP) - Photographs	- Detailed ecological characterization of the rivers at river crossing using standard methods such as the US-EPA Rapid Bio-assessment Protocol or equivalent may be considered. - To be applied to Fish and Macrobenthos (freshwater invertebrates) (see Water Quality requirements) - Original ESIA baseline methodologies Freshwater Fishes (Section 7.3.2.10) Aquatic Invertebrates (Section 7.3.2.11)	Higher level of inspection and monitoring should be conducted where fish spawn, particular attention should be paid in the crossings of Koca river and Simav stream where two critically endangered species (*Cobitis puncticulata* and *Oxynoemacheilus simavica*) are potentially present (Please also refer to KP TABLE for BIODIVERSITY ACTION PLAN (TNP-TDT-ENV-GEN-001, P3-0).	Monitoring to be undertaken: •Once before construction, •Once during construction •Once approximately one (1) month after completion In planning this work, TPMC should take account of seasonal constraints.
III. Social and Cultural Heritage Monitoring						
Human health and safety	Project wide	Continuous	Compliance with the Voluntary Principles on Security and Human Rights	To be determined by contractor		Monthly check at campsites Check Grievance Procedures results of EPCC reports
Historical/Cultural Resources	All identified in Table 8.3.6.3-4: Determined Sites of the IA, Table 1.4. 1 Archaeological Findings in the Cultural Heritage Management Plan and others as identified during construction	*Continuous*	*Disturbance and access to historical and cultural resources*	Monitoring of construction activities by a qualified specialist during project construction in locations of historically or culturally important sites. *Review of records*: disturbances		Review records Field visit to sensitive locations

Anticipated Scope of Testing and Monitoring by EPC and CCs						Scope of TPMC
Topic	**Location**	**Frequency**	**Parameter**	**Methodologies**	**Additional considerations**	
				to sites of historical or cultural value and public access to sites of historical or cultural value.		
Social - general	*Project wide*	*To be determined by the contractor*	-Disturbance on surrounding communities -Increased traffic load -Damages to third party properties, roads & infrastructure -Increased community expectations -Community safety risks -Loss of livelihood -Interaction of workers with the public -Labour working conditions -Grievances from workers and public and the responses	*Review and reporting of:* • Records of complaints from local communities • Records of local labour use and procurement • Records of traffic accidents • Records of consultation and liaison activities with local communities and authorities • Records of occupational health cases		Check records Visual check at camps and their vicinity, and routes to/from worksites.
Presence of workers	In settlements close to campsites	Regular – *actual timing to be determined by contractor*	Conflict and tension	Monitoring in settlements surrounding campsites to ensure that the presence of workers does not create situations of conflict and tension. Any critical situations will be promptly reported.		Check records Visual check at camps and their vicinity, and routes to/from worksites.
Employment	*Project wide*	*Continuous*	*As listed in the Employment and Training Plan* - The recruitment process will be monitored by third party organizations or	*Review of employment records against targets for local employment as laid out in the Employment and*		Check records

Anticipated Scope of Testing and Monitoring by EPC and CCs						Scope of TPMC
Topic	**Location**	**Frequency**	**Parameter**	**Methodologies**	**Additional considerations**	
			institutions to ensure that it is done according to TANAP's HR Policy and Management Plans.	*Training Plan, Company's HR Policy and Management Plans.*		
Local Procurement	*Project wide*	*Continuous*	As listed in the Procurement and Supply Management Plan, – "TANAP will aim to procure goods, services and materials from local businesses to the extent possible; those that would not meet the project quality standards and/or the supply for the project demand would be procured from the national or international suppliers." *This will be monitored by a third party, in line with employment requirements.*	*Review of procurement records against targets for local procurement as laid out in the PSMP.*		Check records and local procurement ratios reported.
IV: Offshore Monitoring						
Seawater quality	*Offshore pipeline route*	Continuous	Turbidity / suspended sediment monitoring, mercury, marine pollution *(to be determined by contractor)*	*Survey (visual and measurements), review and reporting of records of marine pollution from project activities*		Check records
Sediment quality	*Offshore pipeline route*	Pre-construction	Sediment mercury concentration, sea bottom damage, pollution	*Sediment sampling and analysis (to be defined by contractor).* Review of records of sea bottom morphology damage from project activities, Records of marine pollution from project activities, Records of	See Pollution Prevention Plan for further details. A high level of mercury was found in 6 investigated stations located within the Project corridor. As such detailed sediment characterization in the identified critical areas should be carried out. If the characterization confirms the high presence of mercury in the area the local authority should be informed.	Check records Spot-check from pipe-laying vessel once Quarterly check from onshore camps, once per month at each side

Anticipated Scope of Testing and Monitoring by EPC and CCs						Scope of TPMC
Topic	**Location**	**Frequency**	**Parameter**	**Methodologies**	**Additional considerations**	
				habitat damage from project activities		
Sediment disposal offshore – if required	Offshore	Continuous	*To be determined in the monitoring programme. To include contaminants as per Turkish/International requirements and disposal location.*	Monitoring programme will be implemented for the analysis of the sediments in case of dumping into the sea. *Likely to include pre-dredge survey.*		If needed, check onshore site of waste disposal, once during use and once on completion
Seagrass	Offshore pipeline route *(nearshore seagrass habitats)*	Preconstruction, during *and post construction*	Seagrass *health* (presence and distribution) *compared to baseline*	Survey and analysis. *Methodology to be determined by contractor*		Check methodology and records
Marine traffic	*Offshore pipeline route*	Continuous	Maritime traffic schedules and construction work plans	Liaison with authorities		Check methodology and records
Marine biodiversity	*Offshore pipeline route*	*To be determined by contractor*	-Vegetation loss or alteration of rare plants or rare plant communities -Presence and abundance of any rare species of mammals, birds, reptiles, arthropods, aquatic macroinvertebrates, fish and amphibians.	*To be determined by contractor*		Check methodology and records
Marine resources	*Offshore pipeline route*	*To be determined by contractor*	Fisheries and aquatic resources loss	*To be determined by contractor*		Check methodology and records
Offshore Social	*All affected communities, including artisanal fishermen*		Impacts on local economy, interactions with worker and public, damages to third party property and infrastructure, *marine* traffic, grievances from workers and public and the responses	Records of complaints from local communities, Records of local labour use and procurement, Records of marine traffic accidents, Records of consultation and liaison activities with local communities and authorities, Records of occupational health cases		Check methodology and records

3.3 APPENDIX 3 Environmental Key Performance Indicators (KPIs) for Construction

KPIs for EPCM

ENVIRONMENTAL MANAGEMENT SYSTEM	Type	Period	Target
Environment audits completed vs planned	KPI	Quarterly	100%
Environment trainings completed vs planned	KPI	Quarterly	100%
Total % of environmental non compliances closed within agreed timeframe	KPI	Monthly	100%
# of fines greater than 1000 TL for environmental violations	KPI	Monthly	0
ESMS Management review undertaken	Measure	Yearly	1

KPIs for Construction Contractors

ENVIRONMENTAL MANAGEMENT SYSTEM	Type	Period	Target
Environment audits completed vs planned	KPI	Quarterly	100%
Environment trainings completed vs planned	KPI	Quarterly	100%
Total % of environmental non compliances closed within agreed timeframe	KPI	Monthly	100%
# of fines for environmental violations	Measure	Monthly	N/A
# of fines greater than 1000 TL for environmental violations	KPI	Monthly	0
GHG EMMISSIONS			
Tonnes of CO2 emitted per km of pipeline laid	Measure	Monthly	N/A
POLLUTION PREVENTION - AIR QUALITY			
% of test results compliant with project standards	KPI	Monthly	100%
# of tests carried out near senstive receptors	Measure	Monthly	N/A
# of complaints received related to dust, and/or odor	KPI	Monthly	0
% of non compliances raised by EPCM which are closed within agreed timeframe	KPI	Monthly	100%

POLLUTION PREVENTION - NOISE			
% of test results compliant with project standards	KPI	Monthly	100%
# of tests carried out near senstive receptors	Measure	Monthly	N/A
# of complaints related to noise	KPI	Monthly	0
% of non compliances raised by EPCM which are closed within agreed timeframe	KPI	Monthly	100%
POLLUTION PREVENTION - VIBRATION			
% of blasts monitored	KPI	Monthly	100%
# of baseline monitoring locations measured	Measure	quarterly	N/A
# of complaints related to vibration	KPI	Monthly	0
% of non compliances raised by EPCM which are closed within agreed timeframe	KPI	Monthly	100%
POLLUTION PREVENTION - LAND			
# of spills to land higher than 50 liters	KPI	Monthly	0
WATER MANAGEMENT			
% of tests/samples compliant with project standards for effluent discharge	KPI	Monthly	100%
% tests/samples compliant with project standards for potable water	KPI	Monthly	100%
% tests/samples compliant with Project hydrotest water discharge requirements	KPI	Monthly	100%
# of spills to water	KPI	Monthly	0
Total water abstraction (m3)	Measure	Monthly	N/A
# of complaints received regarding negative impact to third party water quality or quantity	KPI	Monthly	0
% of non compliances raised by EPCM which are closed within agreed timeframe	KPI	Monthly	100%
WASTE MANAGEMENT			
Non hazardous waste generated (kg)	Measure	Monthly	N/A
Hazardous waste generated (kg)	Measure	Monthly	N/A
% of waste segregated	KPI	Monthly	100%

Waste recycled (kg)	Measure	Monthly	N/A
Waste reused (kg)	Measure	Monthly	N/A
# of complaints received regarding waste management and its negative impact to third party	KPI	Monthly	0
% of non compliances raised by EPCM which are closed within agreed timeframe	KPI	Monthly	100%
ECOLOGICAL MANAGEMENT			
# of project related injured/dead fauna	Measure	Monthly	0
# of off-ROW disturbances	KPI	Monthly	0
# of incident/damage to sensitive areas	KPI	Monthly	0
% of survival rate of transplanted flora	KPI	Annual	75%
% of non compliances raised by EPCM which are closed within agreed timeframe	KPI	Monthly	100%
EROSION CONTROL AND REINSTATEMENT			
# of complaints related to sedimentation to off ROW areas and/or waterbodies	Measure	Monthly	N/A
# of non compliances related to topsoil/subsoil segregation	KPI	Monthly	0
% of vegetation cover post reinstatement	PI	Monthly	positive trend
AGGREGATE			
% of quary sites used that are properly licensed	KPI	Monthly	100%
CULTURAL HERITAGE			
# of known archaeological/cultural heritage sites damaged during construction activities	KPI	Monthly	0
# of times work stopped by Contractors to report chance finds.	Measure	Monthly	N/A
% of non compliances raised by EPCM which are closed within agreed timeframe	KPI	Monthly	100%

4 ANNEXES

ANNEX 1 Commitments Register

ANNEX 2 Environmental Standards for Monitoring

TANAP

TANAP
TRANS ANATOLIAN NATURAL GAS PIPELINE PROJECT

PROJECT ENVIRONMENTAL AND SOCIAL COMMITMENTS REGISTER

Rev	Status	Date	Status Description	Issued by	Checked by	Approved by
P3-A	DIC	15.11.2015	Discipline Internal Check	ARIT	KILS	
P3-B	IDC	23.11.2015	Inter Discipline Check	ARIT	KILS	MELC
P3-0	IAA	25.11.2015	Issued as Approved	ARIT/KILS	MELC	DUZS
P3-1	Re-IAA	23.06.2016	Re-Issued As Approved	MENA/ARID/ KILS	POYS/RUSP /AYAM	DUZS

DOCUMENT REVISION HISTORY SHEET

Rev.	Revision Description	Date Issued	Update / Amendment Details

HOLDS

No.	Section	Description	Input From	Planned Date

TANAP PROJECT ENVIRONMENTAL and SOCIAL COMMITMENTS REGISTER[1]

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
1	0-1	Design	**Influence on Highways**	According to the internal circular of General Directorate of Highways dated 31.01.2007 and numbered 2007/6, for every kind of activity to be conducted in highway expropriation borders or in 50 m distance to Highway Border Line, permit of General Directorate of Highways will be received. A Protocol will be signed with the relevant Regional Directorate for the activities to be performed on horizontal and parallel crossings at points that NGP and highway cross and required permits will be obtained. Traffic safety will be maintained for the activities to be conducted in line within 50 m to the highway and the signing projects will be prepared as an appendix of the Protocol to be signed with the related Regional Directorate. For the crossing points of the NGP route with the available structures and projects (bridge, historical bridge and other engineering structures), finalization will be carried out in contact with General Directorate of Highways and Protocol will be signed for appropriate passage based on the conditions of the route. In the places that bridge is available with horizontal crossings, the opinion of Chief Engineering Branch of Regional Directorate's Engineering Structures Department will be received. 1/5,000 and 1/1,000 scaled projects of crossings of NGP and existing highway network will be submitted for the opinion and approval of the General Directorate of Highways, these crossings will be transmitted via major engineering structures, and opinion and approval of General Directorate of Highways will be received for the design of engineering structures. Every type of engineering structures required to be constructed on the crossing points that NGP cuts roads horizontally (structures as minimum 10 m concrete enveloping at both sides starting from the banquette; etc.) will be designed and their Projects	- The principles of 31. Article of Regulation on Facilities to be Established Adjacent to Highways will be complied. Related with the areas that connection roads or facilities will be constructed on study sites, the articles of Regulation on Facilities to be Established Adjacent to Highways will also be complied. - Traffic Law numbered 2918 and related regulations will be complied during all the transportations and also, a Traffic Management Plan will be prepared in coordination with the related Regional Directorates and it will be submitted to the related regional directorates. - During construction, operation, transportation of materials, and all detonation works to be conducted, the structure of highways and related facilities won't be damaged, in case of damage; the loss will be paid by company within the protocol to be signed with the Regional Directorates. - During the transportation of all substances under the category of dangerous substances, the articles of "Regulation on Transportation of Dangerous Substances on Highway will be complied. - In the parts that NGP and highway route go in parallel, the route will pass out of the borders of expropriation and safety area.	All Regional Directorates of Highways	- For road crossings and horizontal passages of NGP near roads, Protocol to be signed - Project approval before construction of engineering structures for existing highway crossings - Permit to be taken for new connections to the Roads before construction according to the Traffic Law numbered 2918. - Quarries and borrow pits in the NGP corridor will be taken into consideration and necessary pre-cautions for the pipeline not to be affected negatively during operation will be taken.	TANAP	-	-	-	-	-	-	-	Chp. 2.8.4 Chp. 10.3 App.-4.3
						Department of Operations	- For available and planned highways crossing with the NGP, the principles provided from General Directorate of Highways, Department of Operations will be followed for the works and operation to be conducted (Ref. Annex 4.3).								
						Regional Directorate of Public Private Sector Association	Since the NGP route is located in İzmir-İstanbul Highway expropriation corridor, according to the opinion of the Regional Directorate of Public Private Sector Association (Ref. App.-4.3), every kind of pre, application, detailed, typical cross section, operation projects for the areas that have crossings with highway, will be provided to Regional Directorate of Public-Private Sector Association, their validation will be received and protocol will be signed in case of necessity.								
						Department of Engineering Structures (Chief Engineering Departments in the Regional Directorates)	- For Historical Bridges in Bursa-14 and Kars-18 Regional Directorates' Territory, at the crossing points of NGP, opinions of the Reg. Direct. to be taken - Taking into consideration that on route, there may be other bridges available that are not in inventory, the Project will be conducted in compliance with Law on Cultural and Natural Entities Protection numbered 2863 and principles mentioned in EIA Application File under title" III.I.7 Architectural and Archaeological Heritage".								

[1] *This Register is derived from ESIA (TNP-REP-ENV-GEN-002) Appendix 4.5. If the Project has a new activity, the impacts of the activity will be added in this list.*

[2] *Environmental components mean surroundings in which a project operates, including air, water, land, natural resources, flora, fauna, humans and their interrelation.*

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
				will be had approved by the related Regional Directorate of Highways. Every kind of investment will be provided and their construction will be conducted in the framework of the protocol to be signed with the related Regional Directorate of Highways. At motorways that NGP crosses horizontally design will be performed in the way that the NGP will be at least 500 m away from motorway axis and will have least number of crossings with motorway for the safety of the motorway. In case NGP crosses with the projects under design, positive opinions of Regional Directorate will be received in each step of the projects' front, application details and cross-sections for the areas that cross and in case of necessity, protocol will be signed. At crossing points of the NGP route with the existing structures and projects of highways (bridge, historical bridge and other engineering structures), agreement will be made with General Directorate of Highways and appropriate transmission protocol will be signed according to the route. Based on the Internal Circular of General Directorate of Highways dated 31.01.2007 and numbered 2007/6, at parts that NGP and highway routes go in parallel, pipeline will pass out of expropriation borders and safety site. Horizontal transmissions will be conducted out of crossroad areas, perpendicular to the road axis as much as possible and via horizontal drilling at points determined together with experts from Regional Directorate in the scope of protocol. At parts that NGP route crosses roads and goes in parallel with roads out of expropriation borders, necessary pre-cautions will be taken in order to maintain highway safety. Necessary signings will be placed during activities being conducted at parts that lines go very close or cross, structure integrity of the road won't be damaged, all necessary pre-cautions by means of traffic safety, live and property safety will be taken. In order not to have any difficulty during the Project studies of applications such as vertical and horizontal axis change of roads, crossroad construction and platform widening at points that NGP and highways		1- İSTANBUL-1 Regional Directorate of Highways 2- KAYSERİ-6 Regional Directorate of Highways	1- - Opinion of the Regional Directorate will be received again during the construction of the Project for Kınalı-Tekirdağ-Savaştepe-Çanakkale Highway which is in design phase - Based on internal circular of General Directorate of Highways dated 31.01.2007and numbered 2007/6, route will pass out of expropriation borders in parts that NGP route is in parallel with highway. Horizontal transmissions will be conducted out of crossroad areas, perpendicular to the road axis as much as possible and via horizontal drilling at points determined together with experts from Regional Directorate in the scope of protocol. 2- - All transmissions of NGP and road route will be conducted within the scope of protocol via pneumatic transmissions. For the activities to be conducted within the route that passes 50 m inside of highway, protocol will be signed with Regional Directorate, permits will be obtained, the traffic safety will be prevented and protocol appendix signing projects will be conducted. - At the crossings close to historical bridges (bridge protection area will be equal to bridge length), the opinion of Regional Directorate will be received. - At parts the route passes close to borrow pits registered for Regional Directorate, safety distance will be provided since production via detonation will be conducted in the pits and route won't pass through the registered pits. - In case that a connection road is needed, crossroad distance, vision distance, structure distance and other Fundamentals will be complied in accordance with the articles of Regulation on Facilities to be Established Adjacent to Highways and Article 17 and Article 18 of Traffic Law numbered 2918. - The additional vehicle load may be observed on roads that highways are used during construction and operation phases, will be provided in detail as vehicle type and count and will be informed calculated as % increase. 3- - Activities will be conducted not interrupting the operation of the borrow pits registered on Regional Directorate.							

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
				are in parallel or cross; all the necessary pre-cautions will be taken throughout the 500 m corridor parallel to the highway. Applications that may inhibit the activities of facilities of the institution in the study corridor of NGP (Sub-district directorate, hospital, historical bridge, plent sites, quarries, storage areas, etc.) will be avoided and activities will be held in coordination with authority on every subject that interest General Directorate of Highways. The principles of Article 31 of the Regulation on Facilities to be Established Adjacent to Highways will be complied.		3- ERZURUM-12 Regional Directorate of Highways 4- BURSA-14 Regional Directorate of Highways 5- SİVAS-16 Regional Directorate of Highways	4- - The pipeline route will be revised in the way it will pass out of the expropriation border. - Because the construction works of Gebze-Orhangazi-İzmir Highway Project are continuing, opinion of Regional Directorate of Public-Private Sector Association was received. (Ref. App-4.3). As mentioned in the opinions, every kind of pre, application, detail, typical cross section, operation etc. projects for the areas that have crossing with highways, will be provided to Regional Directorate of Public-Private Sector Association and their approval will be received and protocol will be signed in case of necessity. 5- - In order not to have any difficulty during the Project studies of applications such as vertical and horizontal axis change of roads, crossroad construction and platform widening at points that NGP and highways are in parallel or cross; all the necessary pre-cautions will be taken throughout the 500 m corridor parallel to the highway.								
2	0-1	Design	**Influence on Railways**	At points that natural gas pipeline (NGP) crosses railway route, in case that the natural gas pipeline passes under the route, steel resistant against corrosion and pressure will be stick into the pipe with at least 1.5 m depth (at least 4m in high speed train lines) to protection pipe upper level via horizontal drilling method. NGP will be placed in parallel in protection box or pipe underground with minimum 80 cm pipeline upper level depth from the ending altitude of the platform side slope. Minimum 25 m corridor width in the corridors without excavation and backfilling (12.5 m on right and 12.5 m on left starting from main line axis) and additionally; 10 m service road will be determined from the appropriate side of the line (right or left) and 5 m safety distance will be left from the outer line on the other side. At the rugged areas with excavation and backfilling, additionally to the	-	General Directorate of State Railways Enterprises	- At points that natural gas pipeline (NGP) crosses railway route, in case that the natural gas pipeline passes under the route, steel resistant against corrosion and pressure will be stick into the pipe with at least 1.5 m depth (at least 4m in high speed train lines) to protection pipe upper level via horizontal drilling method. - NGP will be placed in parallel in protection box or pipe underground with minimum 80 cm pipeline upper level depth from the ending altitude of the platform side slope. - Necessary pre-cautions will be taken in order to protect traffic safety. - All costs including damages which may occur during and after construction including structuring the displacements of	TANAP	-	-	-	-	-	-	Chp. 2.8.4 Chp. 10.3 App.-4.3

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
				distance between the side slope stakes of both sides, 10 m distance with servicing purpose will be kept in one side starting from the end of the planned structure and 2 m safety distance will be kept on the other side. Considering double line construction on speed train lines, for the railway corridor width, minimum 50 m corridor width in corridors without excavation and backfilling, additionally, 10 m service line will be left from the appropriate side of the line (right or left) and in any case, 10 m safety distance will be left from the outer line. In rugged areas with excavation and backfilling, addition to the distance between the side slope stakes on both sides, 10 m service distance starting from the end of the planned structure will be kept on an appropriate side and 10 m safety distance will be left on the other side. Necessary pre-cautions will be taken in order to protect traffic safety. The protocol that includes the rules explaining that all costs including damages may occur during and after construction, structuring the displacements of the pipes to pass under the route in case of necessity as a result of any decision made by General Directorate of State Railways Enterprises will be paid by related person or institution; agreement with TRGR will be provided on the issue and transmission cost will be received for once will be arranged and pipeline will be placed.			the pipes to pass under the route in case of necessity as a result of any decision made by General Directorate of State Railways Enterprises will be compensated by related person or institution; and this issue will be agreed with the General Directorate and a protocol including terms of passage cost payment for once will be arranged and pipeline passage will be performed. - During the parallel passage of natural gas pipeline to conventional line; Minimum 25 m corridor width in the corridors without excavation and backfilling (12.5 m on right and 12.5 m on left starting from main line axis) and additionally; 10 m service road will be determined from the appropriate side of the line (right or left) and 5 m safety distance will be left from the outer line on the other side. At the rugged areas with excavation and backfilling, additionally to the distance between the side slope stakes of both sides, 10 m distance with servicing purpose will be kept in one side starting from the end of the planned structure and 2 m safety distance will be kept on the other side. By means of railway security; - At places that existing TRGR corridor is wider than 25 m, for the facilities that may cause danger by means of live and real property related with combustible and explosive substances, according to Obligatory Standard Notification numbered TS 11939/January 2001 of Ministry of Industry and Trading , starting from the ownership borders of TRGR , a closeness distance of 10 m will be kept for covered or underground tanks (the safety distances of underground tanks are measured from safety valve) and a distance of 15 m will be kept for above ground tanks. - At the places the existing TRGR corridor							

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
							is narrower than 25 m, starting from 25 m to be provided by planning, a closeness distance of 10 m will be provided for covered and underground tanks (the safety distances of underground tanks are measured from safety valve) and 15 m will be provided for above ground tanks. - Considering double line construction on speed train lines, for the railway corridor width; Minimum 50 m corridor width in corridors without excavation and backfilling, additionally, 10 m service line will be left from the appropriate side of the line (right or left) and in any case, 10 m safety distance will be left from the outer line. In rugged areas with excavation and backfilling, addition to the distance between the side slope stakes on both sides, 10 m service distance starting from the end of the planned structure will be kept on an appropriate side and 10 m safety distance will be left on the other side.									
						General Directorate of Infrastructure Investments	- The issues specified in Chapter 2.8.4.1 concerning railway crossings that intercept the NGP route which are specified in Chapter 10 shall be complied with. - The positive letter of opinion received from General Directorate of Civil Aviation on Sivas (Nuri Demirağ) Airport existing in the vicinity of NGP route, is provided in App-4.3 and the issues specified in the concerned correspondence shall be complied with. - The correspondence concerning the Ardahan Airport in the vicinity of the NGP route is provided in App.-4.3, and in relation to this issue, activities shall be performed in cooperation with the General Directorate of Infrastructure Investments, obtaining the required permits. - In relation to the Eskişehir (Anadolu University) Airport in the vicinity of the NGP route, the opinion of the General								

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
							Directorate of Infrastructure Investments is given in App. 4.3, and in accordance to this, activities shall be performed in cooperation with the General Directorate of Civil Aviation and the required permits shall be taken. - In relation to the Military Airports in the vicinity of the NGP route, activities concerning the military zones specified in App. 4.3 and detailed in Chapter 7.3.1.8 shall be performed in compliance with the opinions given by the Ministry of National Defense and the Turkish General Staff. - In the projects being carried out by the General Directorate of Infrastructure Investments, at points where the NGP route crosses the railway line, if the NGP crosses under the railway route, the protection pipe shall pass through steel guide pipe resistant to corrosion and pressure by horizontal drilling method, so that there is a depth of at least 5 m from the platform level to the upper level of the protection pipe. - At the points where the natural gas pipeline crosses the railway lines, which are under the responsibility of the General Directorate of Infrastructure Investments, the sub-ballast and sub-base layers, which are the layers under the ballast, shall be protected against the effects of water by taking the necessary precautions, and taking into consideration the slope ditch and the drainage structures of the railway platform side, For the railway sections at cut level, a minimum height of 310 cm shall be ensured between the top level of the rail and the culvert slab top level H, which will protect the natural gas pipe from dynamic impacts. In addition, the static calculation of the top slab thickness of the culvert structure protecting the natural gas pipe shall be made according to the European Union Standards EN and UIC 71 x 1,33 railway project load and dynamic							

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
							coefficient as well as taking into account , the horizontal and vertical clean gauge spaces to be left for the maintenance and repair of the natural gas pipeline, the diameter of the gas pipe and the addition of the thicknesses of the granular drainage material to be constructed under the natural gas pipe. - An agreement shall be reached with the General Directorate of Infrastructure Investments through a protocol concerning the crossing points of the railways and airports.								
3	0-1	Design	**Influence on Other Pipelines**	All the pre-cautions related with health, safety and protection of pipeline predicted by the Project owner/operator will be taken related with the existing and planned pipeline where go in close with the NGP within the Project. Before the activities of land preparation and construction of the Project are initiated, with the information provided in design on existing pipeline borders, will be identified on-site and in order to prevent the minimum distance required between, the horizontal direction changes where bending will be made, will be finalized. Heavy construction machines will pass above existing pipelines only at points determined with pipeline operator, otherwise, only the existing and new access roads will be used. At places with areal restriction, readjustments will be conducted on narrowing the determined construction corridor study borders of NGP. Topsoil and excavation soil that will come out during the land preparation and construction activities won't be stored in route corridor of the existing line in case an agreement is not conducted as opposite. In case the lines are in parallel at side slopes, in order not to damage the stability of the existing line due to excavation works to be conducted, NGP will pass above the existing line, only in special cases, will pass below the line. If any damage is observed, the existing line will be reinstated according to an agreement to be made with the operator of the line. At horizontal crossing, the existing line won't be damaged mechanically, activities will be performed below the line in the way that no damage will be given	-	Transit Petroleum Pipelines Department	- Technical data on natural gas pipeline will be provided before construction phase and Project approval will be received and the studies will be conducted within the frame of protocol to be signed with BOTAS. - The relevant provisions of the Technical Safety and Environment Regulation on Construction and Operation of the Crude Petroleum and Natural Gas Pipeline Installations of the General Directorate of the Petroleum Transmission through Pipelines Co. (BOTAŞ), published in the Official Gazette dated 06.01.2011, No. 27807 shall be fulfilled	TANAP	-	-	-	-	-	-	Chp. 2.8.4 Chp. 10.3 App.-4.3

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
				to the cathodic protection of the line in safety distance, and crossing angle will be kept close to 90° as much as possible and at least 45°.											
4	0-1	Design	**Influence on Cable Lines**	Within the Project, the lines existing on the NGP route construction corridor won't be damaged. At horizontal crossings, the crossing angles will be tried to be kept around 90° as much as possible and at least 45°. At crossings that high voltage transmission lines exist, the cathodic protection of the pipeline will be taken into consideration.	-	-	-	TANAP	-	-	-	-	-	-	Chp. 2.8.4
5	0-1	Design	**Influence on Overhead Energy Transmission Line**	Within the Project, at the overhead energy transmission line crossings on the NGP route, minimum tolerable impact of induced current on line will be evaluated. At horizontal crossings, crossing angle will kept close to 90° as much as possible, at least, 60°.	-	-	-	TANAP	-	-	-	-	-	-	Chp. 2.8.4
6	0-1	Design	**Influence on Mining Sites**	-	-	General Directorate of Mining Affairs	- Protocols signed related with the mining sites on natural gas pipeline route and MIGEM contact records are provided in App.-4.3. - In order to assess whether the activities in geothermal license areas intercepting the project route will be effected, when/as required, for the final decision concerning this, the necessary permits shall be obtained from the concerned governorates within the context of the amendment (Official Gazette dated 30.05.2014, No. 29015) of Article 27/A, paragraph 3 of the Regulation on Implementation of the Law on Geothermal Springs and Natural Mineral Waters, published in the Official Gazette dated 01.12.2007, No. 26727.	TANAP	-	-	-	-	-	-	Chp. 2.8.4 Chp. 10.3 App.-4.3
7	2	Entire Project	**Air/Climate**	-	According to IFC Guidelines[1], the annual emissions of GHG during the operation (>100,000 tonnes CO2eq per year) of the TANAP project will be significant and should be quantified and reported annually. In addition, according to the Regulation on the Monitoring of Greenhouse Gas Emissions, it is stated that the total thermal power is as equal or more than 20 MW, the CO2 emissions needs to be reported to the MoEU as of 2016.	-	-	TANAP/EPCM	GHG Emission Monitoring	Annual	Emission Report	Ministry of Environ. and Urbaniz. as of 2016	Pollution Prevention Plan	-	Chapter 8

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
					Therefore the CO2 emissions from CSTs should be quantified and reported annually.										
8	1	High and medium impact areas along the route (Ref. Appendix 4.5 of the ESIA)	**Soil**	During the land preparation and construction phases of the Project, first of all, vegetable soil (topsoil) will be stripped if available during the clearing works of the construction corridor, construction of temporary above ground installations and new access roads. The vegetable soil stripped will be stored in the construction corridor in an appropriate area with a slope value not more than 5% according to the Regulation on the Control of Excavation Soil, Construction and Demolition Wastes that came into force by being published in Official Gazette dated 18.03.2004 and numbered 25406. The vegetable soil won't be stored in river beds, storage period will be kept as short as possible. Special methods will be applied for preventing vegetable soil loss, protecting soil texture and fertility in habitats with sensitive and limited topsoil and ecologically sensitive areas. The losses that may be observed during the storage period of the vegetable soil will be prevented as much as possible and the soil quality will be protected. If the vegetable soil will be kept uncovered for a long time, the topsoil will be made to be covered by plants that grow fast. The vegetable soil stripped will be stored being compacted in order to prevent anaerobic conditions to occur and being covered via geotextile etc. materials if necessary in order to prevent the soil from losing its properties. After the construction is completed, levelling studies will be conducted on the land where the route construction corridor and temporary facilities are located while generating required drainage systems both underground and on surface at points where necessary and the vegetable soil stored separately, will be spread as top this stage erosion protection measures will be taken. During the reinstatement studies, bio-restoration works will be conducted for revegetation. Within this concept, the coverage percentage of plant cover will be tried to be increased via using seed types and plant species appropriate for area and purpose. By this way, the vegetable soil will	Further soil studies will be required to in the form of collecting actual site data identify: The site specific areas with high erosion potential by providing the data required for USLE calculation. To have information full characteristics of the soil in high and medium impact areas to be able to develop the reinstatement and erosion specification To verify the findings of the ESIA in relation to high and medium impacts areas and identify additional high and medium impacts areas if available on the AoI	1- ERZURUM-13. Regional Directorate of Forestry and Water Affairs	1- - In the Project area, the top 10-20 cm depth of the soil, which is the most fertile part, shall be stripped and shall be stored at suitable spaces to be used in restoration and rehabilitation after the works are completed. - Ecological restoration and rehabilitation works shall be carried out in the construction corridor, opened following the construction works, in the new roads and improved roads and in other areas, the natural structure of which have been shattered, and the necessary precautions for erosion during construction and operation shall be taken. the bottom soil taken out in the excavation studies during construction works shall be arranged in accordance with the natural landscape of the region, the topsoil that had been stripped and stored at the initial stage of the activities shall be used in ecological restoration works to be carried out, and in the re-vegetation works trees, small trees, shrubs and the herbaceous species consistent with the natural vegetation, which are preferred by the target species and important wild animal species of the area and which can establish food and shelter shall be used. At areas with high slope, in order to minimize the damage to the environment, road construction shall be conducted with crusher excavators and it shall be ensured that the excavation material shall be carefully transferred, not letting them fall down the slope. At places where the Ardahan Provincial Branch Directorate of the 13. Regional Directorate of the Ministry of Forestry and Water Affairs deems necessary, art structures (retaining wall, cement pipes, etc.) shall be made. In new road construction, opinion of the Ardahan Provincial Branch Directorate shall be taken, provided that the provisions of the applicable legislations are met. 2- During the stage of opening the pipeline route and of trenching, vegetative soil (top soil layer) shall be stored and laid on the pipeline route and levelled. 3- Top layers of soil will be stripped during excavation works and when the works is completed, this stripped soil that is rich by means of nutrient elements will be spread and sustainable production will be provided. 4- Pre-cautions will be taken during the	TANAP/EPCM	Soil characterization Survey	Once	Survey Report	TANAP	Construction Management Plan Erosion, Reinstat. and Landscaping Plan	Geotechnical Studies	Chapter 8
9	1	Entire Project	**Soil**		Implement soil erosion control measures as detailed in Erosion, Reinstatement and Landscaping Plan	2- KARS Provincial Directorate of Food, Agriculture and		TANAP/EPCM	Records of excessive slope instability or soil erosion Delineate unique or sensitive areas that require specific soil handling or mitigation prior to construction Monitor specific soil handling and mitigation during construction in unique or sensitive areas Regularly inspect the stability of slopes and any soil and terrain units that are considered to be unique Inspect and maintain erosion and sediment control structures during and after construction;	Contin.	Inspection Report	TANAP	Construction Management Plan Erosion, Reinstat. and Landscaping Plan		

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
				be recovered in nature. In the cases that it is compulsory the NGP to pass through potential erosion sites (plains, hills, valleys, etc.), the vegetable soil stripped as a result of trench excavation in the lands with erosion risk, will be re-spread and re-growth of plants will be provided. With this method, erosion occurrence will be minimized. In case of necessity, in the area, after open and closed drainage systems are constructed, applications such as hydroseeding, jute matting, secchi terrace, gabion wall, diversion channel and in-channel slope breaker will be applied all together or separately. Furthermore, in the valleys including stream beds and surface drainage systems where the Project route crosses with water resources, erosion will be prevented via rip-rap application and slope protection. During backfilling, for the parts with gully erosion on the route, the 20-30 cm part on top will be covered by rocks. At places where the NGP route and activity areas cross, are in parallel or are close with water resources (stream crossings, dry stream beds, areas with surface drainage system, irrigation channel crossings, etc.), sediment filters and holding mechanisms will be used in order to stop surface runoff and to keep the sediments before they enter any water course. In order to inhibit water with sediment inflow, sediment inhibiting barriers such as silt fences, hay bale block or j-hay stacks will be installed in the direction of water flow depending on water amount and characteristics of the area (soil texture, slope, plant cover, etc.). Silt fences, hay bales and hay stacks will be renewed when they are fulfilled or damaged or the sediments accumulated will be collected within certain periods of time and will be disposed in appropriate licensed disposal facilities. Approval of the Regional Directorates of State Hydraulic Works will be received related with the flood prevention studies to be conducted within the Project.		Livestock 3- YOZGAT Provincial Directorate of Food, Agriculture and Livestock 4- KIRŞEHİR Provincial Directorate of Food, Agriculture and Livestock 5- KÜTAHYA Provincial Directorate of Food, Agriculture and Livestock 6- BURSA Provincial Directorate of Food, Agriculture and Livestock 7- EDİRNE Provincial Directorate of Food, Agriculture and Livestock	construction and operation phases of the Project in order not to damage the agricultural lands. 5- Within the frame of the Law on Soil Conservation and Land Use numbered 5403, no damage shall be given to the environment and other lands and water resources and the environment shall not be polluted during the activities to be carried out within the scope of the Project. 6- Soil Conservation Projects that includes pre-cautions that will prevent soil loss and land deterioration that may outcome in agricultural lands during usage of agricultural lands for non-agricultural purposes will be prepared and will be taken into application after it is approved by governorship. 7- - During the construction phase of the Project, the vegetative soil arising as a result of excavation activities shall be used (top and bottom soils shall be separately scraped). - In soil scraping, work machines that will minimize compression shall be used. - Suitable drainage systems shall be made to prevent changes that may arise in soil hydrology. - During excavations and filling, the characteristics of the surrounding lands shall be taken into consideration and the landslide and erosion effects shall be eliminated. - During the Project activities, all kinds of contamination of water resources shall be prevented. - Damage shall not be given to the surrounding pasture lands. - Measures to conserve agricultural lands shall be complied with.		remove structures that are no longer required Implement a post-construction monitoring programme to assess soil structure and quality that can affect its capability for revegetation by locally native species Assess the revegetation and stability of slopes and any soil and terrain units that are considered to be unique Implement further mitigation and corrective actions as required						
10	1	Entire Project	**Soil**		Disturb soils only within the designated right of way (ROW) working strip and additional work areas, and new access roads			EPC[3]/ EPCM	Site Inspection Record of deviations from the delineated ROW and additional work areas Records of flooding or altered drainage patterns by the ROW or access roads	Contin.	Inspection Report	TANAP	Construction Management Plan		Chapter 8 Chapter 11
11	1	Entire Project	**Soil**		Minimize the development of new access roads			EPC/ EPCM	Site Inspection	Contin.	Inspection Report	TANAP	Construction Management Plan		Chapter 8 Chapter 11
12	1	Entire Project	**Soil**		Reduce construction work areas where practical for site conditions, particularly in areas which are unique or which support rare habitats/species.			EPC/ EPCM	Site Inspection	Contin.	Inspection Report	TANAP	Construction Management Plan		Chapter 8 Chapter 11
13	1	Entire Project	**Soil**		Strip and salvage topsoil during construction in			EPC/ EPCM	Site Inspection	Contin.	Inspection Report	TANAP	Construction Managemen		Chapter 8 Chapter 11

[3] During ESIA Preperation Phase EPC terminology was used for Engineering, Procurement and Construction Contractor. Currently as the scope only covers construction, CC is meant where EPC terminology is used. For offshore construction activities EPC terminology is valid.

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
					accordance with typical drawings				Amount of removed or replaced soil Construction monitoring reports indicate appropriate soil handling was conducted				t Plan		
14	1	Entire Project	**Soil**		Minimize double handling of top soil			EPC/ EPCM	Site Inspection	Contin.	Inspection Report	TANAP	Construction Management Plan		Chapter 8 Chapter 11
15	1	Entire Project	**Soil**		Incorporate organic material into topsoil which is deficient of organic matter at the time of stripping, clearing and stockpiling to limit wind erosion and compaction and to improve water-holding capacity			EPC/ EPCM	Site Inspection	Contin.	Inspection Report	TANAP	Construction Management Plan		Chapter 8 Chapter 11
16	1	Entire Project	**Soil**		Prevent vehicle travel on the pipeline ROW as much as practical during reclamation and operation to allow vegetation to establish			EPC/ EPCM	Site Inspection	Contin.	Inspection Report	TANAP	Construction Management Plan Traffic Management Plan		Chapter 8 Chapter 11
17	1	Entire Project	**Soil**		Plan construction to limit the time required from topsoil stripping until reinstatement.			EPC/ EPCM	Site Inspection	Contin.	Inspection Report	TANAP	Construction Management Plan		Chapter 8 Chapter 11
18	1	Entire Project	**Soil**		Use measures to prevent mixing of topsoil with subsoil (including use of geotextile where required e.g. at restricted spaces)			EPC/ EPCM	Site Inspection	Contin.	Inspection Report	TANAP	Construction Management Plan		Chapter 8 Chapter 11
19	1	Entire Project	**Soil**		A Pollution Prevention Plan will be in place including the mitigation measures against soil pollution.			EPC/ EPCM	Site Inspection Records of soil contamination remaining after construction	Contin.	Inspection Report	TANAP	Construction Management Plan Pollution Prevention Plan		Chapter 8 Chapter 11
20	1	Entire Project	**Visual Aesthetics**	During the land preparation and construction phase of the project, due to all of the activities to be performed in the Project route construction corridor and in the above ground facilities, in order to reinstate the damaged landscape elements, studies of bio-restoration, environmental rehabilitation will be conducted. After the works of recontouring of the site and spreading the topsoil, bio-restoration activities will be initiated both for preventing the negative impacts of pipeline visually and for providing the security of the pipeline in terms of visual and physical aspects. Together with the bio-restoration works, erosion preventing methods will be used. In order to protect	Maximize opportunities to retain existing landform screening, i.e. site levelling will be avoided, if possible, if existing hollows or mounds may be used to integrate built features within the landform	1- BALIKESİR -25. Regional Directorate of State Hydraulic Works	1- The structures available on points that route pointed on approved projects passes, will be reinstated after the pipeline is placed.	EPC/ EPCM	Monitoring programmes will be implemented to ensure adequate reclamation and revegetation of project related disturbances has occurred.	Contin.	Inspection at site by EPCM/TANAP	EPCM/TANAP	Pollution Prevention Plan Emergency Response Plan Waste Management Plan Erosion, Reinstatement and Landscaping Plan		Chapter 8 Chapter 11
21	1	Entire Project	**Visual Aesthetics**		New landform screening (e.g. bunds and mounds) will be introduced where this might complement the existing landform character.			EPC/ EPCM	Monitoring programmes will be implemented to ensure adequate reclamation	Contin.	Inspection at site by EPCM/TANAP	TANAP			Chapter 8

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
				sensitive plant species in ecologically sensitive areas Special Area Regaining in Nature Plan will be prepared with related experts during the pre-construction period and all the activities will be performed in accordance with these plans. The principles to be indicated in Erosion, Reinstatement and Landscaping Plan to be prepared within the Project will be complied. Required permits will be obtained from the related Regional Directorates of Forestry for the trees required to be cut in the areas where temporary facilities exist or on the route of the construction corridor within the Project. Based on the forest development plans, the tree amount to be cut and their areal coverage will be determined by the related Sub-District Directorate of Forestry as a result of the investigations and evaluations to be performed on-site. During the clearing activities on-site, necessary precautions will be taken in order not to damage the plant cover, trees and shrubberies out of the route construction corridor borders and around temporary study areas. The timbers that are reusable will be stored in an appropriate area near the route construction corridor and will be recycled by giving to the users in the region in cooperation of the Project owner and Sub-District Directorate.					and revegetation of project related disturbances has occurred.						
22	1	Stations	**Visual Aesthetics**		EPCM and/or EPC contractors will develop a site-specific landscape plan for each site that will identify specific measures to reduce landscape and visual impact. This plan will address architectural measures such as colour schemes, opportunities for landform screening and landscape planting.			EPC/ EPCM	Issuing of Landscape Plan to the EPCs	Contin.	N/A	TANAP	Erosion, Reinstatement and Landscaping Plan		Chapter 8 Chapter 11
23	1	Stations	**Visual Aesthetics**		Construction Contractors will be required to ensure that site clearance and reinstatement activities and building colour schemes are consistent with the requirements of the site specific landscape plans as advised by TANAP.			EPC/ EPCM	Implementation of Landscape plan by EPCs	Contin.	Inspection at site by EPCM/TANAP	EPCM/TANAP	Erosion, Reinstatement and Landscaping Plan		Chapter 8 Chapter 11
24	1	Entire Project	**Visual Aesthetics**		Number of the trees to be cut for the Project should be replaced with the new ones			EPC/ EPCM	Monitoring of reforestation activities	N/A	Monitoring Results	TANAP	Erosion, Reinstatement and Landscaping Plan		Chapter 8 Chapter 11
25	2	Stations	**Visual Aesthetics**		Visual impact assessment studies will be performed in CST1, CST3 and CST 7.			TANAP	Monitoring programmes will be implemented to ensure adequate reclamation and revegetation of project related disturbances has occurred.	N/A	Visual Impact Assessment Report	TANAP	Pollution Prevention Plan Emergency Response Plan Waste Management Plan Erosion, Reinstatement and Landscaping Plan		Chapter 8 Chapter 11
26	3	Stations	**Visual Aesthetics**		Maximize opportunities to retain existing landform screening, i.e. site levelling will be avoided, if possible, if existing hollows or mounds may be used to integrate built features within the landform; A landscaping plan will be developed for the decommissioning phase The structures will be demolished and the areas will be reinstated. Site specific reinstatement plans (or rehabilitation plans) and WMP for disposal of the debris should be considered.			TANAP	N/A	N/A	Visual Impact Assessment Report	TANAP	N/A		Chapter 8

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
27	All	Entire Project	**Surface water**	The streams and rivers on Project route won't be interfered. Permits shall be obtained from the General Directorate of the State Hydraulic Works for surface water utilization. Surface water and groundwater resources, water tanks and distribution lines used for potable and fresh water purposes will be protected against pollution and necessary pre-cautions will be taken for this purpose. Activities will be conducted not causing any damage on resources, fountains and water points on NGP route and any damage which may be caused on water points, facilities and groundwater due to the wrong application, will be compensated by the operator. In any case that the activities that will be conducted on river protection band of surface water resources are available in lists of App-1 and App-2 of the Regulation on Conservation of Wetlands which came into force by being published in Official Gazette dated 17.05.2005 and numbered 25818, Wetland Activity Permit will be obtained. The articles of Regulation on Conservation of Wetlands will be complied during the activities to be held in borders of Balıkesir Province, Gönen stream, Manyas Bird Lake Buffer Zone, in lake protection band of Çanakkale Province, Biga District Kocabaş Stream, in Wetland Area of Edirne Province, Meriç River and other wetlands and positive opinions of other relevant authorities will be received within legislations. Furthermore, according to Aquatic Products Law numbered 1380, permits required for protection of wetlands and water areas that are or may be located on pipeline route will be obtained, breeding facilities won't be impacted, otherwise, an agreement will be achieved with breeding facility owners. The fish farms that may be using water from rivers won't be damaged. Solid-liquid wastes won't be discharged into streams and groundwater on Project route corridor. During the excavation works to be conducted in streams within the Project, causing turbulence in water resources will be prevented and the pipes will be covered via concrete. Flow regime of the bed will be paid attention not to be damaged, after the activities are complete, the stream bed will be reinstated protecting its natural	·Discharge of wastewater to surface water resources after treatment in compliance with the applicable regulatory requirements (Ref. Chapter 4 and Chapter 8.1.9 and Chapter 11)	1- BURSA-2 Regional Directorate of Forestry and Water Affairs 2-ÇANAKKALE-3 Regional Directorate of Forestry and Water Affairs 3- ANKARA-9 Regional Directorate of Forestry and Water Affairs 4- RİZE-12. Regional Directorate of Forestry and Water Affairs 5- General Directorate of State Hydraulic Works	1- - In any case that the activities that will be conducted on river protection band of surface water resources are available in lists of App-1 and App-2 of Regulation of Conservation of Wetlands (Official Gazette dated 17.05.2005 and numbered 25818), Wetland Activity Permit will be obtained. - The positive decision received from General Directorate of Nature Conservation and National Parks on wetlands located on TANAP Project route, is provided in App.-4.3. 2- -In wetlands, activities will be conducted within the articles of the related legislations. The articles of Regulation on Conservation of Wetlands will be complied during the activities to be held in borders of Balıkesir Province, Gönen Stream, Manyas Kuş Lake Buffer Zone, in lake protection band of Çanakkale Province, Biga District Kocabaş Stream, in Wetland Area of Edirne Province, Meriç River and other wetlands and positive opinions of other relevant authorities will be received within legislations. 3- - In case the route is revised, the new version will be informed. - During the activities to be held within the Project, the articles of Regulation on Conservation of Wetlands and related regulations will be complied. - Gölbaşı Special Environment Protection Zone is located 21 km North side of TANAP Project route and the Project isn't expected to have any impact on the mentioned area. 4- -Regulation on Conservation of Wetlands will be complied	EPCM/ EPC	Regular sampling and analysis and measurements of treated wastewater will be done at the discharge point in certain periods defined by the regulations.	Monthly/ More frequently if required by TANAP	Analysis Reports	TANAP/ EPCM	Pollution Prevention Plan		Chapter 8 Chapter 11
28	1	Entire Project	**Surface water**		Avoid vehicle crossings to the extent practicable across the watercourse			EPCM/ EPC	Site Inspection	N/A	Site inspection reports	TANAP/ EPCM	EPC Method Statements, Pollution Prevention Plan, Construction Impacts Management Plan		Chapter 8 Chapter 11
29	1	Entire Project	**Surface water**		·Limit construction activities to periods of low flow where practicable, when sediments are minimal			EPCM/ EPC	Site Inspection	N/A	Site inspection reports	TANAP/ EPCM	EPC Method Statements, Pollution Prevention Plan, Construction Impacts Management Plan		Chapter 8 Chapter 11
30	1	Entire Project	**Surface water**		·Design and install buried pipeline and river crossings in accordance with applicable best practices, typical drawings			EPCM/ EPC	Site Inspection	N/A	Site inspection reports	TANAP/ EPCM	EPC Method Statements, Pollution Prevention Plan, Construction Impacts Management Plan		Chapter 8 Chapter 11
31	1	Entire Project	**Surface water**		· Use either trenchless or isolation methods as required by ESIA and engineering specifications (Posof River, Bas River, Karasu River, Yenice River, Kocaçayı-Manyas after confirmation with engineering)			EPCM/ EPC	Site Inspection	N/A	Site inspection reports	TANAP/ EPCM	EPC Method Statements, Pollution Prevention Plan, Construction Impacts Management Plan Typical Drawings i.e. BCH-DXG-PPL-PLG-001 BCH-DXG-PPL-PLG-012 BCH-DXG-PPL-PLG-		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
				conditions. If explosion is conducted necessarily during the construction phase of the Project, in case the direction of the fresh water flow changes and the resources that provide water for residential areas are impacted, the damnification will be compensated by the activity owner. River and wetland crossings of the NGP will be constructed in compliance with the crossing design parameters indicated in Chapter 2.8.4. At the river crossings on route, the NGP will be placed at least 2.00 m below stream thalweg elevation, pipe will be protected by 0.5 m thick concrete blocks and stream input and output points will be marked. Before the activities are initiated, related Regional Directorate of State Hydraulic Works will be contacted. Hydraulic calculations will be conducted for river crossings; projects for crossings will be prepared and will be submitted for the approval of the Regional Directorate of State Hydraulic Works. For the engineering structures as channels, flumes, pipes, stream beds, drainage and discharge channels that cross natural gas pipeline, detailed projects will be designed taking their ground elevations into consideration theoretically and these projects will be submitted to State Hydraulic Works for approval. The structures available on points passed indicated on approved detail projects, will be reinstated following the pipeline laying is complete. At these crossings, the width of unreclaimed stream beds that do not have projects at cadaster and the width of reclaimed drainage and discharge channels with the projects on ground will be taken into consideration. In case of transmission above stream beds, the elevation won't be lowered under the top of bridge or bottom level of pipeline and the cross section won't be narrowed. At the surface water crossings throughout the pipeline route, necessary permits will be obtained signing protocol with Regional Directorate and the Circular of Stream Beds and Flooding numbered 2006/27 will be complied. Activities that will be conducted in order to prevent any			5- - Any activity won't be performed on streams and rivers with details provided in 7.3.1.4 on TANAP Project route - At points where the NGP crosses the facilities belonging to the Regional Directorate of the State Hydraulic Works, the detailed designs to be prepared by the TANAP Natural Gas Co. must be approved by the concerned Regional Directorates and a "protocol" identifying the works to be carried out shall be made individually and separately made with the 1-3-5-8-11-12-19-24-25th Regional Directorates of the State Hydraulic Works. - During the implementation of the project, activities will be carried out in coordination with the relevant Regional Directorates and crossing detailed design shall be prepared and for crossings from irrigation projects at construction and operation phases, and river, drainage canal, berm, etc. crossings and submitted for the approval of the relevant Regional Directorate. 6- - Hydraulic calculations will be conducted for river crossings; crossing detailed designs will be prepared and submitted for the approval of authority. - At each phase of activity the provisions and prohibitions of the Regulation on Control of Water Pollution concerning the potable water conservation catchment basins shall be complied with. - Concerning the plan to shift the pipeline to downstream of the planned pond (Darıtarla, Kovalıdere), studies shall be performed in coordination with the Regional Directorate to get its approval and opinion and to reach an agreement. - The NGP passes through the permeable material site of the Kızkayası Dam and the necessary precautions shall be taken by the activity owner. - Concerning the shifting of pipe stack yard to the outside of the "Güllüce irrigation" area, coordination shall be established with the Regional Directorate, to get its approval and opinion and to reach an agreement. 7- -In order not to damage the existing and planned channels and pipes in irrigation areas, natural gas pipes will be placed in						014 BCH-DXG-PPL-PLG-015 BCH-DXG-PPL-PLG-019 BCH-DXG-PPL-PLG-020 BCH-DXG-PPL-PLG-'005 BCH-DXG-PPL-PLG-'001 BCH-DXG-PPL-PLG-'002 'BCH-DXG-PPL-PLG-004		
32	1	Entire Project	**Surface water**		·Ensure all equipment working in or near watercourses is clean and free of fluid leaks	6- BURSA-1 Regional Directorate of State Hydraulic Works		EPCM/ EPC	Site Inspection	N/A	Site inspection reports	TANAP/ EPCM	EPC Method Statements, Pollution Prevention Plan, Construction Impacts Management Plan		Chapter 8 Chapter 11
33	1	Entire Project	**Surface water**		· Use appropriate sediment and erosion control techniques (e.g., silt fences) during construction			EPCM/ EPC	Site Inspection Recorded sediment loading due to project related activities	N/A	Site inspection reports	TANAP/ EPCM	EPC Method Statements, Pollution Prevention Plan, Construction Impacts Management Plan		Chapter 8 Chapter 11
34	1	Entire Project	**Surface water**		· Restore and stabilize channel banks immediately after backfilling to prevent bank erosion			EPCM/ EPC	Site Inspection	N/A	Site inspection reports	TANAP/ EPCM	EPC Method Statements, Pollution Prevention Plan, Construction Impacts Management Plan		Chapter 8 Chapter 11
35	1	Entire Project	**Surface water**		· Use clean, native materials during bed and bank restoration works			EPCM/ EPC	Site Inspection	N/A	Site inspection reports	TANAP/EPCM	EPC Method Statements, Pollution Prevention Plan, Construction Impacts Management Plan		Chapter 8 Chapter 11
	1	Entire Project	**Surface water**		· Use only existing roads, designated access roads and previously disturbed/cleared sites for Project facilities	7- EDİRNE-11 Regional Directorate of State Hydraulic Works		EPCM/ EPC	Site Inspection	N/A	Site inspection reports	TANAP/EPCM	EPC Method Statements, Pollution Prevention		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
36				possible flooding event will be submitted to Regional Directorate for approval. Protocol will be signed with the related Regional Directorate of State Hydraulic Works for the crossings in design phase. For the crossings with irrigation facilities in operation, Project details will be provided from the Regional Directorate and projects will be developed accordingly, pre-cautions needed for not interrupting the operation will be taken, as the Project for route is being developed, the opinion of Regional Directorate will be received and in construction phase, activities will be conducted in these areas under the supervision of the Regional Directorate. Permanent facilities won't be constructed on stream beds with base flow or dry stream beds, natural stream beds and flows won't be interfered, waste-excavate etc. won't be spilled. Related with potable water networks and sewage networks of residential areas and villages located on NGP route, Special Provincial Directorate of Water and Channels will be contacted before the land preparation-construction activities of the Project are initiated and the mentioned facilities won't be damaged and in cases of obligation, possible damages will be minimized and displacements will be conducted as soon as possible in order not to aggrieve the public.		8- BALIKESİR-25 Regional Directorate of State Hydraulic Works	the way its upper level will be at least in 2.00 m depth from the natural terrain. -At the river crossings on route, the natural gas pipeline will be placed at least 2.00 m below stream thalweg elevation, pipe will be protected with concrete blocks and stream input and output points will be marked. 8- - The application projects will be designed in the way that the pipeline will pass with its upper elevation in minimum 3 m depth from natural terrain and with 3 m depth from thalweg elevation at stream, drainage and discharge channel crossing points. At these crossings, the width of unreclaimed stream beds that do not have projects at cadaster and the width of reclaimed drainage and discharge channels with projects on ground will be taken into consideration. - For the river crossings it shall be ensured that the pipes pass at least 2 m deeper than the river's thalweg elevation - In river crossings, the flood protection measures (berm, massive wall, etc.) shall be taken by the activity owner and if there is a flood protection facility of the State Hydraulic Works, no damage shall be given to such a facility.							Plan, Construction Impacts Management Plan		
37	1	Entire Project	**Surface water**		· Use common corridors for both pipelines and roads in order to minimize area disturbances	9- KARS-24 Regional Directorate of State Hydraulic Works	9- - The planned Natural Gas Pipeline shall pass without damaging the Merekler Regulator and the Power House of the Algölü Hydroelectric Power Plant Project in operation and the tail water from the ower House to the Posof River.	EPCM/ EPC	Site Inspection	N/A	Site inspection reports	TANAP/EPCM	EPC Method Statements, Pollution Prevention Plan, Construction Impacts Management Plan		Chapter 8 Chapter 11
38	1	Entire Project	**Surface water**		· Monitor watercourse turbidity during construction and take corrective actions where required		- The planned Natural Gas Pipeline shall pass and be constructed without preventing the route passage of the transmission canal of the Bayır Hydroelectric Power Plant Project, which is planned to be constructed in the future and is currently at the feasibility stage.	EPCM/ EPC	Turbidity Monitoring	During water crossings	Analysis Report	TANAP	EPC Method Statements		Chapter 8
39	1	Entire Project	**Surface water**		· Prevent turbid water from re-entering the watercourse to the extent practicable using natural or mechanized filtration processes			EPCM/ EPC	Sampling and analysis	During water crossings	Analysis Report	TANAP	EPC Method Statements		Chapter 8 Chapter 11
40	1	Entire Project	**Surface water**		· Plan hydrostatic testing so that the opportunities for water re-use are maximized	10 TRABZON-22 Regional Directorate of State Hydraulic	10- - On the routes where the NGP passes	EPCM/ EPC	Check hydrotest procedure to include water re-use	Continuous/Commissioning	Approval of Hydrotest procedure	TANAP	Hydrotesting Plan		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
41	1	Entire Project	**Surface water**		· Separate domestic wastewater from hazardous, oily water discharges	Works	through irrigation areas, the irrigation pipes are laid at 1.50-2.00 m depth and the NGP will be placed below this depth so that it won't damage irrigation pipes. The responsibility of the damages that may occur in the irrigation projects during laying the NGP belongs to the activity owner. - Concerning planning the NGP route such that it passes through an elevation higher than 1693,90 m^2, which is the maximum water elevation of the Özlüce Lake, coordination shall be established with the Regional Directorate, obtaining its approval and opinion to reach an agreement. 11- -The pipeline will be placed 150 cm below and will be covered with concrete cloth at the stream bed crossings on route. -Permanent facilities won't be constructed on stream beds with base flow or dry stream beds, natural stream beds and flows won't be interfered, waste-excavate etc. won't be spilled. -Starting from Kızılırmak river bed axis, during crossing an area of total 400 m width, covering 200 m to the left and 200 m to the right of the bed axis, no facilities or fixed facilities shall be constructed, and all precautions shall be taken. 12- - At points where the planned Natural Gas pipeline crosses streams and dried creeks, crossing shall be provided by art structures that will not disrupt the natural bed of the creek and the flow direction of water. -In case the planned pipeline remains within the protection areas to be specified in the future within the scope of the "Communique on Identification of the Protection Areas of the Aquifers and Springs Supplying Drinking Water"	EPCM/ EPC	Check drainage site plans ensuring wastewater segregation	Continuous/Commissioning	Approval od site drainage plans	EPCM	Project design Specifications		Chapter 8 Chapter 11
42	1	Entire Project	**Surface water**		· Avoid construction of facilities in a manner that avoids natural channel features			EPCM/ EPC	Site Inspection	N/A	Site inspection reports	TANAP/EPCM	EPC Method Statements, Pollution Prevention Plan, Construction Impacts Management Plan		Chapter 8 Chapter 11
43	1	Entire Project	**Surface water**		· Minimize gravel entering streams during road maintenances	11- ANKARA-5 Regional Directorate of State Hydraulic Works		EPCM/ EPC	Site Inspection	N/A	Site inspection reports	TANAP/EPCM	EPC Method Statements, Pollution Prevention Plan, Construction Impacts Management Plan		Chapter 8 Chapter 11
44	1	Entire Project	**Surface water**		· Install and maintain appropriate erosion control measures such as silt fences around all riparian disturbance areas and watercourse crossings			EPCM/ EPC	Visual Inspection	Continuous during water crossings	Site Inspection Report	TANAP/EPCM	EPC Method Statements Erosion, Reinstatement and Landscaping Plan		Chapter 8 Chapter 11
45	1	Entire Project	**Surface water**		· Implement a re-growth of riparian vegetation programme			EPCM/ EPC	Visual Inspection	Continuous during water crossings	Site Inspection Report	TANAP/EPCM	EPC Method Statements Erosion, Reinstatement and Landscaping Plan		Chapter 8 Chapter 11
46	1	Entire Project	**Surface water**		· Record all volumes of water withdrawal from natural resources for project related activities for demonstration of no exceedance of the allowance	12- KAYSERİ-12 Regional Directorate of State Hydraulic Works		EPCM/ EPC	recording of water withdrawal amounts	Monthly	Monthly Reports	TANAP/EPCM	Permitting Document for Water Withdrawal from Local Authorities		Chapter 8 Chapter 11
47	1	Entire Project	**Surface water**		· Obtain applicable water abstraction permits			EPCM/ EPC	Permitting	N/A	Monthly Reports	TANAP/EPCM	Permitting Document for Water Withdrawal from Local Authorities		Chapter 8 Chapter 11
49	1	Entire Project	**Surface water**		· Install temporary vehicle crossings/bridges			EPCM/ EPC	Visual Inspection	Continuous during water crossings	Site Inspection Report	TANAP/EPCM	EPC Method Statements, PPP		Chapter 8 Chapter 11
	1	Entire Project	**Surface water**		· Restrict fuelling/refilling, chemical handling activities in close vicinity of the watercourses			EPCM/ EPC	Visual Inspection	Continuous during water crossings	Site Inspection Report	TANAP/EPCM	EPC Method Statements, PPP		Chapter 8 Chapter 11
50	1	Entire Project	**Surface water**		· Plan construction to consider seasonal sensitivities listed in Construction Impacts			EPCM/ EPC	Issuing the water crossing program	Continuous during water crossings	Approval of Water Crossing Program	TANAP/EPCM	EPC Method Statements, Construction		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
					Management Plan	13- SİVAS-19 Provincial Directorate of Environment and Urbanization 14- ERZURUM-8 Provincial Directorate of Environment and Urbanization 15- BAYBURT Provincial Directorate of Public Health	enforced by publication in the Official Gazette dated 10.10.2012 and No. 28437, the activity owner shall accept all requirements in relation to such protection areas and shall take the necessary measures. -The Yenice Dam is a dam aiming to provide Drinking and Irrigation Water and to protect the drinking water, the protection measures that may be taken in the future shall be complied with. 13- -Concerning NGP crossing of the transmission line of the 4 Eylül Dam that is being operated by the Sivas Municipality and that provides the drinking-utilization water of the province, works shall be performed in coordination with the Sivas Municipality. 14- - The river beds on the NGP route and its close vicinity shall not be intervened, and the activity owner shall take all the necessary precautions against probable floods. 15- - During the construction phase, no damage shall be given to the springs providing potable water and all applicable laws, statutes and regulations shall be complied with.		considering seasonal sensitivities				Plan, Construction Impacts Management Plan		
51	1	Entire Project	**Surface water**		· Strictly prohibit fishing by project personnel at watercourses			EPCM/ EPC	Visual Inspection	Continuous during water crossings	Site Inspection Report	TANAP/EPCM	EPC Method Statements, Construction Impacts Management Plan		Chapter 8 Chapter 11
52	1	Entire Project	**Surface water**		· Implement special construction mitigations to protect sensitive species listed in Construction Impacts Management Plan			EPCM/ EPC	Visual Inspection	Continuous during water crossings	Site Inspection Report	TANAP/EPCM	EPC Method Statements, Construction Impacts Management Plan		Chapter 8 Chapter 11
53	1	Entire Project	**Surface water**		· Measures to minimise scour and reduce sediment load will be implemented at locations where hydrotest water is discharged to watercourses and discharge velocities have the potential to create erosion (e.g. controlled rate of discharge and use of energy dissipaters, displacement of geotextile mats or other physical erosion prevention measures). However, at locations where hydrotest water discharge causes erosion, eroded areas will be reinstated (Ref. 8.1.9 for hydrotest discharge quality management).			EPCM/ EPC	Visual Inspection Hydrotest Procedure,	Continuous during water crossings	Site Inspection Report	TANAP/EPCM	EPC Method Statements, Hydrotesting Plan, Reinstatement and Erosion Control Plans, PPP		Chapter 8 Chapter 11
54	1	Entire Project	**Surface water**		· Water conservation initiatives will also be undertaken with the aim to limit the water consumption during the construction activities, like the water use for mitigation of dust suspension (e.g. by means of specific staff training to a rational use of water, commensurate with the actual needs)			EPCM/ EPC	Water Consumption Monitoring Resource Consumption Minimization Plan Preparation	Continuous during water crossings	Site Inspection Report Water Consumption Records	TANAP/EPCM	EPC Method Statements, Construction Impacts Management Plan		Chapter 8 Chapter 11
55	1	Entire Project	**Surface water**		· The construction traffic will cross watercourses possibly via a culvert, which will be sized so as not to restrict the flow in the watercourse and allow fish and other aquatic organisms to pass through			EPCM/ EPC	Visual Inspection	Continuous during water crossings	Site Inspection Report	TANAP/EPCM	EPC Method Statements, Construction Impacts Management Plan, PPP		Chapter 8 Chapter 11
56	1	Entire Project	**Surface water**		· Construction of the surface water crossings will seek to ensure minimal impacts from interrupting river flow by identifying downstream users and determining their river			EPCM/ EPC	Surveys to identify downstream users	Before planning for water crossing	Survey Report	TANAP/EPCM	EPC Method Statements, Construction Impacts Management Plan,		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
					water supply needs and by using measures such as channel diversions to ensure minimal interruption to flow.										
57	1	Entire Project	**Surface water**		· Visual monitoring of turbidity will be undertaken at river crossings while works are being undertaken at that river.			EPCM/ EPC	Visual Inspection	Continuous during water crossings	Site Inspection Report	TANAP/EPCM	EPC Method Statements, Construction Impacts Management Plan, PPP		Chapter 8 Chapter 11
58	1	Entire Project	**Surface water**		Implement measures against sedimentation as defined in Chapter 8.1			EPCM/ EPC	Visual Inspection Turbidity monitoring	Continuous during water crossings	Site Inspection Report	TANAP/EPCM	EPC Method Statements, Construction Impacts Management Plan, PPP		Chapter 8 Chapter 11
59	2	Stations	**Surface water**		· Discharge of wastewater to surface water resources after treatment in compliance with the applicable regulatory requirements (Ref. Chapter 4 and Chapter 8.1.9 and Chapter 11)			TANAP/OPERATOR	Sampling and analysis	Monthly	Analysis Report	TANAP	Operating Procedures, PPP		Chapter 8 Chapter 11
60	2	Stations	**Surface water**		·Ensure all equipment working in or near watercourses is clean and free of fluid leaks			TANAP/OPERATOR	N/A	N/A	N/A	N/A	Operating Procedures, PPP		Chapter 8 Chapter 11
61	2	Stations	**Surface water**		·Separate domestic wastewater from hazardous, oily water discharges			TANAP/OPERATOR	Check drainage site plans ensuring wastewater segregation	N/A	N/A	N/A	Site Plans		Chapter 8 Chapter 11
62	2	Stations	**Surface water**		· Restrict fuelling/refilling, chemical handling activities in close vicinity of the watercourses			TANAP/OPERATOR	Visual Inspection	N/A	Inspection reports	TANAP	Operating Procedures, PPP		Chapter 8 Chapter 11
63	2	Stations	**Surface water**		· Strictly prohibit fishing at watercourses			TANAP/OPERATOR	N/A	N/A	N/A	N/A	Operating Procedures, PPP		Chapter 8 Chapter 11
64	2	Stations	**Surface water/GW**		· Record all volumes of water withdrawal from natural resources for project related activities for demonstration of no exceedance of the allowance			TANAP/OPERATOR	Withdrawal records	Monthly	Monthly Reports	TANAP	Operating Procedures Permitting Document		Chapter 8 Chapter 11
65	2	Stations	**Surface water/GW**		· Water conservation initiatives will also be undertaken with the aim to limit the water consumption during the operation activities, (e.g. by means of specific staff training to a rational use of water, commensurate with the actual needs)			TANAP/OPERATOR	Water Consumption Monitoring Resource Consumption Minimization Plan Preparation	N/A	Water Consump. Records	TANAP	Operating Procedures		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
66	3	Entire Project	**Surface water**		Discharge of wastewater to surface water resources after treatment in compliance with the applicable regulatory requirements (Ref. Chapter 4 and Chapter 8.1.9 and Chapter 11) Avoid vehicle crossings across the watercourse Limit decommission activities at the water crossings to periods of low flow, when sediments are minimal Use appropriate sediment and erosion control techniques (e.g., silt fences) during construction Restore and stabilize channel banks immediately after backfilling to prevent bank erosion Monitor watercourse turbidity during decommissioning (tappings at crossings) and take corrective actions where required. Prevent turbid water from re-entering the watercourse using natural or mechanized filtration processes Implement a re-growth of riparian vegetation programme Strictly prohibit fishing at watercourses Implement special construction mitigations to protect sensitive species Apply Waste Management Plan and Pollution Prevention Plan Measures to minimise scour and reduce sediment load will Water conservation initiatives will also be undertaken with the aim to limit the water consumption during the decommissioning activities, like the water use for mitigation of dust suspension (e.g. by means of specific staff training to a rational use of water, commensurate with the actual needs) Recording public access and use of watercourse crossing locations			TANAP/DECOM. CONTRACTOR(S).	TO BE DETAILED	TO BE DETAILED	TO BE DETAILED	TO BE DETAILED	Decom.Procedures, PPP, WMP, Reinstat. and Erosion Control Plan, Construction Impacts Management Plan		Chapter 8 Chapter 11
67	1	Entire Project	**Groundwater**	Permits shall be obtained from the General Directorate of the State Hydraulic Works for groundwater utilization.	· Water conservation initiatives will be undertaken with the aim to limit the potable water	Ministry of Forestry and Water Affairs/ General Directorate of State Hydraulic	- Related articles of Groundwater Law numbered 167 and other relevant legislations will be complied. - Solid-liquid waste won't be discharged	EPCM/ EPC	Water Consumption Monitoring Resource	Monthly	Monthly Reports Water Consump.	TANAP/EPCM	Construction Impacts Management Plan		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
					consumption (e.g. by means of specific staff training to a rational use of water resource).	Works	into the groundwater and Regulation on Protection of Groundwater against Pollution and Deterioration will be complied. - A protocol shall be made with the 25th Regional Directorate before the identification of probable adverse impacts of the TANAP Natural Gas Pipeline on groundwater aquifers (especially pollution that may arise due to gas leaks) and the works to be done during a probable pollution and the construction phase of the project concerning YAS Certified Wells which are on the Pipeline route and which will be cancelled.		Consumption Minimization Plan Preparation		Records				
68	1	Entire Project	**Groundwater**		· Water quality and sustainability will be monitored periodically to confirm that the supply meets the needs of the project and does not impact adversely on other known users.			EPCM/ EPC	recording of water withdrawal amounts	Monthly	Monthly Reports	TANAP/EPCM	Construction Impacts Management Plan		Chapter 8 Chapter 11
69	1	Entire Project	**Groundwater**		· Use best practices for well drilling, well completion, and well abandonment.			EPCM/ EPC	N/A	N/A	N/A	N/A	EPC Method Statements		Chapter 8 Chapter 11
70	1	Entire Project	**Groundwater**		First priority is to use surface water for hydrotesting, if this is not possible groundwater resources can be used with permission and ensuring no impact on public use and environmental sensitivities.			EPCM/ EPC	Hydrotest Procedure	N/A	N/A	TANAP/EPCM	EPC Method Statements, Hydrotesting Plan, Construction Impacts Management Plan		Chapter 8 Chapter 11
71	1	Entire Project	**Groundwater**		· Obtain all required permits to use groundwater resources			EPCM/ EPC	Permit Documents	Continuous	Permit Documents	TANAP/EPCM	EPC Method Statements Permit Documents		Chapter 8 Chapter 11
72	1	Entire Project	**Groundwater**		Implement well drilling best practice training programme for all project well drillers			EPCM/ EPC	Training Program	N/A	Monthly Reports with Training Records	TANAP/EPCM	Employment and Training Management Plan		Chapter 8 Chapter 11
73	1	Erzurum, Eskişehir, Edirne	**Groundwater**		With regard to the areas in which high impacts (Ref. Chapter 8.1.5) have been individuated, as the excavation and trenching operation could modify groundwater flow patterns, an understanding of hydrogeology settings and groundwater flows in the aquifer with shallow groundwater to be crossed should be addressed. In alleviating drainage problems, proper considerations should be taken of the placement of drainage systems and where the cuts and fills have the least detrimental effects.			EPCM/ EPC	Preparation of Hydrogeological reports	N/A	N/A	TANAP/EPCM	EPC Method Statements, Construction Impacts Management Plan		Chapter 8 Chapter 11
74	1	Entire Project	**Groundwater**		Conducting additional hydrogeological and groundwater quality assessments at locations where groundwater is planned to be used as potable water			EPCM/ EPC	hydrogeological and groundwater quality assessment	As required	hydrogeological and groundwater quality assessment Report	TANAP/EPCM	Construction Impacts Management Plan, PPP		Chapter 8 Chapter 11
75	2	Stations	**Groundwater**		Water quality and sustainability will be monitored periodically to confirm that the supply meets the needs of the			TANAP/OPERATOR	Water Sustainability Report	Annual	N/A	TANAP	Operating Procedures		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
					project and does not impact adversely on other known users.										
76	2	Stations	**Groundwater**		Water conservation initiatives will be undertaken with the aim to limit the potable water consumption			TANAP/OPERATOR	Water Consumption Monitoring Resource Consumption Minimization Plan	Monthly	Monthly Reports Water Consumption Records	TANAP	Operating Procedures		Chapter 8 Chapter 11
77	2	Stations	**Groundwater**		Obtain all required permits to use groundwater resources			TANAP	Permit Documents	Continuous	N/A	TANAP	Operating Procedures Permitting Document		Chapter 8 Chapter 11
78	2	Stations	**Groundwater**		Record all project related groundwater withdrawal			TANAP	Water Consumption Monitoring Resource Consumption Minimization Plan	Monthly	Monthly Reports Water Consumption Records	TANAP	Operating Procedures		Chapter 8 Chapter 11
79	1	Entire Project	**Potable and Fresh Water**	If the potable water for the personnel is planned to be supplied via tankers in locations without water network, necessary permits will be obtained from the related authority for supplying fresh water via tankers, otherwise activities won't be initiated and the articles of Regulation on Water Intended for Human Consumption that came into force by being published in the Official Gazette dated 17.02.2005 and numbered 25730 will be complied. According to the relevant Regulation, the resources and reservoirs will be protected, the water pipelines won't be damaged and Public Sanitation Law numbered 1593 will be complied. If the potable and fresh water for the personnel will be purchased from market, the need will be supplied by bottled water in dispenser size obtaining permit from the related Directorate of Public Health. Potable water of personnel will be analyzed periodically according to the Regulation on Water Intended for Human Consumption during land preparation-construction and operation phases and the water that is not in compliance with the mentioned regulation won't be used. Microbiological and chemical analyses of water to be used as potable and fresh water for the personnel to work within the Project will be held out by authorized bodies periodically and healthy water supply will be provided. In case the potable water of the personnel is needed	The potable water would be obtained by buying water in demijohns and the utilization water would be obtained from the municipal water systems at the settlements near the camp areas. Where there is no water system, the utilization water would we obtained from fountains, by transporting from village water systems or by drilling underground wells.	1- BURSA Provincial Directorate of Public Health 2- ERZİNCAN Provincial Directorate	1- - If the potable and freshwater for the personnel will be purchased from market, the need will be supplied by water in dispenser size with permit from related Directorate of Public Health. When the potable water and utilization water for the workers are supplied from the network, the necessary permits from the concerned Municipality shall be taken. If fresh water for the personnel is planned to be supplied via tankers in locations without water network, necessary permits will be obtained from related authority for supplying fresh water via tankers, on the other hand, activities won't be initiated and the articles of Regulation on Water Intended for Human Consumption that came into force by being published in Official Gazette dated 17.02.2005 and numbered 25730 will be complied. Fresh water of personnel will be analyzed periodically according to Regulation on Water Intended for Human Consumption during land preparation, construction and operation phases and the water that is not in compliance with the mentioned regulation won't be used. In case the fresh water to be used by the personnel is supposed to be collected in tanks, the water tanks will meet hygiene requirements. 2- Water in compliance with the provisions of the Regulation on Water for Human Consumption shall be provided, the provided water shall be regularly and continuously disinfected and it shall be ensured that this water is analyzed according to the Regulation.	EPCM/ EPC	Water Consumption Monitoring	Continuous	Water Consumption Records	TANAP			Chapter 8 Chapter 11
80	1	Entire Project	**Potable and Fresh Water**		The potable and fresh water during the land preparation and construction phase of the project would be obtained in compliance with the provisions of the Turkish Ministry of Health's 17.02.2005 dated and 25730 numbered "Regulation about Waters for Human Consumption" and General Hygiene Law No 1593. Microbiological and chemical analysis of potable and fresh water will be done periodically by authorized institutions.			EPCM/ EPC	Analysis and Permitting to check compliance with regulations	Continuous	Analysis Reports Permitting Documents	TANAP		Statements in Regulations	Chapter 8 Chapter 11
81	2		**Potable and Fresh Water**		Potable water will be supplied by buying water in demijohns and the consumption water can be obtained from the municipal water systems at the settlements near the camp areas. Where there is no water system, the			TANAP	Permit Documents	N/A	N/A	TANAP	Permit Documents		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
				to be collected in storage tanks, water tanks will be in compliance with sanitary conditions. During the construction phase, the resources providing potable water won't be damaged, and all by-law and regulations in force will be complied. Potable and fresh water will be protected, potable and fresh water supply networks won't be damaged, activities will be conducted away from the cemeteries, employees will be provided with healthy water during the construction activities. Sanitary conditions predicted for the disposal of polluting elements which may be generated due to the Project activities and possible hazardous impacts that the Project activities may have on environmental and public health, will be in compliance with the related law and regulations. Pre-cautions will be taken against negative impacts that may be observed on public and environment especially for protection of the potable and natural water resources.	consumption water would we obtained from fountains, by transporting from village water systems or by drilling underground wells. If a well is drilled necessary permissions would be obtained from the State Hydraulic Works. The potable and fresh water that would be used in the operation phase of the project would be obtained in compliance with the provisions of the Turkish Ministry of Health's 17.02.2005 dated and numbered "Regulation about Waters for Human Consumption" and General Hygiene Law No 1593. For the package treatment plants planned to be established during operation phase of the project, an approval shall be obtained according to Wastewater Treatment/Deep Sea Discharge Plant Project Approval Circular dated 15.03.2012 and numbered 2012/9. Additionally, Environmental Permission Certificate shall be obtained from the relevant Provincial Directorate of Environment and Urbanization for the discharge of the treated wastewater according to the provisions of the "Regulation for The Permissions and Licenses to be Obtained According to the Environment Law" numbered 27214 and dated 29.04.2009 and provisions indicated in the amendments of this regulation.	of Public Health									
82	1	Entire Project	**Wastewater**	Domestic wastewater to be generated by the personnel who will work during the land preparation-construction, operation and decommissioning phases of the Project, will be treated in package treatment plants and will be discharged into the closest receiving body according to the Regulation on Control of Water Pollution that came into force by being published in Official Gazette dated 31.12.2004 and numbered 25687 and, the IFC Standards. The water accumulating in	Domestic waste waters produced would be collected in package waste water treatment facilities building in camp site and treated. The treated water would be discharged to the closest receiving environment after meeting the standards in Regulation on Water Pollution Control.	1- Ministry of Environment and Urbanization/ General Directorate of Environmental Management	1- -The surface drainage water to be collected from compressor stations and wastewater to be generated by personnel will be disposed in compliance with Regulation on Control of Water Pollution. -The treatment plants that will be installed for the treatment of the wastewater to be generated due to activities will be had approved within the scope of Wastewater Treatment/Deep Sea Discharge Facility Project Approval Circular.	EPCM/ EPC	Analysis to check regulatory compliance	Monthly/ More frequent if required by TANAP	Analysis Reports	TANAP		Statements in Regulations	Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
				excavation channels during construction period of the Project will be pumped, will be precipitated in sedimentation tanks and will be discharged into the closest receiving body in accordance with the Regulation on Control of Water Pollution. The sediment precipitated will be transported to the closest disposal facility. The treatment plants that will be installed for the treatment of the wastewater to be generated due to the activities will be approved within the scope of the Wastewater Treatment/Deep Sea Discharge Facility Project Approval Circular. In case domestic wastewater is to be accumulated in cesspools, the cesspool to be installed will be in compliance with the Regulation on the Construction of Septic Tanks where sewerage system cannot be implemented. Domestic wastewater to be collected in pits covered via impermeable membrane will not be discharged into any receiving environment, these wastes will be disposed at the closest treatment plant via sewage trucks and the wastewater discharge contract to be signed with treatment plant will be provided to the Provincial Directorate. Within the Project, according to the Regulation on Permits and Licenses Required by Environmental Law that came into force by being published in Official Gazette dated 29.04.2009 and numbered 27214, Environmental Permit on wastewater discharge will be obtained.										
83	1	Onshore	**Hydrotest Water**	The process wastewater to be generated during hydrostatic tests during construction period will be treated with appropriate methods and will be discharged into the closest receiving body according to the Regulation on Control of Water Pollution and IFC Standards. When the hydrotest water is needed to be transferred throughout the pipeline, metal pipeline facility will be constructed in order to prevent leakage and water loss and in case an elevation difference is observed between testing parts, additional tank and pumping system will be installed, The chemical composition of the water transferred from one part to the other will be controlled, improved when necessary and filtering will be applied. If there are concerns	The water to be used for the hydrostatic test process is planned to be supplied from surface water. If surface water resources are not available groundwater wells after obtaining required permits from the Regional Directorate of State Hydraulic Works will be used.	-	-	EPCM/ EPC	Permitting Records of amount of water consumption records during hydrostatic testing	N/A	Permitting Documents	TANAP			Chapter 8 Chapter 11
84	1	Onshore	**Hydrotest Water**		Wastewater of hydrotesting will be treated and discharged to the closest receiving environment after satisfying the parameter given in RWPC and hydrotest water discharge standards in IFC			EPCM/ EPC	Hydrotest Procedure Analysis to check regulatory compliance	N/A	Analysis Reports	TANAP	Waste Management Plan PPP Hydrotesting Plan		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
				about the quality of the hydrotesting water and in cases that water remain in pipeline for long time, chemical treatment will be conducted in order to prevent biological reproduction. Furthermore, in order to protect the inner surface of pipeline, corrosion-preventing chemical addition will be performed. Chemical addition will be performed under control and water will be controlled periodically, its composition will be kept in certain ranges and will be analyzed before discharge. During the activities to be held offshore, any liquid waste substance won't be spilled into the sea. In case marine discharge of the process wastewater to be generated due to the hydrostatic tests to be conducted offshore is the only applicable alternative, sea discharge plan will be prepared and discharge won't be conducted into shallow coastal waters. Also, the principles to be indicated in Pollution Prevention Plan and Waste Management Plan to be prepared within Project will be complied.										
85	1	Entire Project	**Landslide**	In cases that it is compulsory the NGP route to cross through landslide areas, in the area with landslide risk that may be dangerous for the construction activities, permanent stabilization pre-cautions will be taken during the reinstatement works. In the regions with landslide, after the land levelling works, open and closed drainage systems will be generated at points where necessary both underground and above ground and the soil stripped before construction will be spread on ground and the plant cover will be made to re-grow. As pre-cautions of decreasing and preventing flow and sliding events at regions with landslide, jute matting, wooden fences and gabion wall, rip-rap application at coastal areas will be conducted together or separately. In the areas with flow and sliding events, diversion channels and in-channel slope breakers will be constructed.	Route diversion to avoid landslide areas. Where diversion is not possible site specific design and construction measures will be implemented as per the typical drawings and alignment sheets. Ensure slope stability and earth flow with reinstatement jute-mating, wooden fence, gabion wall, slope breakers, division channels etc.			EPCM/ EPC	Monitoring design documentation, alignment sheets	N/A	N/A	TANAP/EPCM	Routing/design Management Procedures, EPC Construction Method Statements, Reinstatement and Erosion Control Plan		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
86	1	Entire Project	**Karst**	-	Route diversion to avoid karst areas. Where diversion is not possible site specific design and construction measures will be implemented as per typical drawings and alignment sheets. Major areas identified for karst are given in Appendix 1-3 Specific measures would include drainage control, prevention of new water flows into the soil, trench breaks to minimize flows of down-slope section of the trench with potential for escaping into the soil and gypsum at low points along the pipeline.			EPCM/ EPC	Monitoring design documentation, alignment sheets	N/A	N/A	TANAP/EPCM	Routing/design Management Procedures, EPC Construction Method Statements, Reinstatement and Erosion Control Plan		Chapter 8 Chapter 11
87	1	Entire Project	**Seismicity and faults**	Active fault line crossings of the NGP will be constructed in compliance with the crossing design parameters indicated in Chapter 2.8.4. Within the Project, at active fault line crossings of the NGP route, crossing angle according to active fault zone categories will be chosen in the way that it will compensate the dominant tension in case the fault line changes location. Special design pipes will be used for fault lines under A and B categories, in case the fault line changes location, special excavation and backfilling activities that protect minimum bending and area to be used when the pipe is applied tension, will be conducted. Heating insulation and water drainage pre-cautions that prevent the soil to be solidified due to the freezing water will be taken. Furthermore, precautions as trench bottom width to be several times bigger than standard trench width, choosing material of pipe padding with appropriate particle size, laying geotextile material between backfilling material and natural terrain and covering the pipe with a special material of polyethylene shall be taken. Certain crossing parameters will be determined based on the results of paleo-seismic research and the following pipe tension analyses.	Route diversion to avoid fault areas. Where diversion is not possible site specific design and construction measures will be implemented as per typical drawings and alignment sheets. Conduct additional studies indicated in Table 8.1.3 A. 8.1.3 5 Recommended site investigations for fault rupture hazard along the route.			EPCM/ EPC	Monitoring design documentation, alignment sheets	N/A	N/A	TANAP/EPCM	Routing/design Management Procedures, EPC Construction Method Statements		Chapter 8 Chapter 11
88	1	Entire Project	**High groundwater table**	-	Route diversion to avoid high groundwater areas. See Pollution Prevention Plan for the management of impacts on groundwater and Section 8.1.5 and map in Appendix 1-3.			EPCM/ EPC	Monitoring design documentation, alignment sheets	N/A	N/A	TANAP/EPCM	Routing/design Management Procedures, EPC Construction		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
					Where diversion is not possible site specific design and construction measures will be implemented as per typical drawings and alignment sheets.								Method Statements		
89	1	Entire Project	**Liquefaction**	As a general principle, settlement after liquefaction in pipeline projects is permitted to be maximum 30 cm. According to this acceptance, in cases that calculated settlement values in alluvial sites with liquefaction risk are higher than 30 cm, it will be appropriate to strengthen the ground via methods such as vibration, etc. or to improve the ground via methods such as jet-grout, injection, etc.	Specific areas for liquefaction are given in Appendix1-3. Route diversion to avoid liquefaction areas. Where diversion is not possible site specific design and construction measures will be implemented as per typical drawings and alignment sheets. Further geotechnical assessments for verification of liquefaction potential at the areas identified with high potential of liquefaction	-	-	EPCM/ EPC	Monitoring design documentation, alignment sheets	N/A	N/A	TANAP/EPCM	Routing/design Management Procedures, EPC Construction Method Statements		Chapter 8 Chapter 11
90	1	Construction Camps	**Energy Use**	The electrical energy that will be required during the land preparation-construction and operation phases of the Project will be supplied from national network obtaining required connection permits. In case of electricity cut off, the generators will be used. Furthermore, the principles indicated in Supply and Delivery Management Plan to be prepared within the Project will be complied.	The electrical energy will be supplied to these areas through the connection to the national grid. These connections will require a permitting process. These permitting processes will be completed before the connection to the National Grid is established.			EPCM/ EPC	Permit Documents	N/A	N/A	TANAP	Permit Documents		Chapter 8 Chapter 11
91	2	Stations	**Energy Use**		During operation phase of the project, electricity needed for lighting and similar purposes at the above ground installations would be obtained from the national grid after completing the required permitting process.			TANAP/OPERATOR	Permit Documents	N/A	N/A	TANAP	Permit Documents		Chapter 8 Chapter 11
92	All	Construction Camps Stations	**Resource Consumption**	Fuel needed for construction machines and vehicles to be used during land preparation-construction and operation phases of the Project will be supplied from gas stations in the surrounding. During the construction phase of the Project, in case of necessity, fuel tanks will be located in camp sites and needed fuel will be transported to these tanks via tankers. In order to prevent any fuel spill from the tanks into the soil, tanks will be placed into concrete flooding pools. The natural gas that will be needed for gas turbines in compressor stations during the operation phase will be supplied from natural gas pipeline planned within the Project. In the compressor stations, diesel tanks	The resource consumption will be minimized through: • -Employee awareness • Use of energy saving equipment • Use of vehicles at good conditions			EPCM/ EPC	Maintenance Programs Training Program Monitoring Program	N/A	Monthly Reports with Training Records and Maintenance Schedules	TANAP	Employment and Training Plan		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
				will be kept ready in order to be used for generators in cases of emergency. Furthermore, the principles indicated in Supply and Delivery Management Plan to be prepared within the Project will be complied.											
93	1	Entire Project	**Use of Resource and Infrastructure**	The aggregate and concrete required for construction works of NGP and above ground installations, will be supplied from permitted/licensed quarries, crushing-screening facilities and batch plants in the surrounding. In case there are not facilities in the surrounding and the necessity cannot be met, installation of new facilities in the construction site will be evaluated within the scope of the EIA Regulation and required permits will be obtained. Furthermore, the principles indicated in Supply and Delivery Management Plan and Aggregate Management Plan to be prepared within the Project will be complied.	The aggregate material needed would be procured from the nearby sand, gravel and stone. In case it is required to open new quarries the construction contractor will obtain necessary permits and licences to open and operate the quarry. The requirements of the Turkish EIA regulation will be followed during the permitting process. TANAP will have the right to inspect and audit these quarries to be compliant with the project and regulatory requirements.	1- General Directorate of Highways 2- ARDAHAN Special Provincial Administration	1- - If the borrow pits of General Directorate of Highways will be used for the determination of borrow pits to be used throughout NGP construction route, necessary permits will be obtained from related Regional Directorates. - Related with the Borrow pits to be used during construction and operation phases, required distance conditions will be complied at places allocated for service or benefit of public and in lands owned by real entities used for mining activities based on 123. Article of “Implementation Regulation of Mining Activities”. - If any connection road will be needed for the transportation of materials during construction and operation phases, protocol will be signed with related Regional Directorate. 2- - The materials necessary for filling, excavation and construction works to be performed within the project, shall be supplied from licensed stone quarries, sand/pebble quarries, etc.	TANAP	Permitting	N/A	Permitting Documents	TANAP	Construction Impacts Management Plan Procurement and Supply Management Plan Aggregate Management Plan		Chapter 8 Chapter 11
94	1	Camp Sites	**Camp Site**	Lightening and ventilation of social equipment and shelters will be provided, camp sites will be set up in locations that is not windy (stormy), will not be affected by natural disasters such as avalanche, landslide and flooding. Hygienic conditions will be achieved in the social facilities and disinfection will be conducted by the companies that have permits according to the Regulation on Principles and Fundamentals on Usage of Biocidal Substances.	If a new camp location would be needed for construction, all relevant E&S studies including the site surveys will be undertaken and the environmental assessment report will be prepared.	Sivas Provincial Directorate of Public Health	Social facilities shall be established at the camp site. Lightening and ventilation of social equipment and shelters will be provided, camp sites will be set up in locations that is not windy (stormy), won’t be affected by natural disasters such as avalanche, landslide and flooding.	EPCM/ EPC	Permitting	N/A	Permitting Documents	TANAP	Construction Impacts Management Plan		Chapter 8 Chapter 11
95	1	Entire Project	**Maintenance Stages**	-	All work shall be performed under a Permit to Work system to ensure the control centre operators are fully aware of equipment being in and out of service and that any work will be performed to the necessary procedures. Permits to work will describe the work to be performed, the procedures to be followed, and the equipment and special precautions to be			EPCM/ EPC	Maintenance Programs Training Program	Contin.	Mainten. Schedules	TANAP	Employment and Training Plan		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
					employed.										
96	All	Entire Project	**Health Protection Strip**	Required responsibilities identified within the Regulation on Enterprise Opening and Operating Licenses that came into force by being published in the Official Gazette dated 10.08.2005 and numbered 25902 will be carried out. Health Protection Band distances cannot be defined out of borders of ownership and the areas to be expropriated will be determined based on the health protection band. Furthermore, according to the Article 6 of the Regulation, activities won't be initiated before opening and operating licenses are received. Health protection band will be generated around the facilities such as camp sites, block valve, compressor and pigging stations that will be installed on NGP route and necessary pre-cautions will be taken for the health protection band not to be violated. In case the pipeline passes close to the residential areas, safety pre-cautions will be taken, safety distance will be provided on both sides of the pipeline, construction will not be permitted on these areas. Health protection band distances will be signed on master plans by the related Development Directorate and related authorities.	The distances of health strip defined for the project will be: • Pipeline: 7 m from edge of the pipeline • Compressor stations: 75 m from compressor units • Metering stations: 30 m from the metering units • Pigging stations: 30 m from pigging facilities • Block valve stations: 20 m from the block valves	1- General Directorate of Highways 2- GÜMÜŞHANE Provincial Directorate of Public Health 3- BURSA Provincial Directorate of Public Health 4- Secretary General of BURSA Special Provincial Administration 5- EDİRNE Provincial Directorate of Public Health	1- Every kind of facility, building, structures, etc. to be constructed will be located according to the health protection band distance to be determined. 2- Concerning the Health Protection Band distances, the issues specified in the correspondence dated 12.05.14 of the Turkish Public Health Institution Directorate (Ref. App.-4.3), the precautions specified in the legislations for protection of human, public and environmental health shall be complied with. 3- Health protection band distances (Ref. App.-4.3), specified as per the Regulation on Licenses for Trading and Working, will be conserved by being marked on public improvement plans by related directorate of public improvement and related authorities. 4- Required responsibilities identified within the Regulation on Business and Operating Licenses that came into force by being published in Official Gazette dated 10.08.2005 and numbered 25902 will be carried out. Health Protection Band distances cannot be defined out of borders of ownership and the areas to be expropriated will be determined based on health protection band. Furthermore, according to the 6. Article of the regulation, activities won't be initiated before business and operating licenses are received. 5- Business and Operation Licenses will be received for facilities to be constructed within Project and a health protection band distance in compliance with the legislations will be provided in the surrounding.	EPCM/ EPC	Monitoring Program Auditing Program	Continuous	Auditing Reports	TANAP	Construction Management Plan		Chapter 8 App.-4.3
97	All	Entire Project	**Seismic Activity Risk**	-	Emergency systems will be included in the pipeline design: i.e. emergency shutdown systems, venting and relief systems, fire and gas detection, leak detection system			TANAP/EPCM	Training Program	Continuous	Training Records	TANAP	Emergency Response Plan Employment and Training Plan	Emergency Response Procedures	Chapter 8 Chapter 11
98	All	Entire Project	**Natural Hazard Risk**	-	Emergency systems will be included in the pipeline design: i.e. emergency shutdown systems, venting and relief systems, fire and gas detection, leak detection system	-	-	TANAP/EPCM	Training Program	Continuous	Training Records	TANAP	Emergency Response Plan Employment and Training Plan	Emergency Response Procedures	Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
99	All	Entire Project	**Terrorist Attack/Sabotage Risk**	-	There will be security alarm system in communicating with local and main control centres. These centres should be communicating with the relevant security forces. Communication with the local security forces Security procedures to be developed during construction and operations Emergency systems included in the pipeline design: i.e. emergency shutdown systems, venting and relief systems, fire and gas detection, leak detection system	-	-	TANAP/EPCM	Training Program	Continuous	Training Records	TANAP	Emergency Response Plan Employment and Training Plan	Emergency Response Procedures	Chapter 8 Chapter 11
100	1	Stations	**Gaseous Emissions**	In order to minimize the emissions to be caused by the vehicles to be used for activities, vehicles with their examination and exhaust gas emission measurements conducted will be used, the vehicles will be controlled periodically, the vehicles requiring maintenance will be taken under repair and other vehicles will be used until their maintenance is over, in cases vehicles are not needed, they won't be used according to the articles of the Regulation on Exhaust Gas Emission Control and Diesel Quality that came into force by being published in Official Gazette dated 30.11.2013 and numbered 28837. Also, the principles to be indicated in Pollution Prevention Plan and Waste Management Plan to be prepared within the Project will be complied.	A preventative maintenance program (LDAR program) to minimize fugitive emissions will be implemented before the operating of the compressor/metering stations			EPCM/ EPC	LDAR Survey	Once	Maintenance Program Records	TANAP/EPCM	Survey Report		Chapter 8 Chapter 11
101	1	Entire Project	**Gaseous Emissions**		Use low emission vehicles wherever possible			EPCM/ EPC	Visual Inspection	N/A	N/A	TANAP/EPCM	EPC Method Statements Pollution Prevention Plan		Chapter 8 Chapter 11
102	1	Entire Project	**Gaseous Emissions**		Use vehicles that were checked legally for their exhaust emissions.			EPCM/ EPC	Exhaust Emission Certificate	N/A	N/A	TANAP/EPCM	EPC Method Statements Pollution Prevention Plan		Chapter 8 Chapter 11
103	1	Entire Project	**Gaseous Emissions**		Restrict third party vehicle access to project related activities			EPCM/ EPC	Visual Inspection	N/A	N/A	TANAP/EPCM	EPC Method Statements Pollution Prevention Plan		Chapter 8 Chapter 11
104	1	Entire Project	**Gaseous Emissions**		Implement regular maintenance programmes for vehicles and equipment			EPCM/ EPC	Visual Inspection	N/A	N/A	TANAP/EPCM	EPC Method Statements Pollution Prevention Plan		Chapter 8 Chapter 11
105	1	Entire Project	**Gaseous Emissions**		Restrict excessive idling of vehicles or equipment			EPCM/ EPC	Visual Inspection	N/A	N/A	TANAP/EPCM	EPC Method Statements Pollution Prevention Plan		Chapter 8 Chapter 11
106	2	Stations	**Gaseous Pollutant Emission**	-	Natural Gas Combustion	1- ERZURUM-13 Regional Directorate of Forestry and Water Affairs	1- - To minimize the exhaust emissions originating from all vehicles and equipment, precautions such as conducting the exhaust examinations at the specified times, using fuel compliant with the standards, and making the maintenance of the vehicles periodically as well as not operating the vehicles needlessly shall be taken and the relevant	TANAP/OPERATOR	Obtain Air Emission Permit and conduct required air emission monitoring for SOx, Nox, CO, PM	Monthly	Emission Report	TANAP	Operating Procedures		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
107	2	Stations	**Gaseous Pollutant Emission**		Efficient Combustion		provisions in the legislations shall be complied with.	TANAP/OPERATOR	Obtain Air Emission Permit and conduct required air emission monitoring for SOx, Nox, CO, PM	Monthly	Emission Report	TANAP	Operating Procedures		Chapter 8 Chapter 11
108	1	Entire Project	**Dust Emission**	In order to prevent and minimize the dust emission to be observed from the excavation, backfilling and works of loading, transportation, unloading and storage of excavation materials, and due to the explosion works to be conducted on route in case of necessity during land preparation and construction phases of the Project, pre-cautions such as irrigation at emission source, loading and unloading without blowing, covering vehicles by cloth on top during transportation, and keeping top of material humid by a ratio of 10% etc. will be taken. Since the dust emission to occur during the explosion won't remain continuously, its impact on air quality will be instantaneous. The sizes of particulate matters that will be distributed in atmosphere via explosion will be much bigger than the particulate matters to be distributed due to other activities. So that, a portion of particulate matter to outcome due to explosion will precipitate and atmospheric transportation will be at a low level. Dust management will be maintained by spraying the areas with water where explosion is going to be performed before the activity. During the dry season without precipitation, starting from the activities of vegetable soil stripping, the Project construction area will be humidified periodically and dust generation will be minimized. During all phases of the Project, the limit values indicated in the Regulation on Air Quality Assessment and Management Appendix-I that came into force by being published in Official Gazette dated 06.06.2008 and numbered 26898 won't be exceeded, the articles of Regulation on Industrial Air Pollution Control that came into force by being published in Official Gazette dated 03.07.2009 and numbered 27277 will be complied and required environmental permits will be obtained within related regulations.	Implement dust control and dust suppression techniques	1- ERZURUM-13 Regional Directorate of Forestry and Water Affairs	1- - To minimize dust in the area, precautions shall be taken such as irrigation at the emission source, conducting loading and unloading operations without scattering, covering vehicles with canvas during material transportation and maintaining the transportation roads at %10 moisture and wetting them regularly, and the provisions of the related legislations shall be complied with.	EPCM/ EPC	Visual Inspection	N/A	N/A	TANAP/EPCM	EPC Method Statements Pollution Prevention Plan		Chapter 8 Chapter 11
109	1	Entire Project	**Dust Emission**		Maintain roads on a regular basis to prevent excessive dust generation			EPCM/ EPC	Visual Inspection	N/A	N/A	TANAP/EPCM	EPC Method Statements Pollution Prevention Plan		Chapter 8 Chapter 11
110	1	Entire Project	**Dust Emission**		Enforce speed limits along access roads and ROW			EPCM/ EPC	Inspection	N/A	N/A	TANAP/EPCM	EPC Method Statements TANAP HSE Procedures		Chapter 8 Chapter 11
111	1	Ardahan, Erzurum, Sivas	**Dust Emission**		Monitor the dust impact at Putka Gölbaşı Ardahan, Erzurum Marshland, Bataklıkdüzü Sivas before and during construction in order to ensure effectiveness of defined standard mitigation measures			EPCM/ EPC	Dust monitoring	Daily	Emission Report	TANAP/EPCM	EPC Method Statements Pollution Prevention Plan		Chapter 8 Chapter 11
112	3	Entire Project	**Dust Emission**		Implement dust control and dust suppression techniques Maintain roads on a regular basis to prevent excessive dust generation Use low emission vehicles wherever possible Use vehicles that were checked legally for their exhaust emissions. Restrict third party vehicle access to project related activities Implement regular maintenance programmes for vehicles and equipment Restrict excessive idling of vehicles or equipment Enforce speed limits along access roads and ROW			TANAP/DECOMMISSIONING CONTRACTOR	TO BE DETAILED	TO BE DETAILED	TO BE DETAILED	TO BE DETAILED	Decommissioning Procedures		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
113	1	Entire Project	**Air Quality**	-	Implement air quality monitoring programmes to assess the air quality during the Project development Investigate any dust or air quality complaints that arise from construction activities			EPCM/ EPC	Monitoring Air Quality	Continuous	Monthly Reports	TANAP	Pollution Prevention Plan		Chapter 8 Chapter 11
114	1	Entire Project	**Excavation Waste**	The excavation soil that will outcome during the excavation works that will be conducted for the construction of above ground installations and pipe laying within the Project, will be stored in construction corridor in an appropriate location where it won't be mixed up with topsoil stripped and won't inhibit the vehicle traffic. In case it is appropriate, a portion of excavation soil will be used for pipe pedding/padding and backfilling purposes, a portion will be used for rehabilitation of roads and land levelling purposes. Excavation wastes and excavation residual materials that are not qualified to be used, will be transported to the recycling/landfill areas that the relevant authority will suggest. Construction and demolition wastes that will outcome during the decommissioning phase as the aboveground installations are being uninstalled will be brought to the storage areas that municipalities will suggest in municipal adjacent areas and to the storage areas that governorships will suggest out of municipal adjacent areas. The storage areas where excavation wastes that won't be used that will outcome during excavations will be determined during construction phase and storage will be conducted after governorship permit is obtained. During the excavation works to be conducted, activities will be performed in accordance with the Regulation on the Control of Excavation Soil, Construction and Demolition Wastes that came into force by being published in Official Gazette dated 18.03.2004 and numbered 25406.According to the 9. Article of the Regulation, producers of excavation soil and construction/demolition wastes are responsible from waste management in order to minimize the negative impacts of wastes on environmental and public health based on articles of the regulation. The facilities have to obtain the	The waste material which is occurred from excavation works during the land preparation and construction phase will not be emptied to the rivers that flows or dry, related to "the River Beds and Floods Decree" Numbered 2006/27 from Prime Ministry.	1- General Directorate of Forestry 2- BALIKESİR-25 Regional Directorate of State Hydraulic Works	1- - Waste, excavation or any material that will come out during construction of the mentioned Project won't be spilled onto forest areas. 2- - On the river beds that are within the route corridor, it shall be ensured that during the route works, the excavation materials (digging, debris, etc.) will not interrupt the free flow directions of the rivers, not cause pooling on the river beds and not disrupt the stability of the river beds. - If the excavation materials are to be stored, they shall be removed from the river bed depending on type and shall be stacked and floated, depending on the slope angle of the material. - The opinions of all the Regional Directorates of the State Hydraulic Works shall be taken concerning the excavation dumping sites and unsuitable places shall not be used. 3- - Permit of Provincial Directorate will be obtained for dump sites for soil to be generated due to engraving and excavations. 4- - The areas that the excavation wastes that will not be used will be stored will be determined during construction phase and storage will be conducted after permit is obtained from the Governorship. 5- Soil and excavations to be generated due to excavations will be disposed appropriately.	EPCM/ EPC	Visual Inspection Auditing	N/A	Inspection Report Audit Report	TANAP	Pollution Prevention Plan Waste Management Plan Construction Impacts Management Plan		Chapter 8 Chapter 11
115	1	Entire Project	**Excavation Waste**		The following provisions indicated in the Regulation on Control of Excavation Soil and Construction Debris regarding the storage of the top soil would be respected; • The top soil shall be stored in an appropriate area to prevent from being scattered by wind or water streams or other factors, from being mixed with foreign materials and from being deteriorating with respect to original characteristics and necessary protection measures shall be taken. • The area where the top soil would be stored shall not have more than 5% inclination. • During the storage of the top soil, possible losses shall be prevented and the quality of the soil shall be maintained. • If the top soil shall be kept exposed for a long time, it will be ensured that surface is covered with fast growing plants. Also the provisions of the Regulation on Control of Soil Pollution and Contaminated Lands by Point Sources would be complied with.	3- YOZGAT Provincial Directorate of Food, Agriculture and Livestock 4- KÜTAHYA Provincial Directorate of Environment and Urbanization 5- YOZGAT Provincial Directorate of Environment and Urbanization		EPCM/ EPC	Visual Inspection Auditing	N/A	Inspection Report Audit Report	TANAP	Pollution Prevention Plan Waste Management Plan		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
				required permits and approvals during the phases of generation, transportation and storage of wastes. Furthermore, they cannot spill their wastes into locations except the recycling or storage facilities where municipality or administration permits. Waste, excavation or any material that will come out during construction of the mentioned Project won't be spilled into stream beds and forest areas. During the excavation works to be conducted within the Project, activities will be conducted in accordance with the Regulation on Control of Soil Contamination and Contaminated Lands by Point Sources that came into force by being published in Official Gazette dated 08.06.2010 and numbered 27605.											
116	All	Entire Project	**Solid Waste**	Domestic solid wastes to be generated by the personnel who will work during land preparation-construction, operation and decommissioning phases of the Project, will be accumulated in covered impermeable tanks located in various points in camp sites and will be delivered to the solid waste storage system of the nearest municipality periodically. During all phases of the Project, collection, storage, recycling and disposal of the solid wastes will be held in accordance with the Regulation on Solid Waste Control that came into force by being published in Official Gazette dated 14.03.1991 and numbered 20814. During the activities to be held offshore, any solid waste won't be spilled into the sea. Also, the principles to be indicated in Pollution Prevention Plan and Waste Management Plan to be prepared within the Project will be complied.	Domestic solid waste from the personnel would be collected in closed containers and at certain intervals would be transported to the solid waste collection system belonging to the nearest municipality and be disposed of.			TANAP/EPCM/ EPC	Visual Inspection Auditing	N/A	Inspection Report Audit Report	TANAP	Pollution Prevention Plan Waste Management Plan		Chapter 8 Chapter 11
117	All	Entire Project	**Packaging Waste**	Recyclable packaging wastes (paper, cardboard, plastic, glass, etc.) among solid wastes to be generated during the land preparation-construction, operation and decommissioning phases of the Project will be collected in covered containers located in various points in camp sites separately from non-recyclable domestic solid wastes (food wastes, etc. organic wastes) and will be delivered to the licensed recycling companies. Non-recyclable wastes will be disposed to licensed disposal sites. During each step of the Project, collection, storage, recycling, and disposal of	The packing paper, plastic and glass bottles i.e. packaging wastes will be collected separate from other wastes without considering material used and the source of the material and should be sent to licensed recycling facilities according to Article 23 of the Regulation on Control of Packaging Waste. The collection of these packaging materials and their disposal would be done in compliance with the provisions of the			TANAP/EPCM/ EPC	Visual Inspection Auditing	N/A	Inspection Report Audit Report	TANAP	Pollution Prevention Plan Waste Management Plan		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
				packaging wastes will be held out in compliance with the Regulation on Packaging Waste Control that came into force by being published in Official Gazette dated 24.08.2011 and numbered 28035.During the activities to be conducted offshore, no solid waste will be spilled into the sea. Also, the principles to be indicated in Pollution Prevention Plan and Waste Management Plan to be prepared within the Project will be complied.	Regulation on Control of Packaging Waste.										
118	All	Entire Project	**Waste Batteries and Accumulators**	End of life batteries and accumulators that will be generated during the land preparation-construction, operation and decommissioning phases of the Project, will be collected in covered containers located on an impermeable ground separate from domestic wastes and will be disposed by delivering to the collection points determined by the municipalities or companies that trade and distribute batteries or accumulators according to Article 13 of the Regulation on Waste Batteries and Accumulators Control that came into force by being published in Official Gazette dated 31.08.2004 and numbered 25569. Also, the principles to be indicated in Pollution Prevention Plan and Waste Management Plan to be prepared within Project will be complied.	The maintenance process of the vehicles to be used in project would be done in authorized services. However, when it is not possible, the maintenance procedure will be carried within the facility. In cases where the maintenance process of the vehicles used in the project are carried out within the facility, possible waste batteries that come out would be stored in a closed containers with a leak-proof floor according to the Regulation on Control of Waste Batteries and Accumulators and batteries shall be delivered to the collection points established by the municipalities or by the companies distributing or selling batteries and waste accumulators (vehicle batteries) shall be delivered to the temporary storage areas established by the companies distributing or selling accumulator products and maintenance companies. Within the scope of the project, provisions of the Regulation on Control of Waste Batteries and Accumulators and amendments of this regulation shall be complied with			TANAP/EPCM/ EPC	Visual Inspection Auditing	N/A	Inspection Report Audit Report	TANAP	Pollution Prevention Plan Waste Management Plan		Chapter 8 Chapter 11
119	All	Entire Project	**Medical Wastes**	The medical wastes to be generated during the land preparation-construction, operation and decommissioning phases of the Project will be collected in red plastic bags with “International Biodanger” sign and “WARNING! MEDICAL WASTE” phrase on both faces that are resistant against tearing, puncturing, exploding and transportation,	Medical wastes collected according to the points indicated in the regulations, would be disposed of by delivering to the nearest health institution or municipal medical waste collection system. Medical waste that are produced under the project shall be regularly recorded			TANAP/EPCM/ EPC	Visual Inspection Auditing	N/A	Inspection Report Audit Report	TANAP	Pollution Prevention Plan Waste Management Plan		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
				made of original medium concentration polyethylene raw material, produced as impermeable, double bottom stitching, with double layer thickness of 100 micron and with a minimum capacity of 10 kilogram according to the Regulation on Medical Waste Control that came into force by being published in Official Gazette dated 22.07.2005 and numbered 25883.The bags will be filled maximum by ¾ ratio, they will be tied up tightly and in cases of necessity each bag will be placed into another bag with the same properties and certain impermeability will be provided. Wastes that have cutting and drilling properties will be collected in plastic or laminated cardboard box or containers with “International Biodanger” sign and “WARNING! CUTTING AND DRILLING MEDICAL WASTE” phrase that are resistant against puncturing, tearing, breaking and exploding, water-proof and impermeable, not possible to be opened or mixed, separately from other medical wastes. These collection boxes will at most be filled by ¾ ratio and they will be tapped and placed in red plastic bags. Medical waste bags and cutting-drilling waste boxes won’t be compacted, opened, emptied or recycled after filled up. According to the articles of the regulation, the medical wastes stored temporarily, will be disposed being given to the waste collection system of the closest health institution or municipality with National Waste Transportation form filled up. Information on medical waste amount generated will be recorded periodically, will be submitted to the related Governorship (Provincial Directorate of Environment and Urbanization) by the end of the year, this information will be kept at least for three years and will be provided for the investigation of the Ministry in case of request. During all phases of the Project, temporary storage, transportation and disposal of medical wastes will be held out in accordance with the Regulation on Medical Waste Control that came into force by being published in Official Gazette dated 22.07.2005 and numbered 25883. Also, the principles to be indicated in Pollution Prevention Plan and Waste Management Plan	according to the Regulation on Control of Medical Waste, shall be sent to the Provincial Directorate of Environment and Urbanization, these information shall be kept for at least three years and be kept open to examination of the Ministry upon request. Within the scope of the project, provisions of the Regulation for Medical Waste Control shall be complied with.										

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
				to be prepared within Project will be complied.											
120	All	Entire Project	**Waste Oil**	The waste oil to be generated due to the maintenance-repair works required to be conducted onsite during land preparation-construction, operation and decommissioning phases of the Project, will be stored temporarily in covered and impermeable tanks/containers located on impermeable ground separated according to the categories, National Waste Transportation form will be filled up and will be delivered to the treatment and disposal facilities with environmental license via transporters with transportation license according to the Regulation on Waste Oil Control that came into force by being published in Official Gazette dated 30.07.2008 and numbered 26952.In case the oil type used is not changed, after the waste oil category analyses are conducted once by the waste producer company, Waste Oil Declaration Form will be filled and will be submitted to the related Governorship (Provincial Directorate of Environment and Urbanization) until February of the following year. Waste vegetable oil that will be generated by the cafeterias of the camp sites within the Project will be accumulated in impermeable cans, containers or tanks resistant against corrosion both on outer and inner surfaces, separately from other wastes and will be delivered to the licensed recycling or disposal facilities via transporters with license according to the Regulation on Waste Vegetable Oil Control that came into force by being published in Official Gazette dated, 19.04.2005 and numbered. During the waste oil delivery, National Waste Transportation form will be used and after each transport, a copy will be submitted to Governorship (Provincial Directorate of Environment and Urbanization) and these documents will be kept for five years in the facility. In case a leakage or pollution is observed in Project site, necessary pre-cautions will be taken in compliance with the Regulation on Control of Soil Contamination and Contaminated Lands by Point Sources that came into force by being published in Official Gazette dated 08.06.2010 and numbered	The maintenance process of the vehicles to be used in project would be done in authorized services. However, when it is not possible, the maintenance procedure will be carried within the facility. If any waste oil is produced, the waste oil shall be collected in a closed temporary waste storage area with leak-proof floor and covered with a shelter. The oil collected would be given to a licensed waste oil recovery company according to the Regulation on Control of Waste Oil.			TANAP/EPCM/ EPC	Visual Inspection Auditing	N/A	Inspection Report Audit Report	TANAP	Pollution Prevention Plan Waste Management Plan		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
				27605.Also, the principles to be indicated in Pollution Prevention Plan and Waste Management Plan to be prepared within Project will be complied.											
121	All	Entire Project	**Rubber Tire Wastes**	Waste tires to be generated in case the tires of vehicles and construction equipment is needed to be changed onsite during land preparation- construction and operation phases of the Project, will be collected separately from other wastes and will be disposed via licensed transporters in accordance with the Regulation on End of Life Tires Control that came into force by being published in Official Gazette dated 25.11.2006 and numbered. Also, the principles to be indicated in Pollution Prevention Plan and Waste Management Plan to be prepared within Project will be complied.	The maintenance activities of the vehicles and construction machines will be done in authorized services. If there is a need to change the tires of these vehicles and machines, the end of life tires that come out would be sent to tire distribution companies or to the authorized transporters indicated in the regulation. All provisions in the Regulation on the Control of End of Life Tires will be respected.			TANAP/EPCM/ EPC	Visual Inspection Auditing	N/A	Inspection Report Audit Report	TANAP	Pollution Prevention Plan Waste Management Plan		Chapter 8 Chapter 11
122	All	Entire Project	**Hazardous Wastes**	Hazardous wastes which may be generated during the land preparation-construction, operation and decommissioning phases of the Project will be stored temporarily in a covered environment in the way that they won't be exposed to the chemical reactions, being collected in categories in impermeable caps with hazardous waste sign on them and will be delivered to the licensed hazardous waste disposal facilities via licensed companies in accordance with the Regulation on Control of Hazardous Wastes that came into force by being published in Official Gazette dated 14.03.2005 and numbered 25755. Hazardous wastes generated will be recorded and will be packed and labelled according to the international standards required by the licensed recycling or disposal facility that the wastes will be sent. Related with the hazardous wastes generated, every year, Waste Declaration Form will be filled including the information of the previous year using the web based program prepared by the Ministry latest until the March of the following year, the form will be approved, will be printed and the copy will be kept for five years. In order to prevent pollution that may outcome due to the reasons such as spill of hazardous wastes accidentally and etc., the location will be reinstated latest in a month from the time of occurrence depending on the type of waste and all expenses will be paid. Governorship (Provincial	In TANAP Project the storage of hazardous wastes will be done according to following provisions indicated in Regulation on Control of Hazardous Wastes: • A record shall be kept on the amount of the waste and packaging and labelling of the waste shall be according to the internationally accepted standards required by the environmentally licensed recycling or disposal facility which will receive the waste. • The Waste Declaration Form indicated in the regulation shall be filled and approved every year by the end of March with the previous year's information using the web based program prepared by the Ministry of Environment and Urbanization and a copy shall be stored for five years. • The waste would be temporarily stored in durable, leak-proof, safe containers at international standards placed on a concrete area away from the buildings of the camp, there will be hazardous waste labels on the containers, the quantity and the stored date	1- Ministry of Environment and Urbanization/ General Directorate of Environmental Management	1- - The grounds of places where the maintenance, repair, oil change, fuel supply works of machineries and equipment to be used within Project, will be impermeable, will be covered on top in order not to be affected by rain and necessary pre-cautions will be taken.	TANAP/EPCM/ EPC	Visual Inspection Auditing	N/A	Inspection Report Audit Report	TANAP	Pollution Prevention Plan Waste Management Plan		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
				Directorate of Environment and Urbanization) will be informed about the accident and the report including information on accident date, place, type and amount of waste, reason of accident, waste disposal process and rehabilitation of accident location will be submitted to Governorship. Also, the principles to be indicated in Pollution Prevention Plan and Waste Management Plan to be prepared within Project will be complied.	would be indicated on the container, if the containers are damaged, the waste would be transferred to other containers having the same specifications, containers would always be kept closed, and they would be stored so that the waste does not chemically react. • All the measures shall be taken for the health and safety of the employees responsible for the collection, transportation and temporary storage of the waste within the facility. • In order to prevent pollution that happens as a result of accidental spill or by deliberate actions, depending on the type of the waste, location of the incident would be brought to its original condition by latest within a month from the time of the incident and all the expenses for this shall be borne. • Also, when waste are spilled by accident or deliberately and in other similar cases, office of the governor shall be informed and a report detailing the accident date, accident location, type and quantity of the waste, cause of the accident, the waste disposal action and rehabilitation of the accident location shall be submitted to the office of the governor										
123	1	Entire Project	**Noise and Vibration**	During the land preparation and construction phases of the Project, noise and vibration will be generated due to the construction machines (excavator, loader, grader, dozer, trencher, crane, side-boom, etc.), explosions in case of necessity, hydrostatic tests and other activities to be performed on route. Furthermore, during the operation phase of the Project, noise will be generated in above ground installations and during maintenance and repair works. Since the construction	• Use high efficiency mufflers on all construction equipment	ERZURUM-13 Regional Directorate of Forestry and Water Affairs	Works should be terminated between 22:00–06:00 hours and the first 3 hours after sun rise and the last 3 hours before sunset works with high noise levels shall not be conducted so that the target species and the sensitive species are not affected. Outside these times, the necessary sensitiveness shall be displayed in order to minimize the effects of noise on human health and fauna, and the relevant provisions in the legislations shall be complied with.	EPCM/ EPC	Visual Inspection	N/A	N/A	TANAP/EPCM	EPC Method Statements		Chapter 8 Chapter 11
124	1	Entire Project	**Noise and Vibration**		• Maintain equipment on a regular basis			EPCM/ EPC	Visual Inspection	N/A	N/A	TANAP/EPCM	EPC Method Statements Pollution Prevention Plan		Chapter 8 Chapter 11
125	1	Entire Project	**Noise and Vibration**		• Use quieter methods and equipment when possible			EPCM/ EPC	Visual Inspection	N/A	N/A	TANAP/EPCM	EPC Method Statements Pollution Prevention Plan		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
126	1	Entire Project	**Noise and Vibration**	activities will be conducted during daytime, noise generation will be limited. In order to prevent noise generation; noise insulation materials will be used during the land preparation-construction phases; noise screens/barriers will be used when necessary in compressor stations during the operation phase. During the land preparation-construction and operation phases of the Project, the environmental noise limit values provided in Appendix-VII Table 4, Table 5 and Table 6 of Regulation on Environmental Noise Assessment and Management that came into force being published in Official Gazette dated 04.07.2010 and numbered 27601 won't be exceeded and required permits within the related regulations will be obtained. During the activities to be conducted within the Project, the noise generation will be minimized taking necessary pre-cautions within the pre-cautions to be taken by institutions/organizations indicated in Article 8, rules need to be complied in highway vehicles indicated in Article 9, rules to be complied about equipment to be used outdoors indicated in Article 13of Regulation on the Environmental Noise Assessment and Management. During the works, vehicles with their examination exhaust gas measurements and maintenances conducted will be used. In order the employees to be protected from health and safety risks that may outcome due to the noise exposure, especially aural risks, necessary pre-cautions will be taken based on the Regulation on Protection of Employees from Risks Associated with Noise that came into force by being published in Official Gazette dated 28.07.2013 and numbered 28721. In order to prevent the dangerous effects of noise on employees working on-site, personnel protecting equipment that minimize the noise in the way that it does not exceed the permitted noise exposure level (87 dBA). Within this scope, the employee will be provided with ear protectors in accordance with (b) band of the Article 13 of the Regulation on Work Health and Safety that came into force by being published in Official Gazette dated 09.12.2003 and numbered 25311 and the	• Replace or repair parts generating excessive noise			EPCM/ EPC	Visual Inspection	N/A	N/A	TANAP/EPCM	EPC Method Statements Pollution Prevention Plan		Chapter 8 Chapter 11
127	1	Entire Project	**Noise and Vibration**		• Restrict excessive idling of project related equipment and vehicles.			EPCM/ EPC	Visual Inspection	N/A	N/A	TANAP/EPCM	EPC Method Statements Pollution Prevention Plan		Chapter 8 Chapter 11
128	1	Entire Project	**Noise and Vibration**		• Maintain project access roads to reduce noise associated with vibration and vehicle noise			EPCM/ EPC	Visual Inspection	N/A	N/A	TANAP/EPCM	EPC Method Statements Pollution Prevention Plan		Chapter 8 Chapter 11
129	1	Entire Project	**Noise and Vibration**		• Deploy temporary noise barriers near sensitive areas			EPCM/ EPC	Visual Inspection	N/A	N/A	TANAP/EPCM	EPC Method Statements Pollution Prevention Plan		Chapter 8 Chapter 11
130	1	Entire Project	**Noise and Vibration**		•Do not locate project related noise emitting infrastructure near areas inhabited by human and other sensitive receptors			EPCM/ EPC	Visual Inspection	N/A	N/A	TANAP/EPCM	EPC Method Statements Pollution Prevention Plan		Chapter 8 Chapter 11
131	1	Entire Project	**Noise and Vibration**		Conduct project construction during daylight hours and not during normal sleeping hours			EPCM/ EPC	Visual Inspection	N/A	N/A	TANAP/EPCM	EPC Method Statements Pollution Prevention Plan		Chapter 8 Chapter 11
132	1	Erzurum, Ardahan	**Noise and Vibration**		particular attention will be paid to the implementation of noise suppression measures (standard mitigations) if the construction activities of the pipeline, camp site and pipe stock yards in Putka-Gölbası area will be done in the migration period for migrant birds (from March to May and from September to November) particular attention will be paid to the implementation of noise suppression measures (standard mitigations) if the construction activities of the pipeline in Erzurum Marsh area will be done in the migration period for *Vanellus gregarius* (from March to April and from September to November) to monitoring the impact due to the increase of noise level on protected area Putka-Golbasi and Erzurum Marsh ambient noise level will be			EPCM/ EPC	Noise Measurement	Daily	Noise Emission Report	TANAP	EPC Method Statements Pollution Prevention Plan	Preconstruction surveys findings on biodiversity to confirm the construction seasonal constraints	Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
				Regulation on Usage of Personnel Protecting Equipment in Workplaces that came into force by being published in Official Gazette dated 02.07.2013 and numbered 28695 and this equipment will be used by employee. In case the noise and vibration measurement results to be conducted in the building closest to the Project area after the planned Project is initiated is observed to exceed the limit values provided in the Regulation on Environmental Noise Assessment and Management, pre-cautions to reduce noise will be taken.	monitored before (as blank) and during construction.										
133	1	Entire Project	**Noise and Vibration**		Implement noise monitoring Programs during the Project development Investigate noise emission complaints that arise from construction activities			EPCM/ EPC	Monitoring Noise Emission	Daily	Monitoring Results	TANAP	Pollution Prevention Plan		Chapter 8 Chapter 11
134	2	Stations	**Noise and Vibration**		Maintain equipment on a regular basis Use quieter methods and equipment when possible Replace or repair parts generating excessive noise			TANAP/OPERATOR	Maintenance Program	TO BE DETAILED	TO BE DETAILED	TANAP	Operating and Maintenance Procedures		Chapter 8 Chapter 11
135	3	Entire Project	**Noise and Vibration**		Use high efficiency mufflers on all construction equipment Maintain equipment on a regular basis Use quieter methods and equipment when possible Replace or repair parts generating excessive noise Restrict excessive idling of project related equipment and vehicles. Maintain project access roads to reduce noise associated with vibration and vehicle noise Deploy temporary noise barriers near sensitive areas Do not locate project related noise emitting infrastructure near areas inhabited by human receptors Conduct project construction during daylight hours and not during			TANAP/DECOMMISIONING CONTRACTOR	TO BE DETAILED	TO BE DETAILED	TO BE DETAILED	TO BE DETAILED	Decommissioning Procedures		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
					normal sleeping hours										
136	1	Compressor Stations and Camp Sites at Ardahan, Kars, Erzurum, Gümüşhane, Erzincan, Edirne and Çanakkale provinces.	**Habitats**	The construction works conducted in ecologically sensitive areas will constantly be monitored within the Project. Construction activities such as explosion will be prevented from being performed in ecologically sensitive areas and in locations close to species, construction corridor will be narrowed, the working personnel will be trained on subjects to be paid attention. Wetlands and rivers feeding these areas won't be visited as the vehicles, construction equipment to be used within the Project are being washed, are parked or stand-by; reeds, meadows, pastures and similar natural areas won't be smashed by trucks. Necessary pre-cautions for not damaging the ecological balance at stream, river and creek crossings within the Project. The nests of the birds that breed during the land preparation-construction activities of the Project will not be damaged. Construction activities won't be conducted during the breeding season of the target species of wood grouse, Caucasian black grouse and other poultry in Posof Wildlife Development Zone near the pipeline route. In case explosion is required within the Project, explosion won't be performed between 15 March-16 June that is the travelling and breeding season of immigrant birds. In case explosion is required to be performed in Posof Wildlife Development Zone, opinions of the related authorities will be received. Since the natural vegetation in agricultural lands is used as nesting areas by animals, these areas will be interfered at minimum level during the construction activities. In order not to interfere	In order to minimise the habitat loss and nuisances, temporary working areas should be minimized as much as possible especially during the construction of the compressor station in Ardahan province and during the camp site activities and the Block valve, pigging, metering stations construction in Ardahan, Kars, Erzurum, Gümüşhane, Erzincan, Edirne and Çanakkale provinces.	1- ERZURUM-13. Regional Directorate of Forestry and Water Affairs	1- - As 7 taxa of the species existing in the Project area and its surroundings, those specified to be near threatened (NT), vulnerable (VU), endangered (EN), critically endangered (CR) according to the IUCN conservation status categories must be conserved in accordance with the Ecosystem Assessment Report prepared within the scope of the Project and attached in Annex-2.4, and it must be ensured that the seeds of these taxa are harvested, dried and sorted out at the maturing stage, that they are sent to the Turkish Seed Gene Bank, and the delivery documents are communicated to the Ardahan Provincial Branch Directorate of the Ministry of Forestry and Water Affairs, 13. Regional Directorate. - Works should be terminated between 22:00–06:00 hours and the first 3 hours after sun rise and the last 3 hours before sunset works with high noise levels shall not be conducted so that the target species and the sensitive species are not affected. Outside these times, the necessary sensitiveness shall be displayed in order to minimize the effects of noise on human health and fauna, and the relevant provisions in the legislations shall be complied with. - It shall be ensured that all kinds of solid and liquid wastes that may form during the construction and operation phases are disposed of in accordance with the provisions of the relevant legislations, they shall absolutely not be disposed within the area, and the necessary precautions shall be taken so that in the areas where wastes are temporarily stored they do not contaminate the water resources of wild life and the drinking waters. Concerning waste management, the relevant provisions in the legislations shall be complied with.	EPC/ EPCM	Site Plans	N/A	Site Plans	TANAP/EPCM	Construction Impacts management Plan	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11
137	1	Entire Project	**Fauna**		Facilitate wildlife crossing of ROW during construction by providing trench and window breaks, particularly at identified intersections with wildlife movement corridors			EPC/ EPCM	Inspections	Weekly	Inspection Reports	TANAP/EPCM	Construction Impacts management Plan	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11
138	1	Entire Project	**Fauna**		Minimize traffic and speed of traffic to prevent vehicle-wildlife collisions as well as dust generation and air emissions			EPC/ EPCM	Inspections	Weekly	Inspection Reports	TANAP/EPCM	Construction Impacts management Plan	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11
139	1	Entire Project	**Fauna**		Minimize habitat loss			EPC/ EPCM	Inspections	Weekly	Inspection Reports	TANAP/EPCM	Construction Impacts management Plan	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11
140	1	Entire Project	**Fauna**		Minimize habitat fragmentation			EPC/ EPCM	Inspections	Weekly	Inspection Reports	TANAP/EPCM	Construction Impacts management Plan	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11
141	1	Entire Project	**Fauna**		Minimize habitat alteration			EPC/ EPCM	Inspections	Weekly	Inspection Reports	TANAP/EPCM	Construction Impacts management Plan	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11
142	1	Entire Project	**Fauna**		Prevent disturbances due to noise from machinery			EPC/ EPCM	Inspections	Weekly	Inspection Reports	TANAP/EPCM	Construction Impacts management Plan	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
143	1	Entire Project	**Fauna**	with the breeding season of fish species, in case the river crossing constructions are designed as open channels, the constructions will be performed during dry period between August and November. During the operation phase of the Project, bio-restoration will be monitored periodically in ecologically sensitive areas and in cases that bio-restoration fails, seeds of sensitive species will be stored or will be supplied from the closest seed source or gene research center. For the ecologically sensitive areas to be protected in the surroundings of the Project route all related national and international legislations and international contracts of which Turkey is a party will be complied. The principles to be indicated in Erosion, Reinstatement and Landscaping Plan to be prepared within the Project will be complied.	Habitat loss and decreased habitat effectiveness, particularly of roosting, nesting and foraging areas		- The necessary sensitivity shall be displayed concerning using the existing roads and not making new roads unless it is necessary for transportation. When it is necessary that new roads are made and the old ones are arranged, passages, culverts and ecological corridors are established on the slopes to facilitate the motility of wild life. - Before the construction phase, all personnel who will work within the scope of the project shall be informed on the sensitivities of the target species and other wild animals of the area and on the Terrestrial Game Law No. 4915 and the relevant Regulations, the precautions necessary concerning compliance of the personnel with the provisions of the legislations, and the non-compliant personnel shall be communicated to the concerned Branch Directorate. - Notices and warning plates, the content and dimensions specified by the Ardahan Branch Directorate, shall be placed at points of the Posof Wild Life Development Zone (YHGS) specified together with the Branch Directorate, concerning the target species and gaming. - Upon the written request of the Branch Directorate, support shall be given concerning printing written and visual material (banners, brochures, books, magazines, etc.) in all projects, in which the administration participates, concerning introduction, harvesting methods and cultivation on agricultural land of the medical-aromatic and edible plant species in the Posof YHGS to local communities. - The General Directorate of Nature Conservation and National Parks may specify additional requirements to TANAP concerning issues such as working area, working method, substitution of the lost habitat, habitat rehabilitation, and monitoring and feeding target species. 2- - Construction works won't be conducted during breeding periods of target species as Wood Grouse, Caucasian Black Grouse and other poultry in Posof Wildlife Development Area. - In case explosion is needed within Project, explosion won't be performed among 15 March-16 June that is the travelling and breeding period of migratory birds. In case explosion is required to be performed in Posof Wildlife Development	EPC/ EPCM	Inspections	Weekly	Inspection Reports	TANAP/EPCM	Construction Impacts management Plan	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11
144	1	Entire Project	**Fauna**		Provide temporary barriers to prevent wildlife from crossing heavily used working areas and from accessing to waste disposal areas			EPC/ EPCM	Inspections	Weekly	Inspection Reports	TANAP/EPCM	Construction Impacts management Plan	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11
145	1	Entire Project	**Fauna**		Indicate high wildlife use areas with signage along main access roads where potential exists for vehicle/wildlife collision			EPC/ EPCM	Inspections	Weekly	Inspection Reports	TANAP/EPCM	Construction Impacts management Plan	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11
146	1	Entire Project	**Fauna**		Enforce speed limits along main access roads and along the ROW			EPC/ EPCM	Inspections	Weekly	Inspection Reports	TANAP/EPCM	Construction Impacts management Plan Traffic Management Plan	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11
147	1	Entire Project	**Fauna**		Transport Project workforce by bus/minibus to reduce traffic volumes and ease enforcement on speed limits			EPC/ EPCM	Inspections	Weekly	Inspection Reports	TANAP/EPCM	Construction Impacts management Plan	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11
148	1	Entire Project	**Fauna**		Minimize corridor widths to be used for access.			EPC/ EPCM	Inspections	Weekly	Inspection Reports	TANAP/EPCM	Construction Impacts management Plan	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11
149	1	Entire Project	**Fauna**		Use existing corridors for main access roads and ROW			EPC/ EPCM	Inspections	Weekly	Inspection Reports	TANAP/EPCM	Construction Impacts management Plan	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11
150	1	Entire Project	**Fauna**		Prohibiting weapons/ hunting for Project personnel, including subcontractors, both on site and while travelling to and from Project work areas			EPC/ EPCM	Inspections	Weekly	Inspection Reports	TANAP/EPCM	Construction Impacts management Plan	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11
151	1	Entire Project	**Fauna**		Maintain vegetated buffers wherever possible along known wildlife travel corridors (i.e., watercourses)			EPC/ EPCM	Inspections	Weekly	Inspection Reports	TANAP/EPCM	Construction Impacts management Plan	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11
152	1	Entire Project	**Fauna**		Provide temporary noise barriers near sensitive areas			EPC/ EPCM	Inspections	Weekly	Inspection Reports	TANAP/EPCM	Construction Impacts management Plan	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11
153	1	Entire Project	**Fauna**		Implement dust control measures on access roads and the ROW			EPC/ EPCM	Inspections	Weekly	Inspection Reports	TANAP/EPCM	Construction Impacts management Plan	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11
154	1	Entire Project	**Fauna**		Avoid construction during nesting and reproduction seasons of sensitive wildlife			EPC/ EPCM	Inspections	Weekly	Inspection Reports	TANAP/EPCM	Construction Impacts management Plan	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
155	1	Entire Project	**Fauna**		Suspend vegetation clearing and construction activities if an occupied denning or nesting site of keystone species is encountered until authorisation is granted from the appropriate environmental staff.	2- ARDAHAN Provincial Directorate of Environment and Urbanization 3- General Directorate of Investments and Enterprises 4- General Directorate of Nature Conservation and National Parks 5- RİZE-12 Regional Directorate of	Area, related authority opinions will be received. 3- Transmission of TANAP Project route through Saros Bay Special Environment Protection Zone and 1. Degree Natural Protection Area was found appropriate and the related letter is provided in App.-4.3). 4- - 2013-2014 Central Hunting Commission decisions of the Ministry will be complied during the construction phase throughout NGP route. - During the construction and operation phases of the Project, the precautions to be taken to eliminate the impacts on Biological Diversity (Flora and Fauna) as specified in the EIA Report, the precautions to be taken in relation to the pipelines that pass through the protected areas shall be complied with, and the required permit procedures shall be completed. In addition, the preventive and protective measures specified in the Report for the endemic flora and fauna species shall be complied with. 5- Central Hunting Commission decisions, International agreements and Land Hunting Law will be complied. 6- - In case any natural asset (fossil residual, underground cave, etc.) is found on TANAP Project route, Natural Assets Protection Branch will be informed. - In case there is a change of route within the scope of the project within the route within the province borders in the Natural Protected Areas, a new permit shall be obtained from the Erzurum Regional Commission for Protecting Natural Assets. 7- Necessary pre-cautions will be taken for the environmental impacts of the Project during construction phase and after the construction phase to be minimized and for the fauna and flora structure not to be impacted.	EPC/ EPCM	Inspections	Weekly	Inspection Reports	TANAP/EPCM	Construction Impacts management Plan	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11
156	1	Entire Project	**Fauna**		Implement fauna observation programme during construction of pipeline for : Wildlife road kills from Project vehicles unauthorised impacts to wildlife occurring from personnel actions Changes to wildlife habitat Changes in animal abundance, distribution and habitat use Changes in abundance of any rare species of mammals, birds, reptilians, amphibians arthropods, fish, and freshwater invertebrates Decrease in biodiversity			EPC/ EPCM	Fauna Observation Programme	Continuous	Monthly Reports	TANAP/EPCM	Construction Impacts management Plan	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11
157	1	Entire Project	**Mammals**		Make workers aware of the ecological sensitivities of the areas. An expert ecologist shall be present during the vegetation clearance at ecologically sensitive areas to ensure that necessary precautions are taken if species in concern are met.			EPC/ EPCM	Fauna Observation Programme		Monthly Reports	TANAP/EPCM	Construction Impacts management Plan	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11
158	1	Entire Project	**Mammals**		A particular attention should be paid in the construction work of compressor station of Ardahan and Sivas to prevent any potential disturbance to the bezoar goat (*Capra aegragus*) and minimise the nuisances of the temporary working areas by taken the minimum measures as follows: equipment will be selected with lower sound power levels; engine cover will be kept closed when the equipment is in operation in order to minimize the noise; engines will not be left in operating mode when they are not used; fencing of decommissioning areas will be done.			EPC/ EPCM	Fauna Observation Programme		Monthly Reports	TANAP/EPCM	Construction Impacts management Plan	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
159	1	Entire Project	**Birds**		Check for bird nests prior to vegetation clearance and make workers aware of the ecological sensitivities of the areas and, an expert ecologist shall be present during the vegetation clearance at ecologically sensitive areas to ensure that necessary precautions .are taken if species in concern are met. ..	Forestry and Water Affairs 6- ERZURUM Provincial Directorate of Environment and Urbanization		EPC/ EPCM	Fauna Observation Programme		Monthly Reports	TANAP/EPCM	Construction Impacts management Plan	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11
160	1	Entire Project	**Birds**		Particular attention should be paid to the Montagu's harrier (*Circus pygargus*) in Ankara and Ardahan regions because it nests in tall vegetation on the ground. Apart from avoiding construction works during the nesting period (April - June),) to the extent practicable, key management practices include moving nestlings to safe places during construction works, and leaving areas unharvested area around the vicinity of nests to prevent chick mortality.	7- SİVAS Provincial Directorate of Public Health		EPC/ EPCM	Fauna Observation Programme		Monthly Reports	TANAP/EPCM	Construction Impacts management Plan	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11
161	1		**Birds**		In order to minimise the habitat loss and nuisances to the extent practicable, temporary working areas should be minimized as much as possible and construction activities should be timed to avoid the peak breeding and migratory periods for birds to reduce the chances of disturbances and chick mortalities especially in the following areas:			EPC/ EPCM	Fauna Observation Programme		Monthly Reports	TANAP/EPCM	Construction Impacts management Plan	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11
162	1	Ardahan	**Birds**		- in Ardahan province where velvet scoter breeds (May-June);			EPC/ EPCM	Fauna Observation Programme		Monthly Reports	TANAP/EPCM	Construction Impacts management Plan	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11
163	1	Erzurum	**Birds**		- In Erzurum Marshlands during sociable lapwing spring and autumn migration periods (March-April and September-November).			EPC/ EPCM	Fauna Observation Programme		Monthly Reports	TANAP/EPCM	Construction Impacts management Plan	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
164	1	Erzurum , Kars	**Reptiles**		Construction activities should be carried out in Erzurum and Kars minimising the habitat loss and disturbance, minimizing the temporary working area and checking for the SCC species (**Wagner's viper, Uzzell's lizard, Unisexual lizard or white-bellied lizard)** prior to vegetation clearance in the habitats E4.4 (Calciophilus alpine and subalpine grasslands) and E1.2E (Irano-Anatolian Steppes). Construction activities should be also timed to the extent practicable to avoid the peak reproductive periods and the wintering time **(March-August and November-January)** to reduce the chances of disturbances.			EPC/ EPCM	Fauna Observation Programme		Monthly Reports	TANAP/EPCM	Construction Impacts management Plan	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11
165	1	KP 36+500 in Ardahan province	**Amphibians**		In particular the pipeline route from the Georgian border to KP 36+500 in Ardahan province should be regarded with a major importance for Caucasian salamander (*Mertensiella caucasica*). As standard mitigation measures, construction activities should be timed to the extent practicable to avoid the peak reproductive periods to reduce the chances of disturbances (June-September – Tarkhnishvili and Serbinova, 1993) and mortalities especially in the above mentioned areas.			EPC/ EPCM	Fauna Observation Programme		Monthly Reports	TANAP/EPCM	Construction Impacts management Plan	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11
166	1	Entire Project	**Terrestrial Invertebrates**		Special attention should be paid on the dust lifting during construction activities by irrigation procedures, since dust emission could originate reduction in the visibility and disturbance to the lepidopters' flight.			EPC/ EPCM	Inspections	Weekly	Inspection Reports	TANAP/EPCM	Construction Impacts management Plan	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11
167	1	Entire Project	**Terrestrial Invertebrates**		Emissions from vehicle exhausts used for transport of workers, construction material, vehicles and equipment will be minimised through good practices e.g. proper maintenance, restriction on idling and running of vehicle engines only if necessarily, therefore it is considered that vehicle and			EPC/ EPCM	Inspections	Weekly	Inspection Reports	TANAP/EPCM	Construction Impacts management Plan	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
					equipment type and mode of operation will not cause air quality significant alterations and air quality standards breaching.										
168	1	Entire Project	**Terrestrial Invertebrates**		Similarly to the good practices applied to reduce emissions of air pollutants mentioned above, noise emissions from vehicles and equipment will be minimised through the selection of only inherently quite devices, appropriate maintenance and replacement of any equipment found to be emitting excessive noise levels due to a faulty silencer, ill-fitting or broken engine covers or other reasons.			EPC/ EPCM	Inspections	Weekly	Inspection Reports	TANAP/EPCM	Construction Impacts management Plan	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11
169	1	Entire Project	**Terrestrial Invertebrates**		The following specific mitigation measures are recommended from KP 42+400 to KP 43+300 and at KP 280+400 • Special attention should be paid on the dust lifting during construction activities, since dust emission could originate reduction in the visibility and disturbance to the lepidopters' flight and the damage of larval food plants due to dust and particulate fallout and emission of air pollutants (NOx, SO2). • Frequent mist spraying should be applied on dusty areas. The frequency of spraying will depend upon local conditions such as rainfall, temperature, wind speed and humidity. The amount of mist spraying should be just enough to dampen the material without over-watering which could result in surface water runoff.			EPC/ EPCM	Inspections	Continuous	Inspection Reports	TANAP/EPCM	Construction Impacts management Plan		Chapter 8.2, Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
170	1	Entire Project	**Freshwater Fish/Aquatic Invertebrates**		Site-specific working methods and construction drawings will be developed for water passages. These methods will contain procedures to protect water passages against pollution, minimize sedimentation, mitigate the impact on vegetation along the water passages, and restore the water passages to the condition before the construction.			EPC/ EPCM	Inspections	Weekly	Inspection Reports	TANAP/EPCM	Construction Impacts management Plan	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11
171	1	Entire Project	**Freshwater Fish/Aquatic Invertebrates**		River water should not flow over the water pie or canal so it will enter and exit at normal river change level;			EPC/ EPCM	Inspections	Weekly	Inspection Reports	TANAP/EPCM	Construction Impacts management Plan	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11
172	1	Entire Project	**Freshwater Fish/Aquatic Invertebrates**		Potential impact of the waterway passages on the fish species will be mitigated by avoiding construction works during the spawning season. If it is not possible, more attention will be paid and higher level of inspection and monitoring will be conducted where fish spawn.			EPC/ EPCM	Inspections Results of monitoring programme for fisheries and aquatic resources loss	Weekly	Inspection Reports	TANAP/EPCM	Construction Impacts management Plan	Site Plans, Typical Drawings, EPC Method Statements, Construction Plan, Preconstruction Survey Reports on Biodiversity	Chapter 8.2, Chapter 11
173	1	Entire Project	**Freshwater Fish/Aquatic Invertebrates**		Moreover, in order to reduce the demand of freshwater for the hydrotesting and other project activities, the possibility of water re-use should be evaluated where practicable			EPC/ EPCM	Inspections Check hydrotest procedure to include water re-use	Weekly	Inspection Reports Approval of Hydrotest procedure	TANAP/EPCM	Construction Impacts management Plan	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11
174	1	Entire Project	**Freshwater Fish/Aquatic Invertebrates**		Minimize riparian vegetation removals. If removal is necessary it is recommended to use proper clearing techniques and protect retained vegetation. If removal of vegetation is necessary it is recommended to re-plant riparian vegetation to pre-construction or better conditions (e.g., trees for shade to cool water and provide overhead cover). To restore pre-construction conditions, where necessary: re-instate native soils or replace soil with topsoil/suitable planting medium; if necessary, include soil/seedbank salvage, vegetation transplant or bio-engineering (e.g., live stakes, cuttings) techniques;			EPC/ EPCM	Visual Inspection	Weekly	Inspection Reports	TANAP/EPCM	Construction Impacts management Plan	EPC Method Statements	Chapter 8.2, Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
					use only native species compatible with site conditions. Construction works will be conducted during the time when flow is low, if possible and will be conducted in a limited timeframe;										
175	1	Entire Project	**Freshwater Fish/Aquatic Invertebrates**		Standard mitigation measures should be specifically applied in the river crossings listed in Table 8.2.10.2 3: Rivers with high Impact for the species potentially present. remove fish from isolated in-water work zones if necessary A particular attention should be paid in the crossings of Koca river and Simav stream where two critically endangered species (Cobitis puncticulata and Oxynoemacheilus simavica) are potentially present and Critical Habitats are potentially determined			EPC/ EPCM	Visual Inspection	Weekly	Inspection Reports	TANAP/EPCM	Construction Impacts management Plan	EPC Method Statements	Chapter 8.2, Chapter 11
176	1	Entire Project	**Flora**		Transport Project workforce by bus/minibus to reduce traffic volumes, where possible.			EPC/ EPCM	Transportation Plans	N/A	N/A	N/A	Construction Impacts management Plan, Transportation management Plan, Traffic management Plan	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11
177	1	Entire Project	**Flora**		Use of the existing corridors/roads to maximum extend.			EPC/ EPCM	Transportation Plans	N/A	N/A	N/A	Construction Impacts management Plan, Transportation management Plan, Traffic management Plan	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11
178	1	Entire Project	**Flora**		Avoid using sensitive areas if extra land is required for project activities			EPC/ EPCM	Pre-construction E&S assessments before extra land take	when required	E&S Assessment Reports	TANAP/EPCM	Construction Impacts management Plan	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11
179	1	Entire Project	**Flora**		Plan construction to complete works in shorter periods at sensitive areas			EPC/ EPCM	N/A	N/A	N/A	N/A	Construction Impacts management Plan, Construction Programme	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
180	1	Entire Project	**Flora**		Reduce construction width (30 m) at sensitive areas listed in Construction Impacts Management Plan.			EPC/ EPCM	Implement reduced width ROW specifications/drawings	N/A	N/A	N/A	Construction Impacts management Plan, Construction Programme, EPC Method Statements	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11
181	1	Entire Project	**Flora**		Implement Special Method statements for construction and reinstatement at special/sensitive areas listed in Construction Impacts Management Plan.			EPC/ EPCM		N/A	N/A	N/A	Construction Impacts management Plan, Construction Programme, EPC Method Statements	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11
182	1	Ardahan, Kütahya	**Flora**		High impacts are identified only for Group 2 (vulnerable species, not predominantly of steppe/grassland habitats) and are limited to two areas within the provinces of Ardahan and Kütahya for a total area of 2 hectares. The SCC species potentially present in these areas are Centaurea hedgei, Reseda armena var. armena, Centaurea macrocephala, Lathyrus karsianus and Tanacetum coccineum ssp. chamaemelifolium in the province of Ardahan and Astragalus densifolius subsp. ayashensis and Onosma briquetii in Kütahya. Considering the impacts and the sensitivity of the component, a pre-construction survey of the Project footprint will be performed by expert botanists in suitable habitats within the identified selected species range in order to identify the presence of populations or individuals of terrestrial flora SCC. In case individuals of perennial species are found within the Project footprint, mitigation measures by transplant to a similar habitat/microhabitat outside the route will be taken. The translocation should take place preferably during dormancy period of the vegetation In order to ensure the long term survival of the species,			EPC/ EPCM	Preconstruction survey	N/A	Preconst. Survey Report	TANAP/EPCM	Construction Impacts management Plan, Construction Programme, EPC Method Statements	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
					whenever a SCC population is identified along the Project route, a sufficient amount of seeds should be collected, if present. The seeds will be donated to a local gene bank for long term conservation and scientific research.										
183	1	Entire Project	**Flora**		In case the presence of populations of SCC species ranked as critically endangered (CR) is confirmed within the footprint of the Project, with preconstruction surveys additional conservation measures will be taken. Structured reintroduction projects on selected CR species particularly impacted by the project will be considered. Part of the seeds temporarily stored in seed banks and vegetative propagules collected during the preconstruction survey will be used in order to start an ex situ cultivation for the reintroduction of populations in suitable habitats within the species range. The reintroduction plan should include the following phase: research on ecological requirements of the species, ex situ cultivation, evaluation of potential translocation site, reintroduction and monitoring.			EPC/ EPCM	Preconstruction survey	N/A	Preconst. Survey Report	TANAP/EPCM	Construction Impacts management Plan, Construction Programme, EPC Method Statements	Site Plans, Typical Drawings, EPC Method Statements	Chapter 8.2, Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
184	1	Entire Project	**Flora**		Implement vegetation monitoring program for: loss or alteration of rare plants or rare plant communities increase of dust deposition on vegetation along roads being utilized for project activities alteration of natural vegetation patterns introduction of non-native species Loss or alteration to wetland conditions. loss of old growth forests			EPC/ EPCM	Monitoring program	Contin.	Monitoring Program results	TANAP/EPCM	Construction Impacts management Plan, Construction Programme		Chapter 8.2, Chapter 11
185	0	Before Construction	**Permits**	If available, existing approved master plans will be complied in the scope of the Project. In case there is an inconsistency between existing master plans and the Project, and in cases of obligation, necessary amendments will be submitted for approval of the related directorate together with the opinions of the related authorities. Furthermore, construction licenses will be received for all buildings requiring license. Activities as construction of facilities, sand and gravel quarries, stone quarries etc. during construction activities will be initiated after the necessary permits are obtained from the authorities within the articles of relevant legislation All approvals and permits within Environmental Law numbered 2872 and regulations and legislation that came into force within this law required for each phase of the activities will be obtained. All elements to be installed within the Project will be evaluated within the scope of the Regulation on Permits and Licenses to be Secured According to Environmental Law and environmental permits/licenses will be obtained. Before construction, necessary permits within the Law on the Soil Conservation and Land Usage numbered 5403, Law on Improvement and Inoculation of Olive Orchards numbered 3573, Pasture Law numbered 4342 and Aquatic Products Law numbered 1380 will be obtained. During the activities to be carried out in all phases of the Project, the Public Health Law numbered 1593 and by Law and regulations which came into force within this Law and, all commitments given in the EIA Report will be complied.		1- General Directorate of Forestry 2- ERZURUM 8. Regional Directorate of State Hydraulic Works 3- ARDAHAN Provincial Directorate of Environment and Urbanization 4- ERZİNCAN Provincial Directorate of Food, Agriculture and Livestock	1- Forest areas won't be expropriated and according to 17. Article of Forestry Law numbered 6831, required permits will be obtained for these areas. 2- Regulation on Permits and Licenses to be Secured According to Environmental Law shall be complied 3- The compressor station and other facilities that will be constructed in Ardahan province will be evaluated within the scope of Regulation on Permits and Licenses to be Secured According to Environmental Law and necessary applications will be made. 4- - In the works to be performed within the scope of the project, as per Article 14 of the Pasture Law, No. 4342, an application shall be given to the Directorate together with the documents identifying the areas that are within the area and are identified as pasture in the cadastral registers and the required permits shall be obtained. - In order to get the required permits within the scope of the Law on Soil Conservation and Land Use, No. 5403 and the Regulation on Conservation and Use of Agricultural Land, an application to the Directorate shall be made to the Directorate together with the list which specifies title deed registration of the layout in relation to the 1/5000 scaled cadastral plots which show the layout numbers and borders where the relevant project is applied and the amounts of easement and the required permits shall be obtained. 5- For the pastures/summer pastures located in the Project areas within the Gümüşhane borders, appropriation	TANAP						Chapter 11 App. 4.3

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
				Since the NGP route passes through the agricultural lands of different classes, required permits will be obtained within the scope of the Soil Conservation and Land Usage Law numbered 5403 and relevant legislation. Pre-cautions that won't damage the agricultural lands during the construction and operation phases of the Project will be taken. Soil Conservation Projects including pre-cautions that will prevent soil loss and land deterioration that may outcome in agricultural lands during the usage of the agricultural lands for non-agricultural purposes will be prepared and will be taken into application after they are approved by the Governorship Forest areas won't be expropriated and according to the Article 17 of the Forestry Law numbered 6831, necessary permits will be obtained for these areas. During the clearing of the NGP route construction corridor in agricultural lands, drainage lines crossing the route will be closed and redirected to new drainage lines. In case the NGP route passes through the pasture lands, request for changing the appropriation will be made to the Provincial Commission of Pasture Land within the scope of the Article 14 of Pasture Law numbered 4342, necessary permits will be obtained and land rehabilitation projects will be designed for the mentioned crossings as well. In case Agricultural Reform Application Areas are located on the route, necessary permits will be obtained according to the Law numbered 3083 on Agricultural Reform on Land Arrangement in Irrigational Areas, Law on Improvement and Inoculation of Olive Orchards numbered 3573 and Aquatic Products Law numbered 1380. Since the Aquatic Products Law numbered 1380 includes principles on protection, production and control of the water products, pre-cautions that will protect the living, breeding, preservation and production of water products will be taken, the substances that are harmful for production tools won't be spilled in waters, in production locations or surrounding. During the application of the Project, the plan notes indicated on the Environmental Master Plans will be complied. During the activities within the Project to be conducted		5- GÜMÜŞHANE Provincial Directorate of Food, Agriculture and Livestock 6- ERZURUM Provincial Directorate of Environment and Urbanization 7- ERZİNCAN Secretary General of Special Provincial Administration 8- BAYBURT Provincial Directorate of Environment and Urbanization 9- BAYBURT Provincial Directorate of Food, Agriculture and Livestock	purpose shall be changed as per Pasture Law, No. 4342 , non-agricultural land use permits shall be obtained within the scope of the Law on Soil Conservation and Land Use, No. 5403 and the required permits shall be obtained within the scope of the other legislations of the Ministry. 6- Relevant articles of Environmental Law and regulations came into force within the scope of this law will be complied, necessary applications will be made and permits will be obtained, necessary permits within the other legislations will be obtained, pre-cautions for protection and improvement of the environment will be taken. 7- - Necessary applications within Public Improvements Legislation will be made to authority and Workplace Establishment and Operation Permit will be received according to the articles of Regulation on Business and Operating Licenses. - Activities as construction of facilities, sand and gravel quarries, stone quarries etc. during construction activities will be initiated after the necessary permits will be obtained from authorities within the articles of relevant legislation. - At the project implementation phase, in issues concerning the Administration, coordination shall be established with the relevant Directorates of the Administration 8- All regulations within the scope of Environmental Legislation and all commitments provided in Project will be complied. 9- Sub-paragraph 8 (a) (7) of Pasture Regulation, published in the Official Gazette dated 25.02.2011 numbered 27857 within the scope of Pastures Law No. 4342 contains the following provision: "(Supplementary sub-paragraph: Article 2 / Regulation, Official Gazette No. 27857 - 25.02.2011) Upon the request of the energy Market Regulation Board, the objective for which a pasture or a summer pasture or a winter quarter has been allocated may be modified if such pasture or summer pasture or winter pasture is considered necessary in respect of petroleum transmission operations or electricity or natural gas market operations pursuant to the provisions of								

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
				close to the military zones, the articles of Military Restricted Zones and Safety Areas Law numbered 2965 and Regulation on Military Restricted Zones and Safety Zones numbered 5949 will be complied. During the application of the Project, all residential areas where the NGP will pass through will be determined, the areas of private ownership will be expropriated, real property owners won't be aggrieved, in case of necessity, their loss will be compensated. Furthermore, the principles indicated in the Land Acquisition and Expropriation Plan to be prepared within the Project will be complied.			Electricity Market Law No. 4628 of 20.02.2001 and Natural Gas Market Law No. 4646 of 18.04.2001, and Petroleum Market Law No. 5015 of 04.12.2003 after obtaining an investment project, a report specifying the reason, a license, and the layout plan of the requested area which must be marked on a 1/5000 map or an EIA report in respect of any investment requiring an EIA report from the appropriate directorate or directorate-general as well as other information and documents which may be required by the committee. A security in an amount designated by the committee shall have been deposited and the agreement shall have been executed in order to commence works in case of any investment involving recycling." In order to qualify for being considered under Law no 5403 on Soil Conservation and Land Utilization, paragraph (9) (6) of Regulation No. 2009/15154, which was published in the Official Gazette dated 24.07.2009 numbered 27298, stipulates that: "Any application for the utilization of an agricultural land for any purpose other than the specified purposes as well as a 1/10,000 cadastral map or sketch, a 1/25,000 map showing the land's location and coordinates of the land shall be filed with a municipality if the land is located within the boundaries of the urban area. If it is located outside the boundaries of the urban area, the application shall be filed with the appropriate provincial special administration or any agency authorized to draw up plans. Such applications shall be conveyed by appropriate entities to the provincial office." The official opinion of the Directorate will be obtained and a soil conservation project will be prepared in addition to the documents mentioned above prior to the commencement of the investment. 10- - Aquatic Products Law numbered 1380 and Regulation on Control of Water Pollution will be complied with in all the works carried out on the field at every phase of the project. - In case the works carried out on the field at every phase of the project coincide with agricultural land, works shall not be initiated for the agricultural land coinciding with the project area until the permits required by the Soil Conservation and Land Use Law numbered 5403 and relevant legislations are obtained. Furthermore, in case a Soil Conservation Project is required, the activities won't be initiated before the projects are prepared and submitted to the Directorate. - In case the works carried out on the field						

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
						10- GİRESUN Provincial Directorate of Food, Agriculture and Livestock	at every phase of the project coincide with parcels of pasture, summer pasture and winter quarters, works shall not be initiated for the parcels of pasture, summer pasture and winter quarters coinciding with the project area until the appropriation change procedures within the scope of Article 14 of Pastures Law No. 4342 are made. 11- The units planned to be constructed within the Project will be evaluated within Regulation on Permits and Licenses to be Secured According to Environmental Law and environmental permit/license will be obtained. 12- - After the finalized parcel and area information in the project area are identified, before starting works on the land, an application shall be given to the Directorate together with the necessary documents and the required permits shall be taken. - For areas that are within the route and that are specified in official records as having pasture characteristics in compliance with the provisions of the Pastures Law No. 4342, in areas announced to be implementation areas in compliance with the provisions of the Law on Agricultural Reform Concerning Land Regulation in Irrigation Areas, No. 3083, and for activities to be carried out in water resources within the area in compliance with the provisions of the Fisheries Law, No. 1380, activities shall be carried out after the required permits are obtained.									
						11- SİVAS Provincial Directorate of Environment and Urbanization									
						12- SİVAS Provincial Directorate of Food, Agriculture and Livestock	13- - Since the natural gas pipeline route passes through agricultural lands of different classes, required permits within the scope of Soil Conservation and Land Use Law numbered 5403 will be obtained. - In case the natural gas pipeline route passes through pasture areas, required permits within Pastures Law numbered 4342 will be obtained and land rehabilitation projects will be designed for mentioned crossings. - In case Agricultural Reform Application Areas are located on route, necessary permits will be obtained according to the law numbered 3083. - All legislations, enforced based on the Pastures Law, No. 4342, concerning pastures, summer pastures and winter quarters and public-owned meadows and grazing areas shall be complied with.									

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
						13- YOZGAT Provincial Directorate of Food, Agriculture and Livestock	- All legislations, enforced based on the Soil Conservation and Land Use Law, No. 5403, covering the procedures and principles in relation to identification of the responsibilities, duties and authorities concerning identification, classification of land and soil resources in accordance with scientific principles, preparation of land use plans, assessment of the social, economic and environmental dimensions in the conservation and development process by participatory methods, prevention of non-purpose use and misuse, and establishment of methods to ensure conservation shall be complied with. - The provisions of the Law on Preventing Intrusion or Possession of Immovable Property, No. 3091 shall not been violated. 14- - Within the scope of the project, before the Project activities are initiated a further permit shall be obtained from the Directorate for the route corridor within the project activity area passing the provincial borders, for agricultural land within the scope of the Law on Soil Conservation and Land Use, No. 5403 in order to enable using agricultural land for non-agricultural uses, for land having pasture characteristics as per the relevant provisions of the Pasture Law, No. 4342 for changes in characteristics. Within the scope of the Law on Soil Conservation and Land Use, No. 5403, a Soil Conservation Project will be prepared if necessary in order to prevent adverse effects on agricultural land due to activities carried out on land belonging to individuals and in areas that are within the scope of special law. When using the right of property belonging to the State, private property of the Treasury, and the land owned by real and judicial persons, the necessary precautions for not preventing wholly, partially or temporarily the vegetative production function, and the industrial, socio-economic and ecological functions of the soil. In addition, at the project implementation phase, necessary precautions for eliminating the adverse effects polluting and deteriorating the soil, originating from the project shall also be taken. as per Article 14 of the Pasture Law, No. 4342, claim will be made for change of appropriation purpose for the pastures and areas that can be characterized as pasture on the route.								
						14- ERZURUM Provincial Directorate of Food, Agriculture and Livestock	- Concerning the project area, the issues specified in the study report sent to the Ministry of Food, Agriculture and Livestock, the General Directorate of Vegetative Production and the General								

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
							Directorate of Agricultural Reform shall be fulfilled. 15- The provisions of Environmental Law numbered 2872 and the pertinent regulations will be complied. 16- All temporary and permanent facilities (pipeline, compressor stations, pigging stations, measurement stations, social facilities, construction sites, etc.) constructed in the jurisdiction area of the Administration within the scope of the Project shall be informed to the Administration and the required permits shall be obtained. 17- - Before the construction works are started, an application shall be made to the Agricultural Infrastructure and Land Assessment Branch Directorate together with : - 2 approved title deed document showing the possession of the claimed area on the Project route; - 2 approved 1/5.000 town map, showing the coordinate valued area calculation (based on 3 degrees segment) and parcels, in compliance with cadastral technique, on which cadastral possession is recorded - A CD containing a map showing coordinate valued area calculation prepared by a map drawing program and the surrounding parcels and the Google earth file with km extension of the related region and 2 approved outputs of the Google earth file, - Approved map section showing the relation with approved development plans (master plan, implementary development plan and local zoning plan, etc.) and the necessary permits shall be taken.								
						15- ERZİNCAN Provincial Directorate of Environment and Urbanization 16- YOZGAT Secretary General of Special Provincial Administration	18- During the application of the Project, all the residential areas the route will pass will be determined and the areas of private property will be expropriated, the real state owner won't be aggrieved, in case of necessity, their damnification will be relieved. 19- - Within the scope of the Project, on the agricultural lands within the Project area,								

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
						17- ANKARA Provincial Directorate of Food, Agriculture and Livestock	before the implementation of all the activities specified in the Project, information, documents and projects required by the legislations within the scope of the Law on Soil Conservation and Land Use, No. 5403, including vegetative top soil scraping, shall be presented to the Provincial Directorate of Food, Agriculture and Livestock and implementation shall not be initiated until permits for non-agricultural use are obtained. - Within the scope of the Law on Agricultural Reform Concerning Land Regulation on Irrigation Areas, No. 3083, opinion of the Ministry shall be asked for Adaköy and Taşköprü villages, Mustafakemalpaşa District, Bursa Province, for which aggregation was announced by the Decision of the Council of Ministers - Pasture areas shall be assessed within the scope of the Pasture Law, No. 4342, and an application shall be given to the Directorate for appropriation change and they shall be used after the appropriation change is issued. - In case there are olive groves within the Project area (possession registered as olive groove or having olive trees on), the necessary permits shall be obtained within the Law on Improvement of Olive Cultivation and Inoculation of the Wilds, No. 3573 (as amended by law no. 4086).								
						18- BURSA Provincial Directorate of Environment and Urbanization 19- BURSA Provincial Directorate of Food, Agriculture and Livestock	20- Within the scope of the Project, if the NGP crosses archeological sites, agricultural lands and pastures on the route in the Susurluk, Manyas and Gönen districts of the Balıkesir Province, the required permits from the relevant institutions shall be taken; if the route passes through the Manyas Lake conservation zones, the required permits shall be taken. Furthermore, the permits required by the legislations in force shall be obtained, the necessary precautions for conservation and improvement of the environment shall be taken. 21- Required responsibilities within Regulation on Business and Operating Licenses that came into force by being published in Official Gazette dated 10.08.2005 and numbered 25902 will be carried out. 23- - Settlement and plan decisions shall be complied with during project routing,								

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
							expropriation shall be carried out, when carrying out expropriation in residential and development areas with safety concerns a buffer zone shall be established and the area shall be expropriated as a whole, not only the line axis, and when the projects of the pipeline become clear, at the last stage, opinion of the Metropolitan Municipality shall be taken. - Information exchange shall be established with the Municipalities of the districts through which the pipeline passes. 24- - During the implementation of the Project, environmental pollution shall not be produced within the borders of the municipal adjacent area and the plan notes specified in the 1/100.000 scaled Environmental Master Plan shall be complied with. - Within the scope of the Project, the issues concerning the approved 1/5.000 scaled Local Zoning Master Plan Karapazar Köyü-Akkaya Locality-11 map section, parcel 1509 shall be taken into account. 20- BALIKESİR Provincial Directorate of Environment and Urbanization - During the implementation phase of the Project, the issues concerning the development plans approved as Industrial Area in the İmişehir region by the Provincial Administration Board dated 20.07.1999 and No. 1999/1780, shall be taken into account in accordance with the assessments in the correspondences with the Municipality, given in App. 4.3. - A project shall be made with the Odunpazarı Municipality in accordance with the assessments in the correspondences with the Municipality, given in App. 4.3. 21- ÇANAKKALE Secretary General of Special Provincial Administration 23- ANKARA Metropolitan Municipality - Concerning the Project, it was stated with the correspondence of the Tepebaşı Municipality dated 17.09.2013 and No. 11434/18874 (see App. 4.3) that the identification of the route protecting the existing texture in the 2 km corridor is suitable and that there is no planning or project work concerning the part of the line within the municipality border, and coordination shall be established with the Municipality within the scope of the Project. - Within the scope of the Project, positive opinion was given in the correspondence of the Sivrihisar Organized Industry Directorate dated 14.01.2014 and No. 2014/1 (see App. 4.3) concerning								

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
							Sivrihisar, of the İnönü and Sivrihisar industrial areas, planned as industrial area in the 1/100.000 scaled Provincial Environmental Plan, and the activities shall be performed considering the mentioned industrial areas. 25- In order to get the usage right on the agricultural lands and pasture parcels in the areas where the route passes, applications shall be made within the scope of the Pasture Law No. 4342 and the Regulation enforced based on this Law for areas with pasture characteristics and the Law on Soil Conservation and Land Use, No. 5403 and the Regulation enforced based on this Law for agricultural lands and the necessary permits shall be obtained. 26- Environmental Law numbered 2872, Regulation on Control of Water Pollution, Regulation on Control of Hazardous Wastes, Regulation on Solid Waste Control, Prime Ministry circular published in Official Gazette dated 09.09.2006 and numbered 26284 and other relevant legislations will be complied. 27- Within the scope of the project, the decisions of the upper scale planning shall be complied with. 28- Necessary permits within the scope of Law on the Soil Conservation and Land Use numbered 5403; Pastures Law numbered 4342, Law on Agricultural Reform on Land Arrangement in Irrigational Areas numbered 3083 and Aquatic Products Law numbered 1380 will be obtained. 29- Responsibilities identified by Law on the Soil Conservation and Land Use numbered 5403, Pastures Law numbered 4342, Law on Agricultural Reform on Land Arrangement in Irrigational Areas numbered 3083 and Aquatic Products Law numbered 1380 and by-laws, regulations and legislations of these laws will be met and the construction works will not be initiated before the necessary permits will be obtained. 30- Within the scope of Article 14 of the Pastures Law, No. 4342, no activities shall be performed until appropriation change is made; and in addition, a	24- ESKİŞEHİR Metropolitan Municipality									

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
						25- ARDAHAN Provincial Directorate of Food, Agriculture and Livestock 26- General Directorate of State Hydraulic Works 27- ARDAHAN Special Provincial Administration 28- KIRŞEHİR Provincial Directorate of Food, Agriculture and Livestock 29- KIRIKKALE Provincial Directorate of Public Health	pasture recycling project shall be prepared. 31- Before the construction activities of the Project are initiated, permits within the scope of the Law on Soil Conservation and Land Use, No. 5403, the Pastures Law, no. 4342 and the Fisheries Law, No. 1380 shall be taken and a Soil Conservation Project shall be prepared. 32- - Within the scope of the Pastures Law numbered 4342, Pasture Commission will be applied for changing the appropriation purpose together with its annexes as per Article 14 of the Law if there is a pasture on the route - During the construction and operation phases of the Project, the provisions of the Law on Soil Conservation and Land Use, No. 5403, the Pastures Law, no. 4342 and the Fisheries Law, No. 1380 shall be complied with, and all precautions necessary not to damage the agricultural lands, agricultural products, Fishery Farming Facilities and water resources in the surroundings shall be taken. 33- Concerning use of the immovable properties existing on the pipeline route for non-agricultural uses, the permits required by laws shall be taken from the Directorate (the Law on Soil Conservation and Land Use, No. 5403, the Pasture Law, No. 4342, the Fisheries Law, No. 1380, the Fisheries Regulation and the Law on Improvement of Olive Cultivation and Inoculation of the Wilds, No. 3573 (as amended by Law No. 4086)). 34- During the land preparation and operation phases of the Project, all permits and precautions envisaged by the legislations in force by the concerned institutions/establishments shall be taken. 35- In the activities performed within the scope of the Project, the necessary permits as required by the Law on Soil Conservation and Land Use, No. 5403, the Law on Improvement of Olive Cultivation and Inoculation of the Wilds, No. 3573 (as amended by Law No. 4086), the Pasture Law, No. 4342, and the Fisheries Law, No. 1380 shall be taken.							

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
						30- ESKİŞEHİR Provincial Directorate of Food, Agriculture and Livestock 31- BİLECİK Provincial Directorate of Food, Agriculture and Livestock 32- KÜTAHYA Provincial Directorate of Food, Agriculture and Livestock	36- In the activities carried out within the scope of the Project, the Directorate shall be informed on whether agricultural lands coinciding with the pipeline could be used for agriculture; if the agricultural lands are used for non-agriculture purposes, technical information and documents covering the size of the line to be used for non-agriculture purposes, the facilities to be installed on the line and the total agricultural area to be used for non-agriculture purposes shall be submitted to the Directorate. 37- The applicable legislations related to duties and responsibilities of the Metropolitan Municipality shall be complied with.							
						33- BALIKESİR Provincial Directorate of Food, Agriculture and Livestock 34- ÇANAKKALE Provincial Directorate of Environment and Urbanization									

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
						35- ÇANAKKALE Provincial Directorate of Food, Agriculture and Livestock 36- TEKİRDAĞ Provincial Directorate of Food, Agriculture and Livestock 37- BALIKESİR Metropolitan Municipality									
186	All	Entire Project	**All Activities**		A Grievance Mechanism will be set up for communities and individuals to formally communicate their concerns, complaints and grievances and facilitate resolutions that are mutually acceptable by the parties	1- GİRESUN Provincial Directorate of Public Health 2- BURSA Provincial Directorate of Public Health 3- TEKİRDAĞ Provincial Directorate of Environment and Urbanization 4- BURSA Metropolitan Municipality	1- All approvals and permits as stipulated by the Environmental Law numbered 2872 and pertinent regulations and legislations required for each phase of the activities will be received. 2- - During the construction, material selection, taking into operation and operation phases of the Project, national and international standards and related legislations will be complied. - During the activities to be conducted during construction, operation and decommissioning of the facilities within the Project, all the commitments available in EIA report, Public Sanitary Law numbered 1593 and by-laws and regulations that came into force according to that law will be complied. 3- The provisions of the 1/100.000 Trakya Sub-Region Environmental Plan shall be complied with. 4- Within the scope of the Project, the related plan decisions and implementation provisions of the “Bursa 1/100.000 scaled Environmental Plan, 2020” shall be complied with.	TANAP/EPC / EPCM	N/A	Contin.	N/A	TANAP	Community Relation Plan Stakeholder Engagement Plan		Chapter 8 Chapter 11
187	All	Entire Project	**All Activities**		Stakeholder Engagement Activities will continue throughout the project lifetime on a regular basis and procedures will be updated according to needs;			TANAP/EPC / EPCM	N/A	Contin.	N/A	TANAP	Community Relation Plan Stakeholder Engagement Plan		Chapter 8 Chapter 11
	All	Entire Project	**All Activities**		Accidental damages caused by project activities will be compensated in accordance with Project commitments			TANAP/EPC / EPCM	N/A	Contin.	N/A	TANAP	Community Relation Plan Stakeholder Engagement Plan		Chapter 8 Chapter 11
188	All	Entire Project	**All Activities**		Local authorities and local communities will be informed and consulted on project activities and planned mitigation measures during all phases of the Project and its related Stakeholder Engagement Activities;			TANAP/EPC / EPCM	Continuous communication with local authorities	Contin.	N/A	TANAP	Community Relation Plan Stakeholder Engagement Plan		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
						5- BALIKESİR Metropolitan Municipality 6- TEKİRDAĞ Metropolitan Municipality 7- ARDAHAN Provincial Directorate of Environment and Urbanization	5- - Before the Project is realized, the pipeline coordinates and the above ground installations shall be informed and an application shall be made to the Metropolitan Municipality. - The permits for buildings requiring Trading and Operation Licenses shall be taken. 6- The Environment Law No. 2872 and the Regulations thereof shall be complied with. 7- The Environmental Plan of scale 1/100.000 and the provisions of the Plan shall be complied with.							
189	1	Entire Project	**Traffic and Mobility**	The pipes that will be stored in pipe yards in order to decrease the cost and accelerate the period will be brought to the site via sea route, railway and highway. For the carriage and transportation that will be conducted to the Project site, the highways available will be used mostly and new roads will be constructed for the points without access. Archaeology, natural reservoirs, sensitive ecological areas, erosion sensitivity and water resources will be taken into consideration for the determination of the new roads. The new roads to be opened will be designed with sufficient slope and with horizontal slope that will provide rain water drainage to the channels out of the roads. Some of the roads to be opened will remain permanent. The existing roads and bridges to be used will be improved for safe carriage and transportation in case of necessity in cooperation with authorities and by obtaining relevant permits. During the decommissioning phase of the Project, the roads damaged will be repaired and reinstated. Traffic Management Plan will be prepared in order to maintain traffic safety of the road and to prevent the risks which may outcome due to the fact that the	Existing roads will be used to provide access to the construction RoW and various AGIs. The access roads are used on a temporary basis to transport personnel, equipment, vehicles, heavy trucks, and materials to project work areas. New access roads will be required in some areas, particularly the mountainous areas. New access roads will be designed with adequate slope and cross-fall drainage to channel storm water safely to off-road soakaways, thereby preventing erosion or siltation.	1- General Directorate of Highways 2- ERZURUM-13 Regional Directorate of Forestry and Water Affairs 3- TEKİRDAĞ Metropolitan Municipality	1- - Company is responsible of every kind of works which are planned in the scope of Project activities that may affect the traffic safety of the roads. - Every kind of security pre-cautions related with traffic for entrance-exit from highways and all transportations to be conducted during construction and operation phases will be taken by Project Owner Company based on the opinions of Regional Directorate. 2- - The necessary sensitivity shall be displayed concerning using the existing roads and not making new roads unless it is necessary for transportation. When it is necessary that new roads are made and the old ones are arranged, passages, culverts and ecological corridors are established on the slopes to facilitate the motility of wild life. 3- - Within the scope of the Project, during the works to be performed on the road sections connecting Şarköy District Kızılcaterzi neighborhood and Çanakkale Province Gelibolu District Kavak Village within Tekirdağ provincial borders, traffic measures will be taken in accordance with the highway standards and the traffic flow	EPC/ EPCM	Visual Inspection Assessment Report for New Access Roads	Contin.	Inspection Report Road Assessment Report	TANAP	Traffic Management Plan		Chapter 8 Chapter 11
190	1	Entire Project	**Traffic and Mobility**		A survey will be conducted to assess the existing and post conditions of the roads to be used by the construction, if they require upgrading activities and to ensure that they are returned to previous or better conditions after construction.			EPC/ EPCM	Road survey	Contin.	Survey Report	TANAP	Traffic Management Plan		Chapter 8 Chapter 11
191	1	Entire Project	**Traffic and Mobility**		Preparation of environmental impact assessment surveys for new access roads			EPC/ EPCM	Assessment report for new access roads	Contin.	Survey Report	TANAP	Traffic Management Plan		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
192	1	Entire Project	**Traffic and Mobility**	traffic load available will increase during the land preparation and construction phases of the Project and this plan will be reorganized for operation and decommissioning phases. The additional vehicle load, vehicle type and count that may be observed in the highway to be used during the land preparation-construction and operation phases of the Project will be determined, will be calculated as % and will be declared. During the carriage of all materials under dangerous substances category, the articles of the "Regulation on Transportation of Hazardous Substances by Road" will be complied. In the roads used, the tonnage restriction will be complied, necessary signings will be placed for traffic order and safety and the company will be responsible from all kind of activities that may affect the traffic safety of the roads, every kind of pre-caution in terms of traffic safety will be taken at the entrance and exit points of the roads, during all transportations the Highway Traffic Law numbered 2918 and relevant regulations will be complied with, and also, the Traffic Management Plan to be prepared will be submitted to the related Regional Directorates and activities will be conducted in coordination with them. During the transportation of materials, all laws and regulations which came into force within the scope of the Highway Traffic Law numbered 2918 will be complied, in case the roads are damaged, all cost will be paid. Before the land preparation-construction phase of the Project is initiated, "Transmission Road Pre-Permit Certificate" will be obtained according to the Traffic Law numbered 2918 and the articles of the Regulation on Facilities to be Established Adjacent to Highways be complied with. In case connection roads are constructed within the Project, positive opinion and approval of General Directorate of Highways will be received for the projects on main road connection point, available crossroads will be used and Transmission Road Permit Certificate will be obtained from Regional Directorates. For the connection roads, rules on crossroad distance, visibility distance, structure approach	Access to settlements will always be guaranteed either through diversions or by allowing the passage of vehicles and livestock at certain hours through the use of proper materials (e.g. steel plates) over the trenches; when restrictions to access are unavoidable, appropriate alternative solutions will be agreed with local authorities;	4- ERZURUM Metropolitan Municipality 5- YOZGAT Special Provincial Administration 6- BURSA Special Provincial Administration	between the mentioned settlements shall not be intervened. 4- - When the pipeline route coincides with the existing roads, the necessary works shall be performed taking into account thereof and works shall be carried within this context. 5- - Within the scope of the project, for the activities to be performed at the interception of the roads of the Administration's road network and the Project route line, permit shall be obtained from the Administration signing a protocol, land road interceptions shall be suitably passed, tonnage limitation shall be complied with in case the roads of the Administration's road network are used during construction, the necessary corrections and markings shall be made with respect to traffic order and safety, and TANAP shall be responsible for all activities that may influence the traffic safety of the road. 6- - The articles of Highway Traffic Law numbered 2918,Regulation on Highway Traffic that came into force by being published in Official Gazette dated 18.07.1997 and numbered 23053 and Regulation on Facilities to be Constructed and Operated near Highway that came into force by being published in Official Gazette dated 15.05.1997 will be complied. - Protocol will be signed for the activities to be conducted at crossing points with highways and permits will be obtained, in the parts that pipeline and road are in parallel, passage will be out of border of expropriation and safety area, in case the highways that are in highway network of the authority, tonnage restriction will be complied, necessary adjustments and signings will be conducted by means of traffic order and safety and Project owner will be responsible of each kind of activity effecting the traffic safety of the highway 7- Road safety will be prevented at crossing points and the company will be responsible of all works that will affect the	EPC/ EPCM	Visual Inspection	Contin.	Site Inspection Report	TANAP	Traffic Management Plan		Chapter 8 Chapter 11
193	1	Entire Project	**Traffic and Mobility**		Access to properties will be guaranteed or appropriate alternative accesses will be agreed with owners or users;			EPC/ EPCM	Visual Inspection	Contin.	Site Inspection Report	TANAP	Traffic Management Plan		Chapter 8 Chapter 11
194	1	Entire Project	**Traffic and Mobility**		Local communities will be informed on planned road closures or disruption with at least 72 hours' notice in advance through official communication and signs;			EPC/ EPCM	Notification of local Communities	During road closures or disruption	Notification Correspondences	TANAP	Community Relations Plan Stakeholder Engagement Plan		Chapter 8 Chapter 11
195	1	Entire Project	**Traffic and Mobility**		· Easy-to-read signs will be used to indicate any type of diversion or of traffic changes related to project activities;			EPC/ EPCM	Visual Inspection	Contin.	Site Inspection Report	TANAP	Traffic Management Plan		Chapter 8 Chapter 11
196	1	Entire Project	**Traffic and Mobility**		·Temporary traffic control and appropriate signs will be used to highlight warnings and to improve safety;			EPC/ EPCM	Visual Inspection	Contin.	Site Inspection Report	TANAP	Traffic Management Plan		Chapter 8 Chapter 11
197	1	Entire Project	**Traffic and Mobility**		·Temporary traffic control will be used in intersections and junctions where a higher road accident risk is identified;			EPC/ EPCM	Visual Inspection	Contin.	Site Inspection Report	TANAP	Traffic Management Plan		Chapter 8 Chapter 11
198	1	Entire Project	**Traffic and Mobility**		Intersections between temporary roads and access roads will be designed so to be traffic-safe, especially for heavy-load vehicles;			EPC/ EPCM	Visual Inspection	Contin.	Site Inspection Report	TANAP	Traffic Management Plan		Chapter 8 Chapter 11
199	1	Entire Project	**Traffic and Mobility**		Authorities will be notified when the oversize heavy vehicles will be required and vehicles will be escorted;			EPC/ EPCM	Notification of local authorities	Contin. when the oversize vehicles are required	Notification Correspondences	TANAP	Traffic Management Plan		Chapter 8 Chapter 11
200	1	Entire Project	**Traffic and Mobility**		Frequently used roads will be inspected on a regular basis to ensure that they are not damaged, or to implement repair activities when necessary;			EPC/ EPCM	Visual Inspection	Contin.	Site Inspection Report	TANAP	Traffic Management Plan		Chapter 8 Chapter 11
	1	Entire Project	**Traffic and Mobility**		·Transport during night-time will be avoided to the extent possible, in order to prevent road accidents;			EPC/ EPCM	Arrangement of transportation periods	Contin.	Transportation Schedules	TANAP	Traffic Management Plan		Chapter 8 Chapter 11
201	1	Entire Project	**Traffic and Mobility**		Related Turkish legislation on speed limits depending on the type of vehicles and roads shall be obeyed. where practicable			EPC/ EPCM	Training of the employees on requirements	Contin.	Training Records	TANAP	Traffic Management Plan Employment and Training Plan		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
202	1	Entire Project	**Traffic and Mobility**	distance and other rules will be met in compliance with Article 17and Article 18 of Traffic Law and articles of Regulation on Facilities to be Established Adjacent to Highways. During all explosion and material transport activities to be conducted during the land preparation-construction and operation phases of the Project, highway structure and related facilities won't be damaged, in case of damage, the damage will be compensated within the protocol to be signed with Regional Directorates. Furthermore, the principles indicated in Traffic (Transportation) Management Plan and Carriage Management Plan to be prepared within Project will be complied.	Trainings will be provided to the adults and children in the settlement areas along and around the pipeline route in order to increase traffic awareness within the scope of the Traffic Management Plan;	7- İSTANBUL-1 Regional Directorate of Highways	traffic safety.	EPC/ EPCM	Training of all employees	Contin.	Training Records	TANAP	Traffic Management Plan		Chapter 8 Chapter 11
203	All	Entire Project	**Traffic and Mobility**		All drivers will adhere to TANAP driving rules and appropriate training will be provided;			TANAP	Training of all employees	Contin.	Training Records	TANAP	Employment and Training Plan		Chapter 8 Chapter 11
204	3	Entire Project	**Traffic and Mobility**		A survey will be conducted to assess the existing and post conditions of the roads to be used by the construction, An additional survey will be conducted to understand whether the access roads used require upgrading activities and to ensure that they are returned to previous or better conditions after construction. Access to properties will be guaranteed or appropriate alternative accesses will be agreed with owners or users; Local communities will be informed on planned road closures or disruption with at least 72 hours' notice in advance through official communication and signs; Easy-to-read signs will be used to indicate any type of diversion or of traffic changes related to project activities; Temporary traffic control and appropriate signs will be used to highlight warnings and to improve safety; Temporary traffic control will be used in intersections and junctions where a higher road accident risk is identified; Intersections between temporary roads and access roads will be designed so to be traffic-safe, especially for heavy-load vehicles; Authorities will be notified when the oversize heavy vehicles will be required and vehicles will be escorted; Frequently used roads will be inspected on a regular basis to ensure that they are not damaged, or to implement repair activities			TO BE DETAILED	TO BE DETAILED	TO BE DETAILED	TO BE DETAILED	TANAP	Decommissioning Procedures		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
					when necessary; Transport during night-time will be avoided to the extent possible, in order to prevent road accidents; All drivers will adhere to TANAP driving rules and appropriate training will be provided; Related Turkish legislation on speed limits depending on the type of vehicles and roads shall be obeyed. Transport of the Project staff will be organized to reduce the number of vehicles needed (i.e. use of busses/minibuses and collective means of transport) to the extent possible; Trainings will be provided to the adults and children in the settlement areas along and around the pipeline route in order to increase traffic awareness within the scope of the Traffic Management Plan;										
205	1	Entire Project	**Infrastructures and Utility Distribution**		· Specific studies will be performed to ensure that utility networks used for Project activities are capable of sustaining the additional uses needed for Project purposes;	1- General Directorate of State Hydraulic Works 2- BURSA-1 Regional Directorate of State Hydraulic Works	1- Damages to facilities belonging to the State Hydraulic Works that may occur shall be indemnified by the activity owner. 2- - Activities will be conducted not damaging the water resources, wells on NGP, damages that may be observed in water resources, facilities and groundwater due to wrong application will be indemnified by the activity owner company. - The activity owner shall take into account the interaction between the irrigation network of the State Hydraulic Works and the pipeline route passing from the irrigation areas. - Detailed designs will be prepared for the crossings from the facilities of the State Hydraulic Works (including irrigation projects) and submitted to the approval of Regional Directorates. 3- - For the crossings with irrigation facilities in operation, Project details will be provided from Regional Directorate and projects will be developed accordingly, pre-cautions needed for not interrupting the operation will be taken, as the Project for route is being developed the opinion of Regional Directorate will be received and in construction phase, activities will be	EPC/ EPCM	Road infrastructure survey	Contin.	Survey Report	TANAP	Construction Impacts Management Plan		Chapter 8 Chapter 11
206	1	Entire Project	**Infrastructures and Utility Distribution**		· Specific studies on waste management facilities and landfills used during construction activities will be performed to ensure that they are capable of sustaining additional pressure brought by Project without affecting current waste management services;			EPC/ EPCM	Waste facilities infrastructure survey	Contin.	Survey Report	TANAP	Waste Management Plan		Chapter 8 Chapter 11
207	1	Entire Project	**Infrastructures and Utility Distribution**		· Any damage to utility distribution networks will be repaired promptly in accordance with the network owner or operator;			EPC/ EPCM	N/A	Contin.	N/A	TANAP			Chapter 8 Chapter 11
208	1	Entire Project	**Infrastructures and Utility Distribution**		· Any unplanned disruption of utility distribution services will be managed through a specific contingency plan which includes prompt communication to local communities, written information to explain event occurred and repair measures needed, continuous communication channel with local authorities and communities, and all	3- SİVAS-19 Regional Directorate of State Hydraulic Works		EPC/ EPCM	N/A	Contin.	N/A	TANAP			Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
					actions necessary in accordance with utility distribution owner or operator until disruption is solved;		conducted in these areas under the supervision of Regional Directorate. - Activities that will be conducted in order to prevent any possible flooding event will be submitted to Regional Directorate for approval. 4-								
209	1	Entire Project	**Infrastructures and Utility Distribution**		· Any planned disruption of utility distribution services will be communicated to local authorities and local communities with at least 72 hours' notice in advance; where planned disruptions are expected to last more than 12 hours, a specific risk analysis will be performed to assess impacts expected on local communities and to identify additional mitigation measures;	4- BALIKESİR-25 Regional Directorate of State Hydraulic Works	- Passages over and under the canals, pipes and maintenance roads of the natural gas pipeline shall be made with art constructs, which are sized according to the criteria of the State Hydraulic Works and which have been submitted to and approved by the 25th Regional Directorate of the State Hydraulic Works. 5- - In case of any flooding event, all necessary pre-cautions will be taken by the activity owner.	EPC/ EPCM	N/A	Contin.	N/A	TANAP			Chapter 8 Chapter 11
210	1	Entire Project	**Infrastructures and Utility Distribution**		· Access to utility distribution networks for Project needs will be agreed with affected land owners or land users;	5- KARS-24 Regional Directorate of State Hydraulic Works 6- ERZURUM-8 Regional Directorate of State Hydraulic Works	6- - The deep water discharge wells, outhouses, the energy transmission lines that provide energy for wells in cooperative irrigation areas on natural gas pipeline route won't be damaged and in case is damaged, the damage shall be met by the activity owner - Since there are projects of State Hydraulic Works available in the Project area, necessary pre-cautions will be taken during and after the activities to be conducted and the activity owner will be responsible of all kind of damage and harm may be caused during activities. - In the Regions the cooperative wells shall not be damaged, and in case any damage occurs, new wells shall be opened. 7- - Application shall be made to the Municipality especially for infrastructure crossings and crossings at transportation constructs and rights of the Municipality. - At points where the route passes through regions under the responsibility of the Municipality, the limiting/preventing factors and the issues that must be given attention, if exists, and the issues concerning safety- life safety (those under the responsibility of the Municipality) shall be informed to the Municipality. - The legislations concerning the conservation of the potable water basins and resources of the Municipality shall be complied with.	EPC/ EPCM	N/A	Contin.	N/A	TANAP	Community Relation Plan Stakeholder Engagement Plan		Chapter 8 Chapter 11
211	2	Entire Project	**Infrastructures and Utility Distribution**		Any damage to utility distribution networks will be repaired promptly in accordance with the network owner or operator; Any unplanned disruption of utility distribution services will be managed through a specific contingency plan which includes prompt communication to local communities, written information to explain event occurred and repair measures needed, continuous communication channel with local authorities and communities, and all actions necessary in accordance with utility distribution owner or operator until disruption is solved; Any planned disruption of utility distribution services will be communicated to local authorities and local communities with at least 72 hours' notice in advance; where planned disruptions are expected to last more than 12 hours, a specific risk analysis will be performed to assess impacts expected on local communities and to identify	7- BALIKESİR Metropolitan Municipality		TANAP	TO BE DETAILED	TO BE DETAILED	TO BE DETAILED	TANAP	Operating Procedures		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
					additional mitigation measures;		- In case local development plan areas which have been previously approved, continuing and which probably remain in the Project area arise, the Administration shall not hold responsibility in a conflict. In case construction site and similar temporary or permanent buildings are made in the jurisdiction and responsibility area of the Administration, the concerned Ministry and the concerned Administrations shall be informed, and permits shall be taken from the concerned Administrations. 8- - In the area where the project route passes through (Şarköy, Kızılcaterzi Neighborhood), in case the road is displaced in the future infrastructure and superstructure works, all kinds of taxes, charges, duties and displacement expenses shall be met by TANAP Natural Gas Co. - Since the area where the project route passes is subject to the development plans including the proposed "Pumping Station of the Kızılcaterzi Village Natural Gas Cycle Plant, Water Intake / Discharge Pipelines and Float Facilities", approved by the Ministry of Environment and Urbanization (General Directorate of Spatial Planning), positive opinion of the Şarköy Municipality was taken with the correspondence dated 16.07.2014 and No. 91135896/9372631 given in Annex 4.3 concerning this issue. Consequently, works shall be conducted considering the subject area. - Concerning the crossings in Tekirdağ province, procedures will be carried out within the knowledge of technical personnel of the Tekirdağ Metropolitan Municipality Water and Sewage Administration (TESKİ) and all legal rights of TESKİ shall be preserved. 9- - In the activities carried out within the scope of the Project, the irrigation canals made in previous years and the earth irrigation canals made by the farmers on their own shall not be damaged; if any damage occurs, they shall be repaired and maintained. 10- - Attention shall be given to waterworks and sewage systems on the route. - The damages to waterworks and sewage systems and pipelines belonging							
212	3	Entire Project	**Infrastructures and Utility Distribution**		Specific studies on waste management facilities and landfills used during construction activities will be performed to ensure that they are capable of sustaining additional pressure brought by Project without affecting current waste management services; Any damage to utility distribution networks will be repaired promptly in accordance with the network owner or operator; Any unplanned disruption of utility distribution services will be managed through a specific contingency plan which includes prompt communication to local communities, written information to explain event occurred and repair measures needed, continuous communication channel with local authorities and communities, and all actions necessary in accordance with utility distribution owner or operator until disruption is solved; Any planned disruption of utility distribution services will be communicated to local authorities and local communities with at least 72 hours' notice in advance; where planned disruptions are expected to last more than 12 hours, a specific risk analysis will be performed to assess impacts expected on local communities and to identify	8- TEKİRDAĞ Metropolitan Municipality		TO BE DETAILED	TO BE DETAILED	TO BE DETAILED	TO BE DETAILED	TANAP	Decommissioning Procedures		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
					additional mitigation measures;	9- - ERZURUM Metropolitan Municipality 10- ARDAHAN Special Provincial Administration 11- KIRIKKALE Provincial Directorate of Environment and Urbanization 12- KIRIKKALE Provincial Directorate of Public Health 13-KIRIKKALE	to the Administration shall be repaired and the Administration shall be informed. - Attention shall be given to the road and transportation network belonging to the Administration within the route and it shall be repaired in case damage occurs. - Attention shall be given to the licensed basalt and crushing/screening plant areas within the route. 11- - Within the scope of the Project, suitable construction techniques for passage shall be used so that the Sema Regulator and the transmission canal of the Hydraulic Power Plant Project, for which a “EIA is not necessary” decision has been given and which is intercepted at 1087+000 km and at about 120-125 m west of the NGP route, is nor harmed. 12- - During the Pipeline Laying works, potable-fresh water resources, reservoirs, networks of the villages existing on the route won’t be damaged, in case of damage, necessary repairs will be conducted. When required, the health protection bands distances and the contents of the related regulations will be complied. 13- - The asphalt road, stabilized road, crude road, irrigation canal, drainage (potable water) and force main (potable water) service projects shall not be damage; in case they are damaged, the necessary repairs shall be made. 14- - The potable water, irrigation and sewage networks under the responsibility of the administration in provincial borders won’t be damaged and in case of necessity, repair will be conducted by the company as soon as possible. - The damages may be caused on roads, culverts and other engineering structures in responsibility area of the authority will be compensated. 15- - Potable water resources located on the natural gas pipeline route will be conserved. 16-								

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
						Secretary General of Special Provincial Administration 14- ERZİNCAN Special Provincial Administration 15- GÜMÜŞHANE Provincial Directorate of Public Health 16- GÜMÜŞHANE Special Provincial Administration 17- SİVAS Special Provincial Administration	- On the village roads passage lines of the NGP route, the natural gas pipes shall be reduced down to an adequate depth, the route on which activity is being carried out shall immediately be opened to traffic so that the roads remain open to transportation. If it is determined that the natural gas pipes will suffer damage due to future road construction and repair works by the Administration, necessary precautions shall be taken, the lines passing through the road route shall be protected by concrete or steel constructs, disrupted asphalts shall immediately be repaired to its former state, and a commitment on meeting the losses and damnifications that may occur in the infrastructure facilities of the village shall be given to the Administration. - In the implementation phase of the project, the potable and irrigation water facilities constructed in the regions where the pipeline route passes shall be protected and in case damages occur in such facilities, they shall be re-constructed according to the originals. 17- - TANAP Project route information will be provided to the Administration in order to constitute a basement for the public improvement works to be conducted. - During construction activities, in order to prevent the damages and breakdowns that may arise in the existing road network and potable water networks crossed by the project route, the necessary coordination shall be established with the Administration. 18- - No damage shall be given to facilities such as potable water and sewage systems and irrigation water ponds constructed in the past by the Repealed Rural Services Directorate and the Administration on the project route. Any damage that may occur in such facilities during construction shall be relieved. 19- - The potable and freshwater reservoirs located on areas that natural gas pipeline passes through won't be damaged. 20- - During and after the activities carried out in the Project route remaining within the							

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
						18- YOZGAT Special Provincial Administration 19- KIRŞEHİR Provincial Directorate of Public Health 20- KIRŞEHİR Special Provincial Directorate 21- ESKİŞEHİR Provincial Directorate of Public Health 22- BİLECİK Special Provincial Administration	provincial borders, damnifications concerning works that are in the duty area of the Administration and that are carried out by the Administration shall be relieved by TANAP. 21- - Pre-cautions that will prevent the groundwater and surface water resources, reservoirs and water supply lines located on pipeline route and also used as potable water resource from pollution and from degradation will be taken. 22- - During the Project, the village roads and infrastructure facilities in Special Provincial Administration network won't be damaged. - On natural gas pipeline route, potable water lines of residential areas and villages (Cihangazi, Düzağaç, Göynücek, Donbayçayırı, Yeşilçukurca, Yeniyüreğil, Yeni Dodurga and Karaçayır) and sewer lines (Cihangazi, Düzağaç, Göynücek and Yeniyüreğil) are available. Directorate of Water and Channels Services will be contacted before the construction activities of the Project are initiated and the mentioned facilities won't be damaged and in cases of obligation, possible damages will be minimized and displacements will be conducted as soon as possible in order not to aggrieve the public. - If available, the approved public improvement plans will be complied in Project corridor. In case there is an inconsistency available between public settlement plans and the Project, and in cases of obligation, necessary public improvement changes will be submitted for approval of related directorate together with opinions of related authorities. Furthermore, licenses will be received for each structure requiring license 23- - The natural gas pipeline route crosses some irrigation channels and village road in the region perpendicularly and necessary permits during excavation works will be obtained from the Road and Transportation Services Directorate. The mentioned structures won't be damaged. - Even if there is no project installed by the Administration on the Project area, if there are potable water resources, potable water and sewage systems, such resources and facilities shall not be damaged; in case of such damage, all								

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
							damages shall be relieved by TANAP. 24- - In case of necessity for the existing and planned projects and underground and above ground installations that cross with natural gas pipeline in responsibility area of the authority, permits will be obtained from the authority and pre-cautions will be taken against environmental impacts that may outcome due to Project. - In case there is water resources rented under authority and decision of the government located in private property of treasury in and around TANAP Project area, permits will be obtained according to the opinions of State Hydraulic Works. 25- - Before the activities are initiated at crossing points of pipeline and village roads under responsibility of the authority, permit legal fee for activities to be conducted on road structure determined by the General Council of the Province and energy, natural gas line legal fees will be invested and Right of Way Protocol will be signed. In case of crossing with facilities under the responsibility of the authority, (village roads, irrigation units, potable water units), in case the facilities are damaged, the damage will be compensated by the company and protocols related with these facilities will be signed. 26- - During the land preparation and operation phases of the Project, the resources providing potable water won't be damaged and all the laws, by-laws and regulations in force will be complied. 27- - In the planned pipeline activities the damages that may be given to the roads, bridges and art objects under the jurisdiction of the Administration shall be relieved, the provisions of the 1/25.000 Environmental Plans in force and the rights of the development plans approved within the framework of the Building Plan, No. 3194 and the related legislations and the building use permits shall be preserved, and minimum safety distances between the pipeline and village settlements shall be ensured. Care shall be given to the Gelibolu Demirci Lake Irrigation Area within the route during project activities.								
						23- KÜTAHYA Special Provincial Administration										
						24- BURSA Special Provincial Administration										

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
						25- BALIKESİR Special Provincial Administration 26- ÇANAKKALE Provincial Directorate of Public Health 27- ÇANAKKALE Special Provincial Administration 28- EDİRNE Special Provincial Administration	28- - During the implementation phase of the Project, about such issues on roads, potable water line, sewage and irrigation concerning the Administration, coordination shall be established with the Administration and its permit shall be obtained, and the works to relieve the damages and troubles shall be carried out by the Project owner. 29- - Investments and projects of the authority located on natural gas pipeline route will be taken into consideration. 30- Concerning the road network intercepted by or parallel to the project route, in order to prevent the damages to the existing village roads and potable water networks, road pass permits shall be obtained from the Administration, works shall be performed in coordination with the Administration, alternative roads routes shall be identified during the works, and damages shall be corrected by TANAP. 31- According to Regulation on Water Intended for Human Consumption, the resources and reservoirs will be protected, the potable and fresh water transmission lines, resources and reservoirs shall not be damaged, cemeteries will be protected and Public Sanitation Law numbered 1593 will be complied with. 32- The irrigation and infrastructure facilities constructed by State Hydraulic Works and directorates of Special Provincial Administration will be protected.								

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
						29- TEKİRDAĞ Special Provincial Administration 30- KARS Secretary General of Special Provincial Administration 31- YOZGAT Provincial Directorate of Public Health 32- BURSA Provincial Directorate of Food, Agriculture and Livestock									
213	1	Entire Project	**Opportunities for Local Economy**		· In order to increase the project's Local Benefits, the Company will aim to procure goods, services and materials from local businesses to the extent possible;			EPC/ EPCM	N/A	Contin.	N/A	TANAP	Procurement and Supply Management Plan		Chapter 8 Chapter 11
214	1	Entire Project	**Opportunities for Local Economy**		· A strategy for the procurement of goods, services and materials will be prepared by contractors, including a demand-and-supply analysis, in order to identify to what extent local sources can contribute to procurement needs and to implement tailored measures to support local businesses;			EPC/ EPCM	N/A	Contin.	N/A	TANAP	Procurement and Supply Management Plan		Chapter 8 Chapter 11
215	1	Entire Project	**Opportunities for Local Economy**		The Contractors will provide information on procurement, tendering, and contracting processes with a transparent and clear approach, to ensure that equal access to			EPC/ EPCM	Information of local businesses	Contin.	N/A	TANAP	Procurement and Supply Management Plan		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
					opportunities is guaranteed. Information on procurement opportunities will be given to local businesses through communication with Chambers of Commerce, Industry Associations, Local authorities and other appropriate parties;										
216	All	Entire Project	**Opportunities for Local Economy**		· Local companies identified as able to provide goods, materials and services in the during the strategic analysis will be conducted directly providing information on tendering opportunities;			EPC/ EPCM	Analysis to identify local companies	Contin.	N/A	TANAP	Procurement and Supply Management Plan		Chapter 8 Chapter 11
217	1	Entire Project	**Opportunities for Local Economy**		· All contractors and Subcontractors will have to comply to the TANAP Policies for their procurement activities;			EPC/ EPCM	N/A	Contin.	N/A	TANAP	Procurement and Supply Management Plan		Chapter 8 Chapter 11
218	2	Entire Project	**Opportunities for Local Economy**		In order to increase the project's Local Benefits, the Company will aim to procure goods, services and materials from local businesses to the extent possible; A strategy for the procurement of goods, services and materials will be prepared, including a demand-and-supply analysis, in order to identify to what extent local sources can contribute to procurement needs and to implement tailored measures to support local businesses; The Company will provide information on procurement, tendering, and contracting processes with a transparent and clear approach, to ensure that equal access to opportunities is guaranteed; Information on procurement opportunities will be given to local businesses, through communication with Chambers of Commerce, Industry Associations, Local authorities and other appropriate parties; Local companies identified as able to provide goods, materials and services in the strategic analysis will be conducted directly providing information on tendering opportunities;			TANAP/EPCM/EPC	TO BE DETAILED	TO BE DETAILED	TO BE DETAILED	TANAP	Operating Procedures		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
					All Contractors and Subcontractors will have to comply to theTANAP Policies for their procurement activities;										
219	3	Entire Project	**Opportunities for Local Economy**		In order to increase the project's Local Benefits, the Company will aim to procure goods, services and materials from local businesses to the extent possible; A strategy for the procurement of goods, services and materials will be prepared, including a demand-and-supply analysis, in order to identify to what extent local sources can contribute to procurement needs and to implement tailored measures to support local businesses; The Company will provide information on procurement, tendering, and contracting processes with a transparent and clear approach, to ensure that equal access to opportunities is guaranteed; Information on procurement opportunities will be given to local businesses, through communication with Chambers of Commerce, Industry Associations,			TO BE DETAILED	TO BE DETAILED	TO BE DETAILED	TO BE DETAILED	TANAP	Decommissioning Procedures		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
					Local authorities and other appropriate parties; Local companies identified as able to provide goods, materials and services in the strategic analysis will be conducted directly providing information on tendering opportunities; All contractors and subcontractors will have to comply to the TANAP Policies for their procurement activities;										
220	1	Entire Project	**Changes to Local Employment Conditions**		· The Company aims at employing local workers to the extent possible, in order to increase the Project's Local Benefits;			EPC/ EPCM	Set targets for local employment	Contin.	Employment Records	TANAP	Employment and Training Plan		Chapter 8 Chapter 11
221	1	Entire Project	**Changes to Local Employment Conditions**		· TANAP will perform a Human Resource Analysis studyto understand what work skills are available locally and what actions should be implemented to increase local employment opportunities;			EPC/ EPCM	Set targets for local employment	Contin.	Employment Records	TANAP	Employment and Training Plan		Chapter 8 Chapter 11
222	1	Entire Project	**Changes to Local Employment Conditions**		· The recruitment processes will be transparent, public and non-discriminatory, providing equal opportunities with respect to ethnicity, religion, language, gender and sexuality;			EPC/ EPCM	Set targets for local employment	Contin.	Employment Records	TANAP	Employment and Training Plan		Chapter 8 Chapter 11
223	1	Entire Project	**Changes to Local Employment Conditions**		· The Contractorwill provide clear information on the recruitment process, with particular emphasis on informing local communities of employment opportunities through different channels such as settlement heads, and local associations. Communication material such as posters, and brochures will be distributed locally;			EPC/ EPCM	Set targets for local employment	Contin.	Employment Records	TANAP	Employment and Training Plan		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
224	1	Entire Project	**Changes to Local Employment Conditions**		· The recruitment process will be monitored by third party organizations or institutions to ensure that it is done according to the Turkish legal requirements and Management Plans;			EPC/ EPCM	Set targets for local employment	Contin.	Employment Records	TANAP	Employment and Training Plan		Chapter 8 Chapter 11
225	1	Entire Project	**Changes to Local Employment Conditions**		Two copies of contracts will be prepared in compliance with the existing legal requirements which are signed mutually and a copy is provided to the future employee.			EPC/ EPCM	Set targets for local employment	Contin.	Employment Records	TANAP	Employment and Training Plan		Chapter 8 Chapter 11
226	1	Entire Project	**Changes to Local Employment Conditions**		· Training needs for the employees will be identified and workers will receive the compulsory trainings and will not start working before completing induction training;			EPC/ EPCM	Implementation of training programs	Contin.	N/A	TANAP	Employment and Training Plan		Chapter 8 Chapter 11
227	1	Entire Project	**Changes to Local Employment Conditions**		· Workers will receive the work-place and work-task specific trainings; a regular training program will be planned and implemented throughout the entire phase;			EPC/ EPCM	Training of workers	Contin.	Training Records	TANAP	Employment and Training Plan		Chapter 8 Chapter 11
228	1	Entire Project	**Changes to Local Employment Conditions**		· Training will be provided by appropriate people (professional trainers or experienced employee);			EPC/ EPCM	Training activities	Contin.	Training Records	TANAP	Employment and Training Plan		Chapter 8 Chapter 11
229	2	Entire Project	**Changes to Local Employment Conditions**		The Company aims at employing local workers to the extent possible, in order to increase the Project's Local Benefits; TANAP will perform a Human Resource Analysis studyto understand what work skills are available locally and what actions should be implemented to increase local employment opportunities; The recruitment processes will be transparent, public and non-discriminatory, providing equal opportunities with respect to ethnicity, religion, language, gender and sexuality; The Contractor will provide clear information on the recruitment process, with particular emphasis on informing local communities of employment opportunities through different channels such as settlement heads, , and local associations. Communication material such as posters and brochures will be			TANAP	TO BE DETAILED	TO BE DETAILED	TO BE DETAILED	TANAP	Operating Procedures		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
					distributed locally; The recruitment process will be monitored by third party organizations or institutions to ensure that it is done according to the Turkish legal requirements and Management Plans; Job descriptions will be clearly communicated in advance and will contain information on working conditions. Two copies of contracts will be prepared in compliance with the existing legal requirements which is signed mutually and a copy is provided to the future employee. Training needs for the employees will be identified and workers will receive the compulsory trainings and will not start working before completing induction training; Workers will receive the work-place and work-task specific trainings; a regular training program will be planned and implemented throughout the entire phase; Training will be provided by appropriate people (professional trainers or experienced employee); All employment records will be kept and reported regularly to the TANAP;										
230	3	Entire Project	**Changes to Local Employment Conditions**		The Company aims at employing local workers to the extent possible, in order to increase the Project's Local Bene fits; TANAP will perform a Human Resource Analysis study to understand what work skills are available locally and what actions should be implemented to increase local employment opportunities; The recruitment processes will be transparent, public and non-discriminatory, providing equal opportunities with respect to ethnicity, religion, language, gender and sexuality; The Company will provide clear information on the recruitment process, with				TO BE DETAILED	TO BE DETAILED	TO BE DETAILED	TO BE DETAILED	TANAP	Decommissioning Procedures		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
					particular emphasis on informing local communities of employment opportunities through different channels such as settlement heads, and local associations. Communication material such as posters and brochures will be distributed locally; The recruitment process will be monitored by third party NGOs to ensure that it is done according to the Turkish legal requirements and Management Plans; Job descriptions will be clearly communicated in advance and will contain information on working conditions. Two copies of contracts will be prepared in compliance with the existing legal requirements which are signed mutually and a copy is provided to the all employees. The temporary nature of work opportunities will be highlighted during all recruitment phases to ensure that people manage salary wisely and understand consequences of leaving a previous job or farming activities to work on the Project; Job vacancies created during the construction phase will be communicated locally through systems used during the recruitment process; Training needs for the employees will be identified and workers will receive the compulsory trainings and will not start working before completing induction training; All employment records will be kept and reported regularly to the TANAP;											
231	1	Entire Project	**Livelihood from farming activities**		· Access to properties will be guaranteed or appropriate alternative accesses solutions that are agreed with users will be implemented;			EPC/ EPCM	Auditing and Visual Inspection	Contin.	Audit and site inspection report	TANAP	Construction Impacts Management Plan		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
232	1	Entire Project	**Livelihood from farming activities**		· The existing irrigation networks affected by Project activities will be mapped and appropriate technical solutions will be implemented to reduce possible interferences; if interferences are unavoidable, appropriate alternative solutions will be agreed with irrigation water users;			EPC/ EPCM	Mapping	Contin.	Report on affected irrigation systems	TANAP	Construction Impacts Management Plan		Chapter 8 Chapter 11
233	1	Entire Project	**Livelihood from farming activities**		· Any damage given to irrigation channels will be repaired promptly in accordance with the channel users and relevant authorities;			EPC/ EPCM	Auditing	Contin.	Audit Report	TANAP	Construction Impacts Management Plan		Chapter 8 Chapter 11
234	1	Entire Project	**Livelihood from farming activities**		· Any unplanned disruption of irrigation channels will be managed through a specific contingency plan which includes prompt communication to local communities, and implementation of all actions necessary in accordance channel users until disruption is solved;			EPC/ EPCM	Auditing	Contin.	Audit Report	TANAP	Construction Impacts Management Plan		Chapter 8 Chapter 11
235	1	Entire Project	**Livelihood from farming activities**		· Existing wells affected by Project activities will be mapped to assess interferences with Project activities; in case closure of wells or limitation to access are unavoidable, appropriate alternative solutions will be agreed with well users;			EPC/ EPCM	Mapping	Contin.	Report on affected wells	TANAP	Construction Impacts Management Plan		Chapter 8 Chapter 11
236	1	Entire Project	**Livelihood from farming activities**		· All temporarily used lands for Project activities will be reinstated to previous conditions in order to allow previous agriculture activities;			EPC/ EPCM	Visual Inspection	Contin.	Site Inspection Report	TANAP	Reinstatement Action Plan		Chapter 8 Chapter 11
237	1	Entire Project	**Livelihood from livestock activities**		· Transhumance paths will be identified during pre-construction activities to ensure that interferences with Project activities are reduced to a minimum; where interferences are unavoidable appropriate alternative solutions will be agreed with affected local communities;			EPC/ EPCM	Pre-construction report on social conditions	Contin.	Pre-construction report	TANAP			Chapter 8 Chapter 11
238	1	Entire Project	**Livelihood from livestock activities**		· Trenches and project areas will be perimetred with stock-proof fence if the trench is filled with water and appropriate signals in order to reduce animal and human injuring risks;			EPC/ EPCM	Site Plans Visual Inspection	Contin.	Site Inspection Report	TANAP			Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
239	1	Entire Project	**Local healthcare services and facilities**	Within the Project, necessary health equipment and first aid materials will be kept available, the articles of Regulation on Workers Health and Work Safety will be complied; the articles of Regulation on Medical Waste Control will be complied for the disposal of medical wastes to be generated as a result of the medicals services to be provided for employees.	· Assessment of all healthcare facilities in the AoI will be performed to ensure that Project activities do not limit access to the structures; if limitations are unavoidable, the Company will agree with local authorities on alternative solutions to guarantee healthcare access to communities;	BURSA Provincial Directorate of Public Health	Care shall be taken for the areas of the Durhasan Health House on the 316 m2 immovable property in the Büyükorhan Province, Durhasan village, parcel No. 1317, Deveci Konağı Health House on the 1.351 m2 immovable property in the Mustafa Kemal Paşa Province, Deveci Konağı village, parcel No. 672 and the Karaorman Health House on the 1.280 m2 immovable property in Karaorman village, parcel No. 739 and the Çatalsöğüt Health House in the Harmancık Province, Çatalsöğüt village.	EPC/ EPCM	Preparation of report on conditions of healthcare facilities	Contin.	Report on conditions of healthcare facilities	TANAP	Construction Impacts Management Plan		Chapter 8 Chapter 11
240	1	Entire Project	**Local healthcare services and facilities**		· Campsites will be provided with health facilities equipped to deal with emergency procedures and routine medical operations, so as to avoid pressure on existing healthcare facilities to the extent possible;			EPC/ EPCM	Site Plans Auditing-Mobilization Audit	Contin.	Audit Report	TANAP	Construction Impacts Management Plan		Chapter 8 Chapter 11
241	1	Entire Project	**Local healthcare services and facilities**		· The Contractor will liaise with local health authorities to ensure that any critical issues are communicated promptly and that agreed solutions are found;			EPC/ EPCM	Liaison with local healthcare facilities	Contin.	N/A	TANAP	Construction Impacts Management Plan		Chapter 8 Chapter 11
242	1	Entire Project	**Local healthcare services and facilities**		· Access to settlements will always be guaranteed either through diversions or by allowing the passage of vehicles at certain hours through the use of steel plates over the trenches;			EPC/ EPCM	Visual Inspection	Contin.	Site Inspection Report	TANAP	Construction Impacts Management Plan		Chapter 8 Chapter 11
243	3	Entire Project	**Local healthcare services and facilities**		Assessment of all healthcare facilities in the AoI will be performed to ensure that Project activities do not limit access to the structures; if limitations are unavoidable, the Company will agree with local authorities on alternative solutions to guarantee healthcare access to communities; Assessment of all healthcare facilities in the AoI will be performed to determine which facilities should be used for emergencies and medical treatments that cannot be dealt by internal healthcare facilities; attention will be paid so as to avoid impacts on users of these facilities; The Company will liaise with local health authorities to ensure that any critical issues are communicated promptly and that agreed solutions are found; Access to settlements will always be guaranteed either through diversions or by allowing the passage of			TO BE DETAILED	TO BE DETAILED	TO BE DETAILED	TO BE DETAILED	TANAP	Decommissioning Procedures		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
					vehicles at certain hours through the use of steel plates over the trenches										
244	1	Entire Project	**Human health and safety**	During the construction and operation phases of the project, required pre-cautions will be taken against fire and explosions that may affect the environmental and public health negatively. Labor Law numbered 4857 and by-laws and regulations that came into force according to this law will be complied. By laws and regulations on employee health and safety will be complied during the construction and operation phases of the Project. All pre-cautions will be taken in accordance with the related law and regulations about health and safety within the Project. Dust and gas emission to be generated by the construction machines and vehicles within the Project will be disposed taking pre-cautions according to the Regulation on Conservation of Air Quality, speed limits and dust control will be paid attention on access roads in residential areas close to the NGP route, roads will be wetted periodically via water-tenders and signs showing the NGP route will be installed along the roads. Pipes transported to the construction area will be aligned on side of the route construction corridor. Furthermore, the principles indicated in the Environmental and Social Management and Action Plans to be prepared within the Project will be complied. Explosion; during the land	· TANAP will comply with the Voluntary Principles on Security and Human Rights;	1- BALIKESİR-25. Regional Directorate of State Hydraulic Works 2- ARDAHAN Provincial Directorate of Environment and Urbanization 3- BURSA Provincial Directorate of Public Health	1- As there will be explosion activities in the project, in the explosions in the activity area, such explosions will be in compliance with the explosion legislations and will be controlled. The impact of an explosion on the specified constructs shall be identified in detail and the necessary precautions shall be taken. In case the direction of the spring waters change or the flow or the springs that provide water to settlements are affected, the damnification concerning the provision of the required water shall be relieved by the activity owner. 2- - In case explosion is needed within Project, explosion won't be performed among 15 March and 16 June which is the travelling and breeding period of migratory birds. In case explosion is required to be performed in Posof Wildlife Development Area, related authority opinions will be received. 3- - Necessary pre-cautions will be taken against fire and explosions that may affect environmental and public health negatively during the construction and operation phases of the Project. Labor Law numbered 4857 and by-laws and regulations that came into force according to this law will be complied. - Within the scope of the Project, explosives shall not be stored in the Project area.	TANAP	Third Party Monitoring	Contin.	Monitoring Report	TANAP			Chapter 8 Chapter 11
245	1	Entire Project	**Human health and safety**		· Workers will be subject to legal health screening before employment contracts are signed and if necessary will be provided with required immunisation treatments; all health information will be dealt with confidentially;			EPC/ EPCM	Medical Surveillance	Contin.	Surveillance Report	TANAP	Employment and Training Plan		Chapter 8 Chapter 11
246	1	Entire Project	**Human health and safety**		· Random drug and alcohol tests of the workforce will be performed, recorded and audited;			EPC/ EPCM	Random Tests Alcohol and drug policy	Contin.	Test Results	TANAP	Employment and Training Plan		Chapter 8 Chapter 11
247	1	Entire Project	**Human health and safety**		· Health awareness training will be provided to workers, during induction and periodically throughout their employment; training will include information on communicable diseases.			EPC/ EPCM	Training of workers	Contin.	Training Records	TANAP	Employment and Training Plan		Chapter 8 Chapter 11
248	1	Entire Project	**Human health and safety**		· Campsites will be provided with health facilities equipped to deal with emergency procedures and routine medical operations;			EPC/ EPCM	Site Plans	Contin.	N/A	TANAP	Construction Impacts Management Plan		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
249	1	Entire Project	**Human health and safety**	preparation-construction studies of the Project, the rocky areas which cannot be excavated via construction equipment, so that require explosion will be determined by the constructors and the explosion activities will be conducted with the written approval of the related authority with the suitable explosion design prepared together with the explosion expert. In case explosion is required to be performed within the Project, explosion won't be performed between the dates of 15 March-16 June when the immigration birds travel and breed. During the activities to be performed within the Project, By Law on Fundamentals and Principles on Production, Import, Transport, Storage, Marketing, Usage, Extermination and Examination of Hunting Equipment and Similar Objects with Explosive Substances Left out of Sole Trade that came into force by being published in Official Gazette dated 29.09.1987 and numbered 19589 will be complied. During the activities to be conducted within the Project, explosion won't be conducted in Noise Sensitive Areas indicated in the "Regulation on Environmental Noise Assessment and Management" and Ecologically Sensitive Areas. During the explosion activities, highway structures and related structures won't be damaged, in case of damage, the damage will be compensated by the company within the protocol to be signed with the related Provincial Directorates. All the explosion activities will be performed under control, in order to minimize the negative effects caused by the factors generating aerial shock and noise, optimum charge and compacting in all explosion holes will be taken into consideration, pre-crushing system will be used in order to minimize the effects such as dust, noise, etc. in areas where explosion will be conducted and the other required pre-cautions will be taken.	· All wastes will be segregated and recycling procedures will be set up; licensed domestic solid waste disposal areas will be identified through communication with the local authorities; licensed hazardous waste disposal area are identified through communication with the local authorities; temporary site waste storage areas will be identified and arranged in compliance with local regulations.	4- GÜMÜŞHANE Provincial Directorate of Public Health 5- EDİRNE Provincial Directorate of Public Health 6- GİRESUN Provincial Directorate of Public Health 7- SİVAS Provincial Directorate of	4- - The project shall be realized taking into account the risks to public and environmental health in case of an earthquake, since the Region is in the 1st degree seismic zone according to the data given in the Seismic Region Map of Turkey. 5- - At the parts where the pipeline passes close to the residential areas, all safety pre-cautions concerning public and environmental health shall be taken, safety distance in compliance with the related legislations shall be provided on both sides of the pipeline, structuring will not be permitted on these areas. - Pre-cautions related with health and work safety of the workers will be taken in accordance with relevant law and regulations within the Project. 6- - Sanitary conditions predicted for the disposal of polluting elements may be generated due to Project activities and possible hazardous impacts Project activities may have on environmental and public health will be in compliance with related law and regulations. - Legislations and regulations on employee health and safety will be complied during construction and operation phases of the Project. - Necessary pre-cautions against negative impacts may be observed on public and environment by means of potable water and natural water resources will be taken. - In the activities carried out within the scope of the project, relevant legislations, particularly the General Hygiene Law, No. 1593, the Labor Law, No. 4857 and the Environment Law, No. 2872 and the applicable statutes and regulations based on thereof shall be complied with. 7- - All necessary precautions specified in Chapter 8.1, Annex 5.2 and Annex 5.12 against the probable effects of the project on settlement areas shall be taken. 8- - Microbiological and chemical analyses of water to be used as potable and fresh water for the personnel to work within the	EPC/ EPCM	Site Plans Waste Bins Segregation Areas	Contin.	Waste Records from authorities	TANAP	Pollution Prevention Plan Waste Management Plan		Chapter 8 Chapter 11
250	1	Entire Project	**Human health and safety**		If the related camp site is near to the Province, the medical waste disposal facilities in the province should be checked. If exists, contract should be done with related authorized medical waste collection contractor.			EPC/ EPCM	Agreement with licensed disposal facilities	Contin.	Agreement Documentation	TANAP	Pollution Prevention Plan Waste Management Plan		Chapter 8 Chapter 11
251	1	Entire Project	**Human health and safety**		· Catering providers will conserve, prepare and serve food according to national regulations and international standards; catering operations will be regularly inspected and non-compliances will be reported promptly;			EPC/ EPCM	Visual Inspection	Contin.	Site Inspection Report	TANAP			Chapter 8 Chapter 11
252	1	Entire Project	**Human health and safety**		· Measures for preventing zoonotic disease transmission will be implemented;			EPC/ EPCM	Medical Surveillance	Contin.	Medical Surveillance Records	TANAP			Chapter 8 Chapter 11
253	2	Entire Project	**Human health and safety**		All employees will adhere to Company driving rules and appropriate training will be provided; The company will comply to the Voluntary Principles on Security and Human Rights; Workers will be subject to legal health screening before employment contracts are signed and if necessary will be provided with required immunisation treatments; all health information will be dealt with confidentially; Random drug and alcohol tests of the workforce will be performed, recorded and audited; Health awareness training will be provided to workers, during induction and periodically throughout their employment; training will include information on communicable diseases. Catering providers will			TANAP	TO BE DETAILED	TO BE DETAILED	TO BE DETAILED	TANAP	Operating Procedures		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
					conserve, prepare and serve food according to national regulations and international standards; catering operations will be regularly inspected and non-compliances will be reported promptly; Measures for preventing zoonotic disease transmission will be implemented; Emissions of pollutants in air and wastewater comply with national regulations and international standards	Environment and Urbanization 8- SİVAS Provincial Directorate of Public Health	Project will be held out by authorized bodies periodically and healthy water supply will be provided. - Within the Project, necessary health equipment and first aid materials will be kept available, the articles of Regulation on Workers Health and Work Safety will be complied; the articles of Regulation on Medical Waste Control will be complied for the disposal of medical wastes to be generated as a result of medicals services to be provided for employees. 9- - Pre-cautions preventing the areas used as cemeteries from being damaged will be taken. - Hygienic conditions will be achieved in social facilities and disinfection will be conducted by companies that have permits according to Regulation on Principles and Fundamentals on Usage of Biocidal Substances.							
254	3	Entire Project	**Human health and safety**		Trainings will be provided to the adults and children in the settlement areas along and around decommissioning areas in order to increase traffic awareness within the scope of the Traffic Management Plan; Transport during night-time will be avoided to the extent possible, in order to prevent road accidents; All drivers will adhere to TANAP driving rules and appropriate training will be provided; Related Turkish legislation on speed limits depending on the type of vehicles and roads shall be obeyed. Project areas will be perimetred with fence if the trench is filled with water and appropriate signs to reduce human injuring risks; trespassing of fenced areas will be prohibited and security personnel will control these areas; The company will comply to the Voluntary Principles on Security and Human Rights; Workers will be subject to legal health screening before employment contracts are signed and if necessary will be provided with required immunisation treatments; all health	9- ESKİŞEHİR Provincial Directorate of Public Health 10- BİLECİK Provincial Directorate of Public Health 11- BALIKESİR Provincial Directorate of Public Health 12- BURSA Provincial Directorate	- Pre-cautions that will inhibit dust emission on roads will be taken. 10- - In the activities to be carried out within the scope of the Project, provisions of the Regulation on Waters for Human Consumption and the Regulation on Control of Water Pollution shall be complied with and the potable water for the workers shall be supplied in carboys. 11- - The waters that will be used to meet the needs of the personnel to work during the construction and operation phases of the Project will be in compliance with the articles of Regulation on Water Intended for Human Consumption. 12- There will be signs relevant with natural gas pipeline. 13- The distances to the nearest settlement on the route shall be complied with.	TO BE DETAILED	TO BE DETAILED	TO BE DETAILED	TO BE DETAILED	TANAP	Decommissioning Procedures		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
					information will be dealt with confidentially; Random drug and alcohol tests of the workforce will be performed, recorded and audited; Health awareness training will be provided to workers, during induction and periodically throughout their employment; training will include information on communicable diseases.; The Company will liaise with local health authorities to ensure that any critical issues are communicated promptly and that agreed solutions are found; Assessment of all healthcare facilities in the AoI will be performed to determine which facilities should be used for emergencies and medical treatments that cannot be dealt by internal healthcare facilities; All wastes will be segregated and recycling procedures will be set up; licensed domestic solid waste disposal areas will be identified through communication with the local authorities; licensed hazardous waste disposal area are identified through communication with the local authorities; temporary site waste storage areas will be identified and arranged in compliance with local regulations. Medical waste will be disposed of through appropriate contractors; Catering providers will conserve, prepare and serve food according to national regulations and international standards; catering operations will be regularly inspected and non-compliances will be reported promptly; Measures for preventing zoonotic disease transmission will be implemented; Emissions of pollutants in air and wastewater comply with national regulations and international standards; Emissions of dust will be reduced through the	of Environment and Urbanization 13- BALIKESİR Metropolitan Municipality										

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
					watering of demolition areas and roads, especially unpaved ones.										
255	1	Entire Project	**Local Education Services**		• Assessment of all schooling facilities in the AoI will be performed to ensure that Project activities do not limit access to the structures and that disturbance to school activities is avoided; if limitations occurred and disturbance is unavoidable, the Contractor will prepare a site specific risk assessment and will agree with local authorities on alternative solutions;			EPC/ EPCM	Pre-construction report on social conditions	Continuous	Pre-construction report	TANAP			Chapter 8 Chapter 11
256	1	Entire Project	**Local Education Services**		• The Contractor will liaise with local education facilities to ensure that Project activities do not interfere with transport of students to schools; if limitations are unavoidable, the Company will agree with local authorities on alternative solutions;			EPC/ EPCM	Liaison with local education facilities	Continuous	Liaison Records	TANAP			Chapter 8 Chapter 11
257	1	Entire Project	**Local Education Services**		Special attention will be paid in the Traffic Management Plan to identify areas where there is a higher presence of children (i.e. schools, school bus stops) to ensure that all necessary mitigation measures are implemented to reduce the risk of road accidents;			EPC/ EPCM	Visual Inspection	Continuous	Site Inspection Report	TANAP	Traffic Management Plan		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
258	3	Entire Project	**Local Education Services**		Assessment of all schooling facilities in the AoI will be performed to ensure that Project activities do not limit access to the structures and that disturbance to school activities is avoided; if limitations occurred and disturbance is unavoidable, the Company will prepare a site specific risk assessment and will agree with local authorities on alternative solutions; The Company will liaise with local education facilities to ensure that Project activities do not interfere with transport of students to schools; if limitations are unavoidable, the Company will agree with local authorities on alternative solutions; Special attention will be paid in the Traffic Management Plan to identify areas where there is a higher presence of children (i.e. schools, school bus stops) to ensure that all necessary mitigation measures are implemented to reduce the risk of road accidents;			TO BE DETAILED	TO BE DETAILED	TO BE DETAILED	TO BE DETAILED	TANAP	Decommissioning Procedures		Chapter 8 Chapter 11
259	1	Entire Project	**Increase of Tensions and Conflicts**		TANAP aims at employing local workers to the extent possible, in order to increase the Project's Local Benefits, thus reducing the perception in communities that benefits are not distributed locally;			EPC/ EPCM	Set targets for local employment		Employment Records	TANAP	Employment and Training Plan		Chapter 8 Chapter 11
260	1	Entire Project	**Increase of Tensions and Conflicts**		The Contractors and subcontactors will provide clear information on the recruitment process, with particular emphasis on informing local communities of employment opportunities through different channels such as settlement heads, local associations. Communication material such as posters, and brochures will be distributed locally;			EPC/ EPCM	Employment Policy	Continuous	Employment Policy	TANAP	Employment and Training Plan		Chapter 8 Chapter 11
261	1	Entire Project	**Increase of Tensions and Conflicts**		The recruitment processes will be transparent, public and non-discriminatory, providing equal opportunities with respect to ethnicity, religion, language, gender and sexuality;			EPC/ EPCM	Employment Policy	Continuous	Employment Policy	TANAP	Employment and Training Plan		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
262	1	Entire Project	**Increase of Tensions and Conflicts**		· The Contactors will prepare of Code of Conduct containing rules that workers are to follow both during working hours and in camp sites; recommendations on behaviour during free-time will also be provided; the Code of Conduct will be provided together with the contract and will be further explained during induction training;			EPC/ EPCM	Auditing of subcontractors	Continuous	Audit report	TANAP			Chapter 8 Chapter 11
263	1	Entire Project	**Increase of Tensions and Conflicts**		Training on community relations will be provided to workers during induction and regularly throughout their employment; workers will be informed on the code of conduct to keep according to local customs and on approach to be used when interacting with local communities and individuals;			EPC/ EPCM	Training of employees	Continuous	Training Records	TANAP	Employment and Training Plan		Chapter 8 Chapter 11
264	2	Entire Project	**Increase of Tensions and Conflicts**		TANAP aims at employing local workers to the extent possible, in order to increase the Project's Local Benefits, thus reducing the perception in communities that benefits are not distributed locally; The Contractors will provide clear information on the recruitment process, with particular emphasis on informing local communities of employment opportunities through different channels such as settlement heads, local associations. Communication material such as posters, and brochures will be distributed locally; The recruitment processes will be transparent, public and non-discriminatory, providing equal opportunities with respect to ethnicity, religion, language, gender and sexuality; In order to increase the project's Local Benefits, the Company will aim to procure goods, services and materials from local businesses to the extent possible; The Contractor will prepare of Code of Conduct containing rules that workers are to follow			EPC/EPCM	TO BE DETAILED	TO BE DETAILED	TO BE DETAILED	TANAP	Operating Procedures		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
					both working hours; recommendations on behaviour during free-time will also be provided; the Code of Conduct will be provided together with the contract and will be further explained during induction training; Training on community relations will be provided to workers during induction and regularly throughout their employment; workers will be informed on the code of conduct to keep according to local customs and on approach to be used when interacting with local communities and individuals;										
					TANAP aims at employing local workers to the extent possible, in order to increase the Project's Local Benefit, thus reducing the perception in communities that benefits are not distributed locally; The Company will provide clear information on the recruitment process, with particular emphasis on informing local communities of employment opportunities through different channels such as settlement heads, local associations. Communication material such as posters, and brochures will be distributed locally; The recruitment processes will be transparent, public and non-discriminatory, providing equal opportunities with respect to ethnicity, religion, language, gender and sexuality; In order to increase the project's Local Benefits, the Company will aim to procure goods,										

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
265	3	Entire Project	**Increase of Tensions and Conflicts**		services and materials from local businesses to the extent possible; The Company will prepare of Code of Conduct containing rules that workers are to follow during working hours; recommendations on behaviour during free-time will also be provided; the Code of Conduct will be provided together with the contract and will be further explained during induction training; Training on community relations will be provided to workers during induction and regularly throughout their employment; workers will be informed on the code of conduct to keep according to local customs and on approach to be used when interacting with local communities and individuals; All resettlement and compensation activities will be performed in a transparent, clear and non-discriminatory manner, as indicated in the Resettlement Action Plan			TO BE DETAILED	TO BE DETAILED	TO BE DETAILED	TO BE DETAILED	TANAP	Decommissioning Procedures		Chapter 8 Chapter 11
266	1	Entire Project	**Disturbances and nuisances to daily activities**		· Training on community relations will be provided to workers during induction and regularly throughout their employment; workers will be informed on the code of conduct to keep according to local customs and on approach to be used when interacting with local communities and individuals;			EPC/ EPCM	Training of workers	Continuous	Training Records	TANAP	Employment and Training Plan		Chapter 8 Chapter 11
267	1	Entire Project	**Disturbances and nuisances to daily activities**		· Entertainment and recreation activities will be organized for workers in campsites to encourage workers to stay within the camp and to avoid loitering and inappropriate behaviours in surrounding settlements;			EPC/ EPCM	Organization of entertainment activities	Continuous	Activity Records	TANAP	Employment and Training Plan		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
268	2	Entire Project	**Disturbances and nuisances to daily activities**		Noise and vibration risk assessments will be performed for residential areas close to construction activities; The Contractor will prepare of Code of Conduct containing rules that workers are to follow both working hours; recommendations on behaviour during free-time will also be provided; the Code of Conduct will be provided together with the contract and will be further explained during induction training; Training on community relations will be provided to workers during induction and regularly throughout their employment; workers will be informed on the code of conduct to keep according to local customs and on approach to be used when interacting with local communities and individuals;			EPC/EPCM	TO BE DETAILED	TO BE DETAILED	TO BE DETAILED	TANAP	Operating Procedures		Chapter 8 Chapter 11
269	3	Entire Project	**Disturbances and nuisances to daily activities**		Noise and vibration risk assessments will be performed for residential areas close to construction activities; Night-time activities will be kept to a minimum to reduce disturbance to local communities due to noise and vibration emissions; if night-time construction activities are necessary, local authorities and local communities will be informed with 48 hours' notice in advance; Emissions of dust will be limited through road watering, especially on unpaved roads; Specific studies will be performed to ensure that freshwater needed and wastewater produced by Project activities does not reduce access to water used for daily activities such as laundry; if interferences are unavoidable, the Contractor will consult with local authorities and with irrigation users to agree on alternative solutions; The Contractor will prepare of Code of Conduct containing rules			TO BE DETAILED	TO BE DETAILED	TO BE DETAILED	TO BE DETAILED	TANAP	Decommissioning Procedures		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
					that workers are to follow during working hours; recommendations on behaviour during free-time will also be provided; the Code of Conduct will be provided together with the contract and will be further explained during induction training; Training on community relations will be provided to workers during induction and regularly throughout their employment; workers will be informed on the code of conduct to keep according to local customs and on approach to be used when interacting with local communities and individuals;										
270	1	Entire Project	**Influence on Local Population**		· TANAPaims at employing local workers to the extent possible, in addition to increasing the Project's Local Benefit, this will reduce the need for people to in-migrate and out-migrate;			EPC/ EPCM	Set targets for local employment		Employment Records	TANAP	Employment and Training Plan		Chapter 8 Chapter 11
271	1	Entire Project	**Influence on Local Population**		· Workers will be accommodated in campsites to reduce pressure on existing settlements; workers will not be hosted together with families and are therefore likely to return to home settlements once the construction phase is concluded, increasing the overall reversibility of in-migration and out-migration events;			EPC/ EPCM	N/A	Continuous	N/A	TANAP	Employment and Training Plan		Chapter 8 Chapter 11
272	1	Entire Project	**Influence on Local Population**		· The temporary nature of work opportunities will be clearly communicated during the recruitment process, to avoid critical issues once the employment ends			EPC/ EPCM	N/A	Continuous	N/A	TANAP	Employment and Training Plan		Chapter 8 Chapter 11
273	3	Entire Project	**Influence on Local Population**		The Contractor aims at employing local workers to the extent possible, in addition to increasing the Project's Local Benefits this will reduce the need for people to in-migrate and out-migrate; No recruitment activities will be performed in work areas, to avoid informal arrival of people in these areas in search of work opportunities; The temporary nature of work opportunities will be			TO BE DETAILED	TO BE DETAILED	TO BE DETAILED	TO BE DETAILED	TANAP	Decommissioning Procedures		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
					clearly communicated during the recruitment process, to avoid critical issues once the employment ends.										
274	1	Entire Project	**Intangible cultural heritage**		The Company will liaise with local Authorities to identify if Project activities can interfere with traditional celebrations or festivities; alternative solutions will be agreed with local authorities			EPC/ EPCM	Liaison with local Authorities	Continuous	N/A	TANAP	Construction Impacts Management Plan		Chapter 8 Chapter 11
275	1	Entire Project	**Intangible cultural heritage**		The Company will liaise with local Authorities to identify if Project activities restrict access to elements of traditional culture; alternative solutions will be agreed with local authorities			EPC/ EPCM	Liaison with local Authorities	Continuous	N/A	TANAP	Construction Impacts Management Plan		Chapter 8 Chapter 11
276	1	Entire Project	**Intangible cultural heritage**		The Contractor will prepare of Code of Conduct containing rules that workers are to follow both during working hours and in camp sites; recommendations on behaviour during free-time will also be provided; the Code of Conduct will be provided together with the contract and will be further explained during induction training			EPC/ EPCM	Auditing of subcontractors	Continuous	Audit report	TANAP			Chapter 8 Chapter 11
277	1	Entire Project	**Intangible cultural heritage**		· Training on community relations will be provided to workers during induction and regularly throughout their employment; workers will be informed on the code of conduct to keep according to local customs and on approach to be used when interacting with local communities and individuals;			EPC/ EPCM	Training of employees	Continuous	Training Records	TANAP	Employment and Training Plan		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
278	3	Entire Project	**Intangible cultural heritage**		The Company will liaise with local Authorities to identify if Project activities can interfere with traditional celebrations or festivities; alternative solutions will be agreed with local authorities; The Company will liaise with local Authorities to identify if Project activities restrict access to elements of traditional culture; alternative solutions will be agreed with local authorities; The Contractor will prepare of Code of Conduct containing rules that workers are to follow during working hours; the Code of Conduct will be provided together with the contract and will be further explained during induction training; Training on community relations will be provided to workers during induction and regularly throughout their employment; workers will be informed on the code of conduct to keep according to local customs and on approach to be used when interacting with local communities and individuals			TO BE DETAILED	TO BE DETAILED	TO BE DETAILED	TO BE DETAILED	TANAP	Decommissioning Procedures		Chapter 8 Chapter 11
279	All	Entire Project	**Archaeological Areas**	In the pre-construction stage and during construction activities, the issues specified in the decisions taken by the Regional Boards for Preservation of Cultural and Natural Assets shall be complied with. Before the start of construction activities, the necessary applications shall be made and the necessary permits shall be taken, in accordance with the opinions of the Regional Boards for Preservation of Cultural and Natural Assets. In the pre-construction stage and during construction activities, works and procedures shall be carried out in accordance with the opinions and decisions of the Regional Boards for Preservation of Cultural and Natural Assets. During the excavation works to be performed in areas where cultural and natural entities exist on the Project route, according to the Law numbered 2863 on Cultural and Natural Entities Protection, in order not to damage the mobile and immobile, registered and unregistered,	Follow the requirements of Cultural Heritage Management Plan	1- General Directorate of Cultural Assets and Museums	1- - A total of 161 archaeological/immovable cultural heritage sites within the scope of the Law No. 2863 have been identified within the project areas and environs and in some of these areas identified by the concerned Conservation District Board of Directorates, current registration studies are continuing. In this context, within the scope of the project, the issues specified in the decisions taken by the Regional Preservation Boards shall be complied with, activities shall be carried out in accordance with the decisions and opinions of the concerned Regional Preservation Boards and in case a culture asset is found during the activities in the project area, activities shall be ceased as per Article 4 of the Law No.2863, informing the closest Museum Directorate or the local authorities. - Concerning the Dardanelles crossing of the project, the issues specified in the communication of the General Directorate of Cultural Assets and Museums, dated 12.06.2014, No. 115152 shall be complied with (See App. 4.3).	TANAP/EPC / EPCM	Salvage excavations where required Liaison with Museum Directorates	Contin.	As Required	TANAP	Cultural Heritage Management Plan		Chapter 8 Chapter 11

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
				cultural and natural entities, in case of finding a cultural or natural entities, the activities will be paused and relevant authorities will be informed according to the Article 4 titled as “Declaration Obligation”. Activities related with the cultural entities which may be found on the Project route within the Project, will be performed within the frame of the protocol signed with General Directorate of Cultural Entities and Museums. The excavation works to be conducted in the areas where cultural and natural entities were found on the route, will be carried out together with the archaeologists. In case any fossil residual, underground cave etc. and any natural asset is found on the Project route, relevant Natural Assets Protection Branch will be informed. In the parts where archaeological sites are closer to the pipeline route than 200 m, explosion won’t be conducted. Furthermore, the principles indicated in the Cultural Heritage Management Plan to be prepared within the Project will be complied.		2- General Directorate of Highways İSTANBUL 1. Regional Directorate of General Directorate of Highways	2- In order not to damage the registered or un-registered cultural entities requiring protection, and in case of coming across any cultural entity, related authorities will be informed according to the 4. Article titled as “Notification Obligation” of law numbered 2863.							
280	1	Offshore	**Sediment**		Considering the high level of Mercury in 6 investigated stations located within the Project corridor, a detailed sediment characterization in the identified critical areas would be carried. If the characterization confirms the high presence of Mercury in the area, in order to avoid the risk of correlate this pollution with the future presence of the pipeline, this issue should be notified to local authority.	Ministry of Environment and Urbanization/ General Directorate of Environmental Management	Before the pipeline construction phase, sampling will be conducted at 18 points described below. The samples will be gathered from sediment (particle size analysis, lithological information) and bottom layer (RWPC-Table 4). Minimum subjects to be considered as the locations of sampling stations are being determined: • One from each point that the lines 0.5 sea miles, 1 sea mile and 3 sea miles away from terrain towards the sea in parallel with the coast cross the natural gas pipeline on both of the shores (Europe and Asia) (total of 6 points). • Once in every 0.5 sea miles away from each point described above in the direction of dominant flow and in the opposite direction of dominant flow (total of 12 points). • All the sampling stations will be coded and their coordinates will be recorded. • In order to determine the impacts of the activities conducted, monitoring will be conducted via monitoring frequencies and monitoring stations indicated by Ministry during and after construction.	EPC/ EPCM	Monitoring of mercury concentration in the sediment	Pre-Construction	Analysis and Assessment Reports	TANAP/EPCM	Pollution Prevention Plan		
281	1	Offshore	**Offshore habitat**		Construction activities with high underwater noise levels will be avoided when cetaceans are detected in the vicinity of the construction site.			EPC/ EPCM	Construction Plan	Contin.	Monthly Reports	TANAP/EPCM	Construction Impacts Management Plan ,Pollution Prevention		

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
													Plan		
282	1	Offshore	**Seawater**	Dredging won't be conducted during the offshore construction works within the Project. However, in case dredging becomes necessary after detailed studies, representative dredging samples shall be taken and analyzed by laboratories with Proficiency/Pre-Proficiency Licenses: • According to the criteria specified in App.-3B of the Regulation on the General Principles of Waste Management, enforced upon publication in the Official Gazette dated 05.07.2008 and No. 26927. • In case the representative dredging samples are found to be hazardous according to the analysis in App.-3B of the Regulation on the General Principles of Waste Management, these shall be recovered/disposed of in accordance with the provisions of the Regulation on Control of Hazardous Wastes. • For the procedures to be followed in case the dredging representative samples are found to be non-hazardous in the analysis given in Annex-3B of the Regulation on the General Principles of Waste Management, the provisions of the Notification on Recovery of Some Non-Hazardous Wastes, enforced by publication in the Official Gazette dated 17.06.2011, No. 27967 shall be applied. • In case regular storage is planned as the disposal method, analysis shall be made in accordance with the criteria specified in Annex-2 of the Regulation on Landfill of Wastes, enforced by publication in the Official Gazette dated 26.03.2010, No. 27533 and shall be disposed of according the result of such analysis. During the activities to be performed in sea, any solid and liquid waste won't be spilled into the sea. During the construction works, necessary pre-cautions for the construction wastes not to drop into the sea will be taken. The wastes of marine vessels to be used during the construction to	Preparation of hydrotest water disposal procedure if the hydrotest water is to be discharged to the sea	Ministry of Environment and Urbanization/ General Directorate of Environmental Management	Coastal Facility is defined as "the facility that performs activities that may cause pollution of sea by petroleum and other hazardous substances in regions on shore or close to shore, including open sea facilities and pipelines" in Law on Emergency Response and Compensation of Losses in Pollution of Marine Environment by Petroleum and Other Hazardous Substances numbered 5312 and its Application Regulation. Within this frame, both during the construction to be conducted in sea and after the pipeline is taken into operation, risk evaluation and emergency action plan should be prepared taking marine traffic into consideration. Within this concept, the institutions/organizations authorized by Ministry will be made to prepare risk evaluation and emergency action plan and after the ministry approval is received, construction activities will be initiated and the facility will be taken into operation.	EPC/ EPCM	Preparation of hydrotest water discharge plan and getting the permits, Sampling and analysis according to the plan	N/A	N/A	TANAP/EPCM	PPP, Construction Impacts Management Plan, Permit Documents		Chapter 8 Chapter 11
283	1	Offshore	**Seawater**		The pipe laying activities should be conducted adopting all the possible technical measures to avoid the suspension and dispersion of sediments			EPC/ EPCM	Construction Planning Turbidity Monitoring	Contin.	Monthly Reports	TANAP/EPCM	Construction Impacts Management Plan		
284	1	Offshore	**Seawater**		Dumping of sediment is not scheduled in the Project, in case it is necessary further analysis on sediment will be carried out according to the Regulation on Control of Hazardous Wastes Annex-11.A and specific studies for the identification of the dumping areas will be conducted.			EPC/ EPCM	Monitoring programme will be implemented for the analysis of the sediments in case of dumping into the sea	Pre-construction Contin.	Analysis and assessments Reports Pre-construction Survey Report	TANAP/EPCM	Pollution Prevention Plan		
285	1	Offshore	**Seawater**		No pollutant liquid without treatment or solid substances will be disposed of into the sea			EPC/ EPCM	Site Inspection	Contin.	Site Inspection Report	TANAP/EPCM	Pollution Prevention Plan		
286	1	Offshore	**Seawater**		Necessary precautions for the construction wastes not to drop into the sea will be taken			EPC/ EPCM	Site Inspection	Contin.	Site Inspection Report	TANAP/EPCM	Pollution Prevention Plan		
287	1	Offshore	**Seawater**		With reference to the hydrostatic testing environmental friendly, non-toxic and biodegradable chemicals should be used. In addition once completed the test the wastewater will not be discharged in the sea without prior treatment			EPC/ EPCM	Site Inspection Hydrotest Procedure	Contin.	Site Inspection Report, Analysis Reports	TANAP/EPCM	Hydrotesting Plan, Pollution Prevention Plan		

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
				be constructed in sea, will be delivered to licensed waste receiving facilities/waste receiving vessels via agreement and with the permit of related Provincial Directorate of Environment and Urbanization according to Regulation on Waste Collection from the Ships and Control of Wastes (published in the Official Gazette dated 26.12.2004 and numbered 25862, which is amended by the Regulation published in the Official Gazette dated 18.03.2010 and numbered 27525).										
288	1	Offshore-Coastal	**Sea grass**		, Detail assessment should be done to identify the presence and distribution of sea grass in the Local Study Area. Detailed information should allow to optimize the final route of the pipeline in order to avoid as much as possible the destruction of sea grasses, most of which are a remarkable habitat and in order to minimize the unavoidable impacts of suspended sediment in the LSA.			EPC/ EPCM	Survey	Pre-construction	Sea grass assessment Report	TANAP/EPCM	Construction Impacts Management Plan		Chapter 8 Chapter 11
289	1	Offshore-Coastal	**Sea grass**		According to the results of the sea grass distribution map, if necessary, a modelling of the sediment dispersion during the pipe laying should be elaborated.			EPC/ EPCM	Modelling of the sediment dispersion	Pre-construction	Modelling Results	TANAP/EPCM	Construction Impacts Management Plan		Chapter 8 Chapter 11
290	1	Offshore	**Marine Traffic**	Risk Evaluation and Emergency Action Plan will be prepared by institutions/organizations authorized by the Ministry taking into consideration the marine traffic of the region as well in order to be applied during the land preparation-construction, operation and decommissioning phases of the Project within the scope of the Law numbered 5312 on Response in Emergency Situations due to the Sea Environment being Polluted by Petroleum and Other Hazardous Substances and Compensation of the Damages and its Application Regulation and after the approval of the Ministry is obtained, construction activities will be initiated and the facility will be taken into operation.	During the construction, standard schedules concerning the maritime traffic will be obtained and the construction of the sea crossing will accordingly be planned, managed and monitored;			EPC/ EPCM	Liaison with Authorities	Contin.	Liaison Records	TANAP/EPCM	Construction Impacts Management Plan		Chapter 8 Chapter 11
291	1	Offshore	**Marine Traffic**		To avoid the interruption of random traffic and the consequences in terms of occupational health and safety, a constant contact should be established with the İstanbul and Çanakkale Port and Sea Traffic Authorities; the construction should be managed taking the coordinates of anchorage areas and following the navigation according to the received information			EPCM/ EPC	Liaison with Authorities	Contin.	Liaison Records	TANAP/EPCM	Construction Impacts Management Plan		Chapter 8 Chapter 11
292	1	Offshore	**Fishing and tourism activities**	Ministry of Culture and Tourism will be informed before the construction activities are initiated in Balıkesir Manyas Kızık Thermal Tourism Center and Bursa	Local authorities and local communities will be informed and consulted on impacts on fishing and tourism activities due to	1- Ministry of Culture and Tourism / General Directorate of Investments and Enterprises	1- - Route crossing on Eskişehir Kızılinler Thermal Tourism Center was revised so	EPCM/ EPC	Liaison with Authorities	Contin.	Liaison Records	TANAP/EPCM	Construction Impacts Management Plan		Chapter 8 Chapter 11 App.-4.3

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
				Mustafakemalpaşa Tümbüldek Thermal Tourism Center crossings of the NGP.	project activities and planned mitigation measures during the pre-construction meetings and Stakeholder Engagement Activities; agreed solutions will be found and compensation measures will be eventually identified.		that it won't affect the thermal tourism center negatively and the positive opinion received from the General Directorate of Investments and Enterprises is given in App-4.3. - Since as a result of the revisions made the route doesn't currently pass through the borders of Kars Sarıkamış Winter Sports Tourism Center, positive decision received from the General Directorate of Investments and Enterprises for that part of the route is given in App-4.3. - For the part of the route revised in the manner that will pass from the northern end of the area registered as Tourism Facility Area in "Balıkesir Manyas Kızık Thermal Tourism Center Environmental Master Plan", the positive decision given by the General Directorate of Investments and Enterprises is attached in App-4.3 and when the construction activities are initiated, Ministry of Culture and Tourism will be informed. - The fact that a revision cannot be conducted at Bursa Mustafakemalpaşa Tümbüldek Thermal Tourism Center crossing of the route was informed to the General Directorate of Investments and Enterprises via a justification letter. Route corridor in the subject area in Bursa Mustafakemalpaşa Tümbüldek Thermal Tourism Center which is registered with plan decision as "Tourism Facility Area and Golfing Area" was decided to be appropriate by General Directorate of Investments and Enterprises as per the opinion given in App. 4.3 and when the construction activities are initiated, Ministry of Culture and Tourism will be informed. - Concerning the aforementioned Eskişehir Kızılinler Thermal Tourism Center, Bursa Mustafakemalpaşa Tümbüldek Thermal Tourism Center and Balıkesir Manyas Kızık Thermal Tourism Center, in case of future decisions on the allocation of public lands to these tourism								

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
							investments for serving public interest, it shall be put under commitment that the necessary modifications and arrangements will be made based on the assessment of ultimate public welfare.								
						1- Secretary General of KÜTAHYA Special Provincial Administration 2- KÜTAHYA Provincial Directorate of Environment and Urbanization 3- ERZURUM Provincial Directorate of Food, Agriculture and Livestock 4- ARDAHAN Provincial Directorate of Food, Agriculture and Livestock 5- ESKİŞEHİR Provincial Directorate of Food, Agriculture and Livestock	1- - The trout farms located in the Domaniç province, in the Aksu and Bükerler villages and registered on the 1/5.000 master plan will not be damaged. 2- - The fish farms that use water from rivers won't be damaged. 3- - Fishery products production areas of the pipeline route within the provincial borders (rivers, creeks, streams, etc.) shall be protected as per Fisheries Law No. 1380 and the Fisheries Regulation, precautions to protect the life, reproduction, maintenance and production of the existing fisheries in these waters from loss shall be taken. 4- - For places within the scope of the Fishery Products Law, No. 1380, the necessary permits shall be obtained as per Article 7 of this Law. 5- - During the Project activities, all kinds of precautions for not damaging reproduction and production of fishery products within the scope of Article 9 of the Fisheries Law shall be taken (not changing, filling, drying, nor partially or fully deforming the beds of fishery production and reproduction places on the route lines, not disposing stones, soil, debris thereon, etc., not carrying out actions that may adversely affect							

RefNo.	Ph.	Specific Location (and KP)	Environmental Component [2]	Project Commitment					Monitoring				Mang. Plan	Addition. Docum.	ESIA Chapter
				General Commitment	Mitigation Action	Relevant Authority	Authority Requirement	Resp.	Action	Freq.	Report.	Report. to			
						6- KÜTAHYA Provincial Directorate of Food, Agriculture and Livestock 7- YOZGAT Provincial Directorate of Food, Agriculture and Livestock	reproduction and production), concerning the waste waters that will be formed, the liabilities specified by Article 20 of the Fisheries Law, No. 1380 and Articles 11 and 12 of the Fisheries Regulation shall be complied with, the criteria given in the Regulation on Control of Water Contamination and in the appendices of the Fisheries Regulation (App.-5 and App.-6) shall also be complied with, and if required at the construction stage within the scope of the Project, the necessary permits concerning fisheries production and reproduction areas covered by the Fisheries Law, No. 1380 shall be obtained. 6- - Since the Aquatic Products Law numbered 1380 includes principles on protection, production and control of fisheries, pre-cautions that will protect the living, breeding, preservation and production of fisheries will be taken, the substances that are harmful for production tools won't be spilled inwaters, in production locations or surrounding. Furthermore, within the scope of the Project, it shall be ensured that the quality and amount of the water used by Fishery Products Farming Facilities in the Domaniç province are not adversely affected. 7- - According to Aquatic Products Law numbered 1380, permits required for protection of wetlands and water areas that are or may be located on pipeline route will be obtained, breeding facilities won't be impacted, on the other hand, an agreement will be achieved with breeding facility owners. - Legislations enforced based on the Fisheries Law, No. 1380 to ensure the continuation of the life in wetlands and the aquatic environments in connection with such wetlands shall be complied with.								

Major cost items for the above given commitment register of Project, which contains mitigation measures and the monitoring requirements, are presented in Table 1 below. The mitigation and monitoring requirements of the Project are both a part from the ESIA Report and Environmental Monitoring Plan of TANAP. ESIA Report, BAP and ESMS documentation of TANAP were a part of Bid Documentation submitted to each Contractor during Bid phase.

Item	Project Activities	Cost (till Contract completion date)						
1	Clearing and grading	84,0 mUSD						
2	Clean-up and reinstatement	103,8 mUSD						
3	HSE Requirements (Induction, training, supervision, equipment, medical resources, medivac, contractors incentive scheme etc.)	45,6 mUSD						
4	Cultural Heritage Management Activities including the chance find procedure implementation, salvage excavation and test pit excavation etc.)		Salvage Excavation (USD/m^3)			Test Pit Excavation (USD/m^3)		
		Excavation amount (m^3)	0-500	500-2000	2000 and above	0-200	201-500	500 and above
		Unit Cost (USD/m^3)	200-400	150-350	100-325	80-165	75-140	65-135
5	Biorestoration Monitoring (On-site monitoring of species diversity and vegetation cover by experts in critical habitats, steep slopes and other special areas such as wetlands, karstic areas etc., including experts' site visit in proper seasons covering both ROW and nearby areas.)	70,000-90,000 USD/annum						
6	Overall E&S Management and Monitoring of EPCM	40,0 mUSD						

Table 1 Approximate Costs for the above mitigation measures and monitoring requirements[4]

[4]
1. Costs for the items 1, 2, 3 are presented based on the existing amounts including LOT 1, LOT 2, LOT3, LOT 4 and Stations contracts.
2. Costs for the item 4 (Cultural Heritage Management) are presented as a valid interval based on the existing prices including all the construction actvities.
3. Cost for the item 5 is presented as an estimation regarding the previous similar studies.

ENVIRONMENTAL MONITORING PLAN
ANNEX 2 ENVIRONMENTAL STANDARDS FOR MONITORING

DOCUMENT REVISION HISTORY SHEET

Rev.	Revision Description	Date Issued	Update / Amendment Details
P3-A	DIC	07.01.2015	Discipline Internal Check
P3-B	IDC	19.01.2015	Interdisciplinary Check
P3-0	IAA	26.01.2015	Issued As Approved
P3-1	Re-IAA	25.11.2015	Re-Issued As Approved
P3-2	Re-IAA	01.07.2016	Re-Issued As Approved

HOLDS

No.	Section	Description	Input From	Planned Date

CONTENTS

Page No

LIST of TABLES

Page No

ABBREVIATIONS

AA-EQS	Annual Average- Environmental Quality Standard
BAT	Best Available Technique
BOD	Biological Oxygen Demand
BREFs	Best Available Technique Reference Documents
CAS	Chemical Abstracts Service
CBD	Convention for Biodiversity
CCD	Convention to Combat Desertification
CMS	Convention on Migratory Species
CO	Carbon Monoxide
COD	Chemical Oxygen Demand
DF	Dilution Factor
EHS	Environmental, Health and Safety
EPs	Equator Principles
EPFIs	Equator Principles Financial Institutions
EQS	Environmental Quality Standard
EU	European Union
GIIP	Good International Industry Practice
IFC	International Finance Corporation
IPPC	Integrated Pollution Prevention and Control
ISO	International Organization for Standardization
IUCN	International Union for Conservation of Nature
LTL	Long Term Limit
L&FS	Life and Fire Safety
MAC	Maximum Allowable Concentration
MAP	Mediterranean Action Plan
MED POL	Marine Pollution Assessment And Control Component
MPN	Most Probable Number
NOx	Nitrogen Oxides
OHSAS	Occupational Health And Safety Assessment Systems
PM10	Particulate Matter < 10 µm
PPE	Personal Protective Equipment
PS	Performance Standard
RDB	Red Data Book
SAP/BIO	Strategic Action Programme For The Conservation of Biological Diversity
SPCR	Soil Pollution Control Regulation
STL	Short Term Limit
TANAP	Trans Anatolian Natural Gas Pipeline Project
TSS	Total Suspended Solids
UNEP	United Nations Environment Programme

WHO World Health Organization

1. LEGAL, POLITICAL AND INSTITUTIONAL FRAMEWORK

1.1 International (including Inter Governmental Agreements) Legislation, Standards and Guidelines

1.1.1 International Legislation and Guidelines

Equator Principles and IFC Standards and Guidelines

The Equator Principles (EPs) are a set of voluntary environmental and social guidelines that have been adopted by a significant number of financial institutions influential in the project finance market (collectively the Equator Principles Financial Institutions, EPFIs). The EPs comprise a set of ten broad principles that are underpinned by environmental and social policies, standards and guidelines.

The EPFIs emphasize that they will not provide loans to projects where the borrower will not, or is unable to, comply with the EPFIs social and environmental policies and procedures that implement the Equator Principles.

The EPFIs have ten principles[1]:

- Principle 1: Review and Categorization
- Principle 2: Environmental and Social Assessment
- Principle 3: Applicable Environmental and Social Standards
- Principle 4: Environmental and Social Management System and Equator Principles Action Plan
- Principle 5: Stakeholder Engagement
- Principle 6: Grievance Mechanism
- Principle 7: Independent Review
- Principle 8: Covenants
- Principle 9: Independent Monitoring and Reporting
- Principle 10: Reporting and Transparency

In addition, the EPFIs endorse the applicable IFC Performance Standards, IFC General Environmental, Health and Safety (EHS) Guidelines and IFC Industry Specific EHS Guidelines. The Performance Standards establish the standards that the project

[1] The listed principles are Equator Principles version III which are effective as 4th of June 2013. The transition period for EP III ended on 31 December 2013 and EP III is mandatory for all new transactions (where the mandate is signed after 31 December 2013) from 1 January 2014. EP III does not apply retroactively, therefore, EP Association Members are not expected to switch from EP II to EP III for transactions where the mandate was signed before 1 January 2014.

is to meet throughout the life of an investment by IFC or other relevant financial institution. General and Industry Specific EHS Guidelines provide implementation guidelines and environmental quality limits that projects should comply with.

IFC Performance Standards

The World Bank - International Finance Corporation (IFC) has developed performance standards, policies, general environmental, health and safety guidelines, and industry-specific environmental, health and safety guidelines on social and environmental sustainability, to minimize negative environmental and social impacts of projects it supports, and to optimize benefits.

IFC 2012 Performance Standards (IFC 2012 PSs) have been considered the main reference as they represent the most recent environmental and social standards issued by an International Financial Institution. The eight PSs establish the standards that the project is to meet throughout the life of an investment by IFC or other relevant financial institutions:

- PS 1: Assessment and Management of Environmental and Social Risks and Impacts
- PS 2: Labour and Working Conditions
- PS 3: Resource Efficiency and Pollution Prevention
- PS 4: Community Health, Safety and Security
- PS 5: Land Acquisition and Involuntary Resettlement
- PS 6: Biodiversity Conservation and Sustainable Natural Resource Management of Living Natural Resources
- PS 7: Indigenous People
- PS 8: Cultural Heritage

IFC EHS Guidelines

The EHS Guidelines are technical reference documents with general and industry-specific examples of Good International Industry Practice (GIIP), as defined in IFC's Performance Standard 3 on Pollution Prevention and Abatement. Reference to the EHS Guidelines by IFC clients is required under Performance Standard 3[2]. When one or more members of the World Bank Group are involved in a project, these EHS Guidelines are applied as required by their respective policies and standards.

The General EHS Guidelines contain information on environmental, health, and safety issues potentially applicable to all industry sectors. It is designed and should be used together with the relevant industry sector.

[2] http://www.ifc.org

The General EHS Guidelines cover:

1. Environmental
    - Air Emissions and Ambient Air Quality
    - Energy Conservation
    - Wastewater and Ambient Water Quality
    - Water Conservation
    - Hazardous Materials Management
    - Waste Management
    - Noise
    - Contaminated Land
2. Occupational Health and Safety
    - General Facility Design and Operation
    - Communication and Training
    - Physical Hazards
    - Chemical Hazards
    - Biological Hazards
    - Radiological Hazards
    - Personal Protective Equipment (PPE)
    - Special Hazard Environments
    - Monitoring
3. Community Health and Safety
    - Water Quality and Availability
    - Structural Safety of Project Infrastructure
    - Life and Fire Safety (L&FS)
    - Traffic Safety
    - Transport of Hazardous Materials
    - Disease Prevention
    - Emergency Preparedness and Response
4. Construction and Decommissioning
    - Environment
    - Occupational Health and Safety

- Community Health and Safety

The industry sector EHS Guidelines are designed to be used together with the General EHS Guidelines document, which provides guidance to users on common EHS issues potentially applicable to all industry sectors.

The EHS Guidelines for Onshore Oil and Gas Development include information relevant to seismic exploration; exploration and production drilling; development and production activities; transportation activities including pipelines; other facilities including pump stations, metering stations, pigging stations, compressor stations and storage facilities; ancillary and support operations; and decommissioning. This document is organized according to the following sections:

- Industry Specific Impacts and Management

- Environmental
  - Air emissions
  - Wastewater/effluent discharges
  - Solid and liquid waste management
  - Noise generation
  - Terrestrial impacts and project footprint
- Community Health & Safety
  - Fire and explosion
  - Air quality
  - Hazardous materials
  - Transportation
  - Well blowouts

- Emergency preparedness and response
- Performance Indicators and Monitoring

Other International Standards and Guidelines

The following World Health Organization (WHO) standards are referred as IFC Guidelines:

- WHO Ambient Air Quality Standards;
- WHO Drinking Water Standards.

In addition, the following guidelines and standards have been considered (please see section 1.3 for a complete list of international conventions ratified by Turkey):

- International Union for Conservation of Nature (IUCN) Red Data Book (RDB) for protected species (fauna and flora);

- Action Plan for the conservation of marine vegetation in the Mediterranean Sea. Adopted in 1999 within the framework of the Barcelona Convention for the Protection of the marine environment and the coastal region of the Mediterranean;
- Strategic Action Programme for the conservation of Biological Diversity (SAP BIO) in the Mediterranean Region. Adopted by Contracting Parties of Barcelona Convention on 2003;
- Priority habitats according to the SAP/BIO Protocol (Barcelona Convention) (1999);
- Biodiversity in Impact Assessment Background Document to Decision VIII/28 of the Convention on Biological Diversity: - CBD Technical Series No. 26;
- The Action Plan for the Conservation of Mediterranean Marine Turtles (UNEP-MAP);
- The MED POL Programme (the marine pollution assessment and control component of MAP).

Relevant European Regulations

The European Union (EU) legal instruments include approximately 300 directives covering environmental protection, polluting and other activities, production processes, procedures and procedural rights as well as products (e.g., EIAs, access to information on the environment and combating climate change). Quality and related emissions standards are set for air, waste management, water, nature protection, industrial pollution control, chemicals and genetically modified organisms, noise and nuclear safety and radiation protection. The project applicable EU Legislation is listed below:

EIA Directive

- 85/337/EEC Council Directive on the assessment of the effects of certain public and private projects on the environment (EIA Directive). The EIA Directive of 1985 has been amended three times, in 1997, in 2003 and in 2009:
    - Directive 97/11/EC brought the Directive in line with the UN ECE Espoo Convention on EIA in a Transboundary Context. The Directive of 1997 widened the scope of the EIA Directive by increasing the types of projects covered, and the number of projects requiring mandatory environmental impact assessment (Annex I). It also provided for new screening arrangements, including new screening criteria (at Annex III) for Annex II projects, and established minimum information requirements.
    - Directive 2003/35/EC was seeking to align the provisions on public participation with the Aarhus Convention on public participation in decision-making and access to justice in environmental matters.
    - Directive 2009/31/EC amended the Annexes I and II of the EIA Directive, by adding projects related to the transport, capture and storage of carbon dioxide (CO2).

  The initial Directive of 1985 and its three amendments have been codified by Directive 2011/92/EU of 13 December 2011.

Nature Protection

- 2009/147/EEC The Birds Directive
- 92/43/EEC Council Directive on the conservation of natural habitats and of wild fauna and flora

Pollution Control

- 2010/75/EC Directive on industrial emissions (integrated pollution prevention and control)
- 2008/1/EC Directive concerning integrated pollution prevention and control (IPPC)
- 2004/42/CE Directive on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products
- 84/360/EEC Council Directive on the combating of air pollution from industrial plants (revised with 91/692/EEC numbered Directive)

Climate Change

- EC/1005/2009 Regulation on substances that deplete the ozone layer
- 2009/30/EC Directive (amending Directive 98/70/EC) as regards the specification of petrol, diesel and gas-oil and introducing a mechanism to monitor and reduce greenhouse gas emissions and amending Council Directive 1999/32/EC as regards the specification of fuel used by inland waterway vessels and repealing Directive 93/12/EEC
- 280/2004/EC Decision concerning a mechanism for monitoring Community greenhouse gas emissions and for implementing the Kyoto Protocol
- 2002/3/EC Directive relating to ozone in ambient air

Air Quality

- 2008/50/EC Directive on ambient air quality and cleaner air for Europe
- 2001/81/EC Directive on national emission ceilings for certain atmospheric pollutants
- 1999/30/EC Directive relating to limit values for sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter and lead in ambient air
- 2000/69/EC Directive relating to limit values for benzene and carbon monoxide in ambient air
- 99/30/EC Directive relating to limit values for sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter and lead in ambient air
- 94/63/EC Directive on the control of volatile organic compound (VOC) emissions resulting from the storage of petrol and its distribution from terminals to service stations
- 93/12/EEC Council Directive relating to the sulphur content of certain liquid fuels (revised with 99/32/EC numbered Directive, EC/1882/2003 numbered Regulation and 2005/33/EC numbered Directive)

- 98/70/EC Directive relating to the quality of petrol and diesel fuels and amending Council Directive 93/12/EEC (revised with 2000/71/EC and 2003/17/EC numbered Directives and EC/1882/2003 numbered Regulation)
- 97/68/EC Directive on emissions of gaseous and particulate pollutants from internal combustion engines in non-road mobile machinery

Water Quality

- 2000/60/EC Directive establishing a framework for Community action in the field of water policy
- 2008/105/EC Directive on environmental quality standards in the field of water policy
- 80/68/EEC Directive on the protection of groundwater against pollution caused by certain dangerous substances as amended by Directive 91/692/EEC (further amended by Regulation 1882/2003/EC)
- 2006/118/EC Directive on the protection of groundwater against pollution and deterioration
- 98/83/EC Drinking Water Directive
- 91/271/EEC Urban Waste Water Treatment Directive (revised with 98/15/EC numbered Directive and 93/481/EEC Numbered Decision)
- 75/440/EEC Surface Water Directive

Waste Management

- 2008/98/EEC Waste Framework Directive
- EC/850/2004 Regulation on persistent organic pollutants
- EC/1013/2006 Regulation on shipments of waste
- 2006/66/EC Directive on batteries and accumulators and waste batteries and accumulators
- 99/31/EC Directive on the landfill of waste
- 96/59/EC Directive on the disposal of polychlorinated biphenyls and polychlorinated terphenyls (PCB/PCT)
- 94/62/EC Directive on packaging and packaging waste
- 91/689/EEC Directive on hazardous waste

Noise

- 2002/49/EC Directive relating to the assessment and management of environmental noise

General

- 2001/42/EC Directive on the assessment of the effects of certain plans and programmes on the environment
- 90/313/EEC Directive on the freedom of access to information on the environment (revised with 2003/4/EC numbered Directive)

1.1.2 Inter-Governmental Agreements

Intergovernmental Agreement (IGA) for the TANAP Project was signed on October 25, 2011, the Memorandum of Understanding on December 24, 2011, and the Host Government Agreement (HGA) on June 26, 2012; the agreements signed in the scope of the Project are listed in chronological order below:

Intergovernmental Agreement - 25 October 2011

"The Intergovernmental Agreement Between the Government of the Republic of Turkey and the Government of the Republic of Azerbaijan Concerning The Sales of Natural Gas To The Republic of Turkey and the Transit Passage of Natural Gas Originating From The Republic of Azerbaijan Across The Territory of The Republic of Turkey and The Development of A Standalone Pipeline For The Transportation of Natural Gas Across The Territory of the Republic of Turkey", was signed in İzmir on 25 October 2011.

This Agreement was approved by Law no 6349 dated 29.06.2012which was published in the Official Gazette on 12.07.2012.

Memorandum of Understanding - 24 December 2011

"Memorandum of Understanding between the Government of the Republic of Turkey and the Government of the Republic of Azerbaijan Concerning the Development of a Standalone Pipeline for the Transportation of The Natural Gas Originating and Transiting from the Republic of Azerbaijan across the Territory of the Republic of Turkey", was signed on 24 December 2011 in Ankara.

This Agreement was approved by Law no 6342 dated 29.06.2012, which was published in the Official Gazette on 12.07.2012. Following approval by Council of Ministers, the Agreement was published in the Official Gazette on 11 October 2012 and entered into force.

Within the framework of the Memorandum of Understanding between the Government of the Republic of Turkey and the Government of the Republic of Azerbaijan that was signed on 24 December 2011, Trans Anatolian Gas Pipeline Company B.Vwas established. **Host Government Agreement** – 26 June 2012

"The Host Government Agreement Between the Government of the Republic of Turkey and the Government of the Republic of Azerbaijan Concerning The Trans-Anatolian Natural Gas Pipeline System", and its attachment, "The Host Government

Agreement (HGA) between the Government of the Republic of Turkey and The Trans Anatolian Gas Pipeline Company B.V Concerning Trans-Anatolian Natural Gas Pipeline System", were signed on 26 June 2012 in Istanbul.

These Agreements were approved by Law no 6375 dated 02.01.2013, which was published in the Official Gazette on 17.01.2013. Following approval by Council of Ministers, the Agreements were published in the Official Gazette on 19 March 2013 and entered into force.

Following signature of Intergovernmental Agreement and Host Government Agreement on 26 June 2012, TANAP Doğalgaz İletim A.Ş. was established and The Trans Anatolian Gas Pipeline Company B.V has transferred its rights and obligations under Host Government Agreement to TANAP Doğalgaz İletim A.Ş. with the approval of Ministry of Energy and Natural Resources of Turkey. The companies assigned by two countries to form a project-specific joint consortium are SOCAR and the Petroleum Pipeline Corporation (BOTAŞ).

The Host Government Agreement requires Project Environmental and Social Standards complying with National Laws and also taking due account of international standards and practices generally prevailing in the Natural Gas pipeline industry, including relevant Performance Standards of the International Finance Corporation.

1.2 National Legislation, Standards and Guidance Documents

National Legislation:

The Turkish legal framework for environmental protection was developed in line with national and international initiatives and standards, and some of them have been revised recently to be harmonized with the EU Directives in the scope of pre-accession efforts of Turkey to the EU. The main legal basis for TANAP in the Turkish environmental legislation is the Environment Law no. 2872, which was published in the Official Gazette no. 18132 dated 11.08.1983 and amended by Law no. 5491 dated 26.04.2006. The structure of the Turkish environmental legislation constitutes of primarily the Environment Law, and following relevant laws, regulations, by-laws and notifications. The objective of the Environment Law is to protect the environment in accordance with the sustainable development principles. The Environment Law defines the measures and prohibitions, basic liabilities of the state and citizens. Relevant principles and procedures are designated by the regulations issued by the Ministry of Environment and Urbanization. The national legislation relevant with the project is given below with the titles water quality, air quality, soil quality, noise and vibration, waste management, energy and climate change, management of chemicals and hazardous substances, health and safety, and nature and biological diversity.

The list of the legislation relevant to the Project is given in Annex 4.6.

The Project is subject to the Law on the Transit Transport of Petroleum with Pipelines (Law no. 4586), which was published in the Official Gazette no. 24094 and dated 29.06.2000. This law defines the requirements for transit pass of petroleum or hydrocarbons via pipelines and provides the basis for implementation of the provisions of international agreements of which Turkey is a part for each transit petroleum pipeline project.

Survey, route determination, engineering, financing, expropriation, construction, commissioning, operation, maintenance, repair, extension, dispatch from stations, storage, management, decommissioning, environmental reinstatement activities after decommissioning and all other activities related to the project are covered by the aforementioned law.

Land to be acquired in the scope of the project will be expropriated by the General Directorate of BOTAŞ, assigned as the Nominated Official Authority based on the Host Government Agreement as per the Law on Expropriation no. 2942.

For the use of the forest lands, agricultural lands, pasture lands and surface water along the project route; Law on Forestry no. 6831, Law on Soil Conservation and Land Use no. 5403, Law on Pasture no. 4342, Law on Agricultural Reform on Land Arrangement in Irrigational Areas no. 3083, Law on Improvement and Inoculation of Olive Orchards no. 3573 and Law on Aquatic Products no. 1380 will be taken into account respectively and the requirements of the relevant legislation will be fulfilled.

The provisions of Cultural and Natural Entities Protection Law will be complied with. The required permits will be obtained from the Ministry of Culture and Tourism before the field surveys, and all field surveys will be carried out in coordination with the Ministry of Culture and Tourism and Local Directorates of the Ministry. Registered sites are taken into account in route selection.

Shore Law no. 3621 and corresponding regulations will be adopted for all works relating to the Marmara Sea crossing.

Necessary permits will be obtained according to the Communique on Implementation Process of Shore Structures and Facilities.

National Standards:

The reference to the national environmental regulations defining the standards for wastewater discharges, emissions, noise and vibration are provided below. The emission limits values for the compliance with these standards are given in the Project Standards Section 1.4.

Wastewater Discharge

The domestic wastewater generated during land preparation, construction and operation phases of the project will be treated at Package Wastewater Treatment Plants based on the parameters in, "Table 21: Discharge Standards for Domestic Wastewater to the Receiving Bodies", of Regulation on the Control of Water Pollution. The treated wastewater will be discharged to the nearest receiving body provided that the limit values are not exceeded.

The non-domestic wastewaters will be subject to the Table 19 Discharge Standards with Non-Specific Industry of the same regulation.

Emissions

The dust emissions (PM10) occurring during the construction phase of the project will be compared with the limit values of Regulation on Assessment and Management of Air Quality.

The standard values in "Annex IV: Emission Limits for Gas Turbine" of the Regulation on Large Combustion Plants will be met for NOx and CO emissions generated from the stacks of compressor stations during operation phase of the project.

Noise and Vibration

The noise values measured at the closest sensitive receptors or settlement areas during the construction phase will not exceed the limit values given in Table 5, in Annex-VII of the Regulation on the Assessment and Management of Environmental Noise.

Compliance to the limit values in Table 6 and in Table 7, in Annex-VII of the Regulation on the Assessment and Management of Environmental Noise will be provided for the vibration generated by blasting, heavy vehicles, and other equipment used during the construction phase.

The noise values measured at the closest sensitive or settlement areas during the operation phase will not exceed the limit values given in Table 4, in Annex-VII of the Regulation on the Assessment and Management of Environmental Noise.

International Conventions

The national environmental legislation is complemented by a variety of international conventions ratified by Turkey to fulfil its international commitments.

a. Convention on the International Transportation of Hazardous Wastes, Basil, ratified by Turkey on 1994

b. Convention on the Persistent Organic Pollutants, Stockholm, ratified by Turkey on 2010

c. United Nations Climate Change Framework Convention, Bonn, ratified by Turkey on 2004

d. Convention on Protection of Ozone Layer, Vienna, ratified by Turkey on 1991

e. Convention on Long-Range Transboundary Air Pollution, ratified by Turkey on 1983

f. Convention on Biological Diversity. Turkey ratified this convention in 1992.

g. Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (Turkey is a member country).

h. International Convention for the Prevention of Pollution from Ships (MARPOL), ratified by Turkey on 1990

i. Convention on Migratory Species of Wild Animals (CMS) (Turkey is a not yet member country).

j. Ramsar Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar) (Turkey is a contracting body)

k. Convention concerning the Protection of World Cultural and Natural Heritage (WHC) (Turkey ratified this convention)

l. ITPGR or the International Treaty on Plant Genetic Resources for Food and Agriculture (Turkey is a member country)

m. Convention for the Conservation of European Wildlife and Natural Habitats (BERN) (1984) (ratified by Turkey)

n. Convention on Wetlands of International Importance, Especially as Waterfowl Habitat (RAMSAR) (1994) (ratified by Turkey)

o. Cartagena Protocol on Biosafety (2004) (ratified by Turkey)

p. European Landscape Convention (2001) (ratified by Turkey)

q. Convention for the Protection of the Mediterranean Sea Against Pollution (Barcelona) (1981) and its protocols including the Protocol on Special Protected Areas and Biodiversity in the Mediterranean (1988) (ratified by Turkey)

r. Convention for the Protection of the Black Sea Against Pollution (Bucharest) (1994) and its protocols including the Protocol for the Protection of Biological and Landscape Diversity in the Black Sea (2004) (ratified by Turkey)

s. Convention to Combat Desertification (CCD) (1998) (ratified by Turkey)

t. European Convention for the Protection of Pet Animals (ratified by Turkey)

u. Convention on substances depleting Ozone Layer, Montreal, ratified by Turkey on 1991

v. Kyoto Protocol, ratified by Turkey on 2009

w. Convention on the Transboundary Effects of Industrial Accidents, 2000

1.3 Standards and Guidelines of Lenders

There is no specifically defined guideline or standard imposed by Lenders. TANAP will be conducted according to the requirements of the International Standards and Guidelines as per Section 1.1.1. The additional requirements defined by Financial Institutions will be evaluated with the scope of the HGA if required.

1.4 TANAP Project Standards

A regulatory review has been conducted to determine the project standards. As part of this review, Turkish Regulations, IFC Guidelines and European Directives are compared to identify the most stringent Project applicable standards.

Below, the environmental standards from all applicable regulatory requirements are listed. The project standards, which the Project will be in full compliance with, are specifically defined as the most stringent requirements of these regulatory requirements for the following components:

- Air Quality;
- Wastewater Discharges;
- Noise and Vibration Emissions;
- Drinking Water;
- Soil Pollution.

1.4.1 Environmental Standards In Turkish Regulations, European Regulations, IFC Guidelines

1.4.1.1 Air Quality

Table 1.4-1: Ambient Air Quality Standards in Turkish Regulations and IFC and European Guidelines

Parameter	Average Period	Ambient Air Quality Limits of Turkish Regulation on Air Quality Assessment and Management (06.06.2008 dated and 26898 numbered)	WHO Ambient Air Quality Guidelines- IFC General EHS Guidelines: Environmental Air Emissions and Ambient Air Quality (Section 1.1, Table 1.1.1)		Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on Ambient Air Quality and Cleaner Air For Europe
		Annex I: Future Target Values(year for target)	General Guidelines (for human health)	Guidelines for Europe (for ecosystem)	
SO_2 ($\mu g/m^3$)	Hourly	350 (2019) (not to exceed more than24 times in a year)	500 (for 10 minutes - (guideline value)		350
	24 hr	125 (2019) (not to exceed 3 in a year)	125 (Interim target-1) 50 (Interim target-2) 20 (guideline)		125
	Yearly and winter season (Oct1 – March31) (for wildlife and ecosystem)	20 (2014)		20 (for forests and natural vegetation) 30 (for agricultural crops)	
NO_2 ($\mu g/m^3$)	Hourly	200 (2024) (not to exceed more than18 times in a year)	200 (guideline)		200
	Yearly	40 (2024)	40 (guideline)	30	40
NOx ($\mu g/m^3$)	Yearly (for vegetation)	30 (2014)		30 (NO2)	
PM_{10} ($\mu g/m^3$)	24 hr (human health)	50 (2019) (not to exceed more than 35 times in a year)	150 (Interim target-1) 100 (Interim target-2) 75 (Interim target-3) 50 (guideline)		50
	Yearly (human health)	40 (2019)	70 (Interim target-1) 50 (Interim target-2) 30 (Interim target-3) 20 (guideline)		40
$PM_{2.5}$ ($\mu g/m^3$)	24hr		75 (Interim target-1) 50 (Interim target-2) 37.5 (Interim target-3) 25 (guideline)		
	1 year		35 (Interim target-1) 25 (Interim target-2) 15 (Interim target-3) 10 (guideline)		25 (by 2015) 20 (by 2020)
Lead ($\mu g/m^3$)	LTL – yearly (human health)	0.5 (2019) 1.0 (for areas in the vicinity of and contaminated by industries)			0,5
Benzene ($\mu g/m^3$)	Yearly	5 (2021)			5
CO (mg/m^3)	Max daily 8 hr average	10 (2017)			10
Ozone ($\mu g/m^3$)	Maximum daily eight-hour mean (*)		160 (Interim target-1) 100 (guideline)		120 µg/m3 not to be exceeded on more than 25 days per calendar year averaged over three years
	May to July (protection of vegetation)				AOT40 (**) (calculated from 1 h values) 18 000 µg/m3 x h averaged over five years

LTL - Long-term Limit: The value not to be exceeded by the arithmetic average of all measurement results;

Long Term Value: Arithmetic average of all measurement results;

STL -Short Term Limit: The value not to be exceeded by 95% of max daily average measurement results or statistically all the measurement results;

Short Term Value: The value that 95% of maximum daily average measurement values or statistically all the measurement values are below and 5% are above;

(*)The maximum daily eight-hour mean concentration shall be selected by examining eight-hour running averages, calculated from hourly data and updated each hour. Each eight -hour average so calculated shall be assigned to the day on which it ends. i.e. the first calculation period for any one day will be the period from 17:00 on the previous day to 01:00 on that day; the last calculation period for any one day will be the period from 16:00 to 24:00 on the day.

(**) AOT40 (expressed in µg/m3 x hours) means the sum of the difference between hourly concentrations greater than 80 $\mu g/m^3$ (= 40 parts per billion) and 80 $\mu g/m^3$ over a given period using only the one-hour values measured between 8.00 and 20.00 Central European Time (CET) each day.

Note: Regulation on Assessment and Management of Air Quality (RAMAQ) – Annex I: Limit Values, Target Values, Long Term Targets, Evaluation Thresholds, Public Information Thresholds provides ambient air quality values for human health and ecosystem for after January 1, 2014.

Table 1.4-2: Turkish Regulation on Large Combustion Plants - Emission Limits for Gas Fuel Combustion Facilities

Turkish Regulation on Large Combustion Plants - Emission Limits for Gas Fuel Combustion Facilities (08.06.2010 dated and 27605 numbered)					
Fuel Type	**Thermal power**	**Emission Limits (mg/Nm³)**			
		Dust	**SO_2**	**NO_2 (NO and NO_2)**	**CO**
Natural Gas, Fuel Gas, LPG etc.	50 MW≤Thermal Power of the Fuel≤300 MW	5	35	150	100
	Thermal Power of the Fuel ≥ 300 MW			100	
Blast-Furnace Gas		10	200	200	
Gas occurred in Iron-Steel Industry and can be used in another sectors		30	400* 200**		
Liquified Gas		5	5		
Low-calorie gases in coke furnace		30	400		
Low- calorie gases in blast-furnaces		10	200		

* Low calorific value gases occurring in coke furnace
** Low calorific value gases occurring in blast furnace

Table 1.4-3: European Regulation on Industrial Air Pollution Control – Emission Limits for Gas Fuel Large Combustion Plants

Directive 2001-80-EC Emission limits from large combustion plants (>50 MW)			
Fuel	SO_2 mg/Nm³	NO_2 mg/Nm³	Dust mg/Nm³
Gaseous fuels in general	35 (O2 content 3 %)		5 (O2 content 3 %) with the exception of gas turbines
Natural gas		150 (50-300 MW) (O2 content 3 %) with the exception of gas turbines	
		100 (>300 MW) (O2 content 3 %) with the exception of gas turbines	
		50 (O2 content 15%) for gas turbine	
Gaseous fuels (other than natural gas)		120 (O2 content 15%) for gas turbine	

Table 1.4-4: IFC Emissions Guidelines for Small Combustion Facilities

IFC General EHS Guidelines: Environmental Air Emissions and Ambient Air Quality (Section 1.1, Table 1.1.2)				
Small Combustion Facilities Emissions Guidelines (3MWth-50MWth)- (in mg/Nm3 or as indicated)				
Engine				
Combustion Technology/Fuel	Particulate Matter (PM)	Sulphur Dioxide (SO2)	Nitrogen Oxides (NOx)	Dry Gas, Excess O2 Content (%)
Gas	N/A	N/A	200 (Spark Ignition) 400 (Dual Fuel) 1,600 (Compression Ignition)	15
Turbine				
Combustion Technology/Fuel	Particulate Matter (PM)	Sulphur Dioxide (SO_2)	Nitrogen Oxides (NOx)	Dry Gas, Excess O_2 Content (%)
Natural Gas =3MWth to < 15MWth	N/A	N/A	42 ppm (Electric generation) 100 ppm (Mechanical drive)	15
Natural Gas =15MWth to < 50Mwth	N/A	N/A	25 ppm	15
Fuels other than Natural Gas 3MWth to < 15MWth	N/A	0.5 percent Sulphur or lower percent Sulphur (e.g., 0.2 percent Sulphur) if commercially available without significant excess fuel cost	96 ppm (Electric generation) 150 ppm (Mechanical drive)	15
Fuels other than Natural Gas 15MWth to < 50MWth	N/A	0.5% S or lower S (0.2%S) if commercially available without significant excess fuel cost	74 ppm	15

1.4.1.2 Water Quality

Table 1.1.4-5: Water Quality Classification for Inland Water in Turkish Regulation on Management of Surface Water Quality

Turkish Regulation on Management of Surface Water Quality (30.11.2012 dated and 28483 numbered)					
Water Quality Classification					
PARAMETERS	Unit	Water Quality Classes			
		Class I	Class II	Class III	Class IV
General Conditions					
Temperature	°C	≤ 25	≤ 25	≤ 30	> 30
pH		6,5-8,5	6,5-8,5	6,0-9,0	<6.0 or >9.0
Conductivity	µS/cm	< 400	400-1000	1001-3000	> 3000
Colour		Number of Chromaticity 436 nm: 1.5 Number of Chromaticity 525 nm: 1.2 Number of Chromaticity 620 nm: 0.8	Number of Chromaticity 436 nm: 3 Number of Chromaticity 525 nm: 2.4 Number of Chromaticity 620 nm: 1.7	Number of Chromaticity 436 nm: 4.3 Number of Chromaticity 525 nm: 3.7 Number of Chromaticity 620 nm: 2.5	Number of Chromaticity 436 nm: 5 Number of Chromaticity 525 nm: 4.2 Number of Chromaticity 620 nm: 2.8
(A) Oxygenating Parameters					
Dissolved Oxygen (O_2)[a]	mg O_2/l	> 8	6-8	3-6	<3
Oxygen Saturation (%)[a]	%	90	70-90	40-70	<40
Chemical Oxygen Demand (COD)	mg/l	<25	25-80	50-70	>70
Biological Oxygen Demand (BOD)	mg/l	<4	4-8	8-20	>20
(B) Nutrient Parameters					
Ammonia as N (NH_4^+-N)	mg/l	<0.2[b]	0.2-1[b]	1-2[b]	>2
Nitrite as N (NO_2^--N)	mg/l	<0.002	0.002-0.01	0.01-0.05	>0.05
Nitrate as N (NO_3^--N)	mg/l	<5	5-10	10-20	>20
Total Kjeldahl Nitrogen as N	mg/l	0.5	1.5	5	>5
Total Phosphorus (P)	mg/l	<0.03	0.03-0.16	0.16-0.65	>0.65
(C) Trace Elements (Metals)					
Mercury (Hg)	µg/l	<0.1	0.1-0.5	0.5-2	>2
Cadmium (Cd)	µg/l	≤ 2	2-5	5-7	>7
Lead (Pb)	µg/l	≤ 10	10-20	20-50	>50
Copper (Cu)	µg/l	≤ 20	20-50	50-200	>200
Nickel (Ni)	µg/l	≤ 20	20-50	50-200	>200
Zinc (Zn)	µg/l	≤ 200	200-500	500-2000	>2000
(D) Bacteriological Parameters					
Fecal Coliform	EMS/100 mL	≤ 10	10-200	200-2000	>2000
Total Coliform	EMS/100 mL	≤ 100	100-20000	20000-100000	>100000
Hazardous Materials	Hazardous materials and pollutants that are not given in this table will be evaluated as of January 1, 2015 after the country inventory is formed.				
(a) It is sufficient to satisfy one of the parameters that are Dissolve Oxygen Concentration and Oxygen Saturation Percent					

(b) Depending on the pH value the free ammonia nitrogen concentration should not exceed 0.02 mg NH_3-N/L

Class I	**High Quality Water**	**1. Surface waters with a high potential for drinking water** **2. Recreations purposes(including swimming)** **3. Trout production (fish farming)** **4. Livestock raising and farming**
Class II	**Slightly Contaminated Water**	**1. Surface waters with a potential for drinking water** **2. Recreations purposes** **3. Fish farming except trout farming** **4. Can be used for irrigation purposes provided the irrigation water quality criteria is met**
Class III	**Contaminated Water**	**Can be used for industrial water supply with a proper treatment except for food, textile, etc. industries that require high quality water**
Class IV	**Heavily Contaminated Water**	**Of lower quality than the quality parameters given for Class III and can be used with improving quality to the other classes**

Table 1.4-6: European Regulation for Inland Water Quality

DIRECTIVE 2008/105/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008				
Name of substance	**Annual average - Environmental Quality Standards(2) Inland surface waters(3)**	**Annual average - Environmental Quality Standards(2) Other surface waters**	**Maximum Allowable Concentration - Environmental Quality Standards(4) Inland surface waters(3)**	**Maximum Allowable Concentration - Environmental Quality Standards (4) Other surface waters**
Alachlor	0,3	0,3	0,7	0,7
Anthracene	0,1	0,1	0,4	0,4
Atrazine	0,6	0,6	2,0	2,0
Benzene	10	8	50	50
Brominated diphenylether(5)	0,0005	0,0002	Not applicable	Not applicable
Cadmium and its compounds (depending on water hardness classes)(6)	≤0,08(Class1) 0,08(Class2) 0,09(Class3) 0,15(Class4) 0,25(Class5)	0,2	≤0,45(Class1) 0,45(Class2) 0,6(Class3) 0,9(Class4) 1,5(Class5)	≤0,45(Class1) 0,45(Class2) 0,6(Class3) 0,9(Class4) 1,5(Class5)
Carbon-tetrachloride(7)	12	12	Not applicable	Not applicable
C10-13Chloroalkanes	0,4	0,4	1,4	1,4
Chlorfenvinphos	0,1	0,1	0,3	0,3
Chlorpyrifos(Chlorpyrifos-ethyl)	0,03	0,03	0,1	0,1
Cyclodiene pesticides: Aldrin(7) Dieldrin(7) Endrin(7) Isodrin(7)	Σ=0,01	Σ=0,005	Not applicable	Not applicable
DDT total(7)(8)	0,025	0,025	Not applicable	Not applicable
para-para-DDT(7)	0,01	0,01	Not applicable	Not applicable

DIRECTIVE 2008/105/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008				
Name of substance	**Annual average - Environmental Quality Standards(2) Inland surface waters(3)**	**Annual average - Environmental Quality Standards(2) Other surface waters**	**Maximum Allowable Concentration - Environmental Quality Standards(4) Inland surface waters(3)**	**Maximum Allowable Concentration - Environmental Quality Standards (4) Other surface waters**
1,2-Dichloroethane	10	10	Not applicable	Not applicable
Dichloromethane	20	20	Not applicable	Not applicable
Di(2-ethylhexyl)-phthalate(DEHP)	1,3	1,3	Not applicable	Not applicable
Diuron	0,2	0,2	1,8	1,8
Endosulfan	0,005	0,0005	0,01	0,004
Fluoranthene	0,1	0,1	1	1
Hexachloro-benzene	0,01(9)	0,01(9)	0,05	0,05
Hexachloro-butadiene	0,1(9)	0,1(9)	0,6	0,6
Hexachloro-cyclohexane	0,02	0,002	0,04	0,02
Isoproturon	0,3	0,3	1,0	1,0
Lead and its compounds	7,2	7,2	Not applicable	Not applicable
Mercury and its compounds	0,05(9)	0,05(9)	0,07	0,07
Naphthalene	2,4	1,2	Not applicable	Not applicable
Nickel and its compounds	20	20	Not applicable	Not applicable
Nonylphenol(4-Nonylphenol)	0,3	0,3	2,0	2,0
Octylphenol((4-(1,1',3,3'-tetramethylbutyl)-phenol))	0,1	0,01	Not applicable	Not applicable
Pentachloro-benzene	0,007	0,0007	Not applicable	Not applicable
Pentachloro-phenol	0,4	0,4	1	1
Polyaromatic hydrocarbons(PAH)(10)	Not applicable	Not applicable	Not applicable	Not applicable
Benzo(a)pyrene	0,05	0,05	0,1	0,1
Benzo(b)fluor-anthene	Σ=0,03	Σ=0,03	Not applicable	Not applicable
Benzo(k)fluor-anthene				
Benzo(g,h,i)-perylene	Σ=0,002	Σ=0,002	Not applicable	Not applicable

DIRECTIVE 2008/105/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008				
Name of substance	**Annual average - Environmental Quality Standards(2) Inland surface waters(3)**	**Annual average - Environmental Quality Standards(2) Other surface waters**	**Maximum Allowable Concentration - Environmental Quality Standards(4) Inland surface waters(3)**	**Maximum Allowable Concentration - Environmental Quality Standards (4) Other surface waters**
Indeno(1,2,3-cd)-pyrene				
Simazine	1	1	4	4
Tetrachloro-ethylene(7)	10	10	not applicable	not applicable
Trichloro-ethylene(7)	10	10	not applicable	not applicable
Tributyltin compounds(Tributhyltin-cation)	0,0002	0,0002	0,0015	0,0015
Trichloro-benzenes	0,4	0,4	Not applicable	Not applicable
Trichloro-methane	2,5	2,5	Not applicable	Not applicable
Trifluralin	0,03	0,03	Not applicable	Not applicable

(1) CAS: Chemical Abstracts Service.

(2) This parameter is the EQS expressed as an annual average value (AA-EQS). Unless otherwise specified, it applies to the total concentration of all isomers.

(3) Inland surface waters encompass rivers and lakes and related artificial or heavily modified water bodies.

(4) This parameter is the EQS expressed as a maximum allowable concentration (MAC-EQS). Where the MAC-EQS are marked as 'not applicable', the AA-EQS values are considered protective against short-term pollution peaks in continuous discharges since they are significantly lower than the values derived on the basis of acute toxicity.

(5) For the group of priority substances covered by brominated diphenylethers (No 5) listed in Decision No 2455/2001/EC, an EQS is established only for congener numbers 28, 47, 99, 100, 153 and 154.

(6) For cadmium and its compounds (No 6) the EQS values vary depending on the hardness of the water as specified in five class categories (Class 1: < 40 mg CaCO3/l, Class 2: 40 to < 50 mg CaCO3/l, Class 3: 50 to < 100 mg CaCO3/l, Class 4: 100 to < 200 mg CaCO3/l and Class 5: ≥ 200 mg CaCO3/l).

(7) This substance is not a priority substance but one of the other pollutants for which the EQS are identical to those laid down in the legislation that applied prior to 13 January 2009.

(8) DDT total comprises the sum of the isomers 1,1,1-trichloro-2,2 bis (p-chlorophenyl) ethane (CAS number 50-29-3; EU number 200-024-3); 1,1,1-trichloro-2 (o-chlorophenyl)-2-(p-chlorophenyl) ethane (CAS number 789-02-6; EU number 212-332-5); 1,1-dichloro-2,2 bis (p-chlorophenyl) ethylene (CAS number 72-55-9; EU number 200-784-6); and 1,1-dichloro-2,2 bis (p-chlorophenyl) ethane (CAS number 72-54-8; EU number 200-783-0).

(9) If Member States do not apply EQS for biota they shall introduce stricter EQS for water in order to achieve the same level of protection as the EQS for biota set out in Article 3(2) of this Directive. They shall notify the Commission and other Member States, through the Committee referred to in Article 21 of Directive 2000/60/EC, of the reasons and basis for using this approach, the alternative EQS for water established, including the data and the methodology by which the alternative EQS were derived, and the categories of surface water to which they would apply.

(10) For the group of priority substances of polyaromatic hydrocarbons (PAH) (No 28), each individual EQS is applicable, i.e. the EQS for Benzo(a)pyrene, the EQS for the sum of Benzo(b)fluoranthene and Benzo(k)fluoranthene and the EQS for the sum of Benzo(g,h,i)perylene and Indeno(1,2,3-cd)pyrene must be met.

Table 1.4-7: Turkish regulation for groundwater quality

Turkish Regulation on Protection of Groundwater Against Pollution and Deterioration (07.04.2012 dated and 28257 numbered)	
Pollutant	**Quality Standards**
Nitrates	50 mg/L
Related metabolites, active materials in pesticides that have degradation and reaction products	0,1 µ/L 0.5 µ/L (Total) [(1)]

"Total" is the total amount of plant protection product contains related metabolites, degradation and reaction products

Table 1.4-8: Marine Water Quality Criteria in Turkish Regulation

Turkish Regulation on Water Pollution Control (31.12.2004 dated and 25687 numbered)		
General Quality Criteria for Sea Water (Table 4 of the Regulation)		
PARAMETERS	Criteria	Notes
pH	6-9	
Colour and Turbidity	Natural	Should be of a level that does not affect more than 90% the normal value of the photosynthesis activity required for natural aquatic life at the depth of measurement depth.
Floating Substances	--	Floating oil, tar, etc., liquids and garbage, etc., solid substances.
Suspended Solid (mg/l)	30	--
Dissolved Oxygen (mg/l)	Over 90%of saturation	Dissolved oxygen values should be monitored throughout the depth
Degradable Organic Polluters	--	Should be of a level that does not affect dissolved oxygen content more than mentioned above.
Crude Oil and Petroleum Products (mg/l)	0.02	Should be separately evaluated in water, biota and sediments, preferably should not exist.
Radioactivity	--	Natural radioactivity type and levels of the subject marine environment should not be exceeded. Artificial radioactivity should be in non-measurable level.
Productivity	--	Seasonal productivity level in the subject marine environment should be saved.
Toxicity	Should not exist	
Phenols (mg/l)	0.001	
Miscellaneous Heavy Metals		
Copper (mg/l)	0.01	
Cadmium (mg/l)	0.01	
Chromium (mg/l)	0.1	
Lead (mg/l)	0.1	
Nickel (mg/l)	0.1	
Zinc (mg/l)	0.1	
Mercury (mg/l)	0.004	
Arsenic (mg/l)	0.1	
Ammonia (mg/l)	0.02	

Table 1.4-9: Domestic Wastewater Discharge standards in IFC and European Guidelines and Turkish Regulations

PARAMETER	UNIT	Turkish Regulation on Water Pollution Control (31.12.2004 dated and 25687 numbered)		Turkish Regulation on Water Pollution Control (31.12.2004 dated and 25687 numbered)		Turkish Regulation on Water Pollution Control (31.12.2004 dated and 25687 numbered)		Turkish Regulation on Water Pollution Control (31.12.2004 dated and 25687 numbered)		Turkish Urban Wastewater Treatment Regulation (08.01.2006 dated and 26047 numbered)		Council Directive 91/271/EEC of 21 May 1991 Concerning Urban Wastewater Treatment		IFC General EHS Guidelines
		Table 21.1		Table 21.2		Table 21.3		Table 21.4		(dated 8.1.2006)		(amended by Commission Directive 98/15/EC, Regulation (EC) No 1882/2003, Regulation (EC) No 1137/2008)		Table 1.3.1
		Domestic Wastewater Discharge Standards		Domestic Wastewater Discharge Standards		Domestic Wastewater Discharge Standards		Domestic Wastewater Discharge Standards						Indicative Values for Treated Sanitary Sewage Discharges*
		for equivalent population of 84-2,000		for equivalent population of 2,000 – 10,000		for equivalent population of 10,000-100,000		for equivalent population greater than 100,000		(limits to be applied after 31.12.2014)				
		Composite Sample	Composite Sample	Composite Sample	Composite Sample	Composite Sample	Composite Sample	Composite Sample	Composite Sample	Concentration	Minimum Treatment Efficiency (%)	Concentration	Minimum Treatment Efficiency (%)	
		2 Hour	24 Hour	2 Hour	24 Hour	2 Hour	24 Hour	2 Hour	24 Hour	(mg/L)		(mg/L)		
Biochemical Oxygen Demand (BOD5)	mg/l	50	45	50	45	50	45	40	35	25	70-90 40	25	70-90 40*	30
Chemical Oxygen Demand (COD)	mg/l	180	120	160	110	140	100	120	90	125	75	125	75	125
Suspended Solids (SS)	mg/l	70	45	60	30	45	30	40	25	35 35 (more than 10,000 p.e.) 60 (2,000-10,000 p.e.)	90 90 (more than 10,000 p.e.) 70 (2,000-10,000 p.e.)	35 35 (more than 10,000 p.e.) 60 (2,000-10,000 p.e.)	90 90 (more than 10,000 p.e.) 70 (2,000-10,000 p.e.)	50
pH	-	6-9	6-9	6-9	6-9	6-9	6-9	6-9	6-9					6-9
Total nitrogen	mg/l													10
Total phosphorus	mg/l													2
Oil and grease	mg/l													10
Total coliform bacteria	MPN** / 100 ml													400*

* Not applicable to centralized, municipal wastewater treatment systems which are included in EHS Guidelines for Water and Sanitation.

** MPN = Most Probable Number

Note: Regulation on Water Pollution Control - Table 21 and Table 22 indicate domestic wastewater discharge standards for equivalent population of 84 - 2,000 and equivalent population of 2,000 - 10,000, respectively. However, the provisions set in Turkish Urban Wastewater Treatment Regulation, of which the discharge quality standards will be valid by 31.12.2014, are exactly the same with the provisions set in EU Directive 91/271/EEC on Urban Wastewater Treatment. The EU Directive 91/271/EEC sets the general rule of; secondary treatment in all areas, and tertiary treatment with enhanced removal of nutrient is required for sensitive areas.

Table 1.4-10: Non-Domestic Wastewater Discharge standards in Turkish Regulations

Turkish Regulation on Water Pollution Control (31.12.2004 dated and 25687 numbered) Table 19: Mixed Industrial Wastewater Discharge Standards (Industries for which sector identification cannot be done)			
Parameter	**Unit**	**Composite Sample (2 hr)**	**Composite Sample (24 hr)**
Chemical Oxygen Demand (COD)	mg/l	400	300
Total Suspended Solids (TSS)	mg/l	200	100
Oil & Grease (O&G)	mg/l	20	10
Total Phosphorus	mg/l	2	1
Total Chromium	mg/l	2	1
Chromium (Cr+6)	mg/l	0.5	0.5
Lead (Pb)	mg/l	2	1
Total Cyanide (CN-)	mg/l	1	0.5
Cadmium (Cd)	mg/l	0.1	-
Iron (Fe)	mg/l	10	-
Fluoride (F-)	mg/l	15	-
Copper (Cu)	mg/l	3	-
Zinc (Zn)	mg/l	5	-
Mercury (Hg)	mg/l	-	0.05
Total Kjeldahl Nitrogen	mg/l	20	15
Fish Biotest (ZSF)	-	10	10
Colour	(Pt-Co)	280	260
pH	-	6-9	6-9

Table 1.4-11: Turkish and European regulations for Drinking Water

Regulation on Water for Human Consumption (17.02.2005 dated, Official Gazette No:25730)			**COUNCIL DIRECTIVE 98/83/EC of 3 November 1998 on the quality of water intended for human consumption**	**WHO (Guidelines for drinking-water quality, fourth edition, World Health Organization 2011**
For Domestic Use (Drinking water and Tap water)				
Microbiological Parameters				
Parameter	**Parameter value/100 ml**		**Parameter value/100 ml**	
Escherichia coli (E. coli)	**0/100 ml**		**0/100 ml**	**0/100 ml**
Enterococcus	**0/100 ml**		**0/100 ml**	
Coliform bacteria	**0/100 ml**		-	**0/100 ml**
Chemical Parameters				
Parameter	**Unit**	**Parameter Value**	**Parameter Value**	
Acrylamide	µg/l	0,1	0,1	0,5
Antimony	µg/l	5	5	2
Arsenic	µg/l	10	10	10
Benzene	µg/l	1	1	10
Benzopyrene	µg/l	0,01	0,01	0,7
Boron	mg/l	1	1	0,5
Bromate	µg/l	10	10	10
Cadmium	µg/l	5	5	3
Chromium	µg/l	50	50	50
Copper	mg/l	2	2	2
Cyanide	µg/l	50	50	70
1,2-Dichloracethane	µg/l	3	3	30
Epichlorhydrin	µg/l	0,1	0,1	-
Fluoride	mg/l	1,5	1,5	1,5
Lead	µg/l	10	10	10
Mercury	µg/l	1	1	1
Nickel	µg/l	20	20	70
Nitrate	mg/l	50	50	50
Nitrite	mg/l	0,5	0,5	3
Pesticides	µg/l	0,1	0,1	1 (DDT and metabolites)
Total pesticides	µg/l	0,5	0,5	-
Polycyclic aromatic hydrocarbons	µg/l	0,1	0,1	-
Selenium	µg/l	10	10	40 (P, provisional guideline value because of uncertainties in the health database)

Tetrachloroethane and Trichloroethane	µg/l	10	10	Tetrachloroethene: 40 Trichloroethene: 20
Trihalomethanes-total	µg/l	100	100	Monochloroacetate: 20 *N*-Nitrosodimethylamine 0,1 Trichloroacetate :0,2 2,4,6-Trichlorophenol 200
Vinyl chloride	µg/l	0,5	0,5	O,3

Table 1.4-12: IFC Guidelines for treated effluents

IFC Environmental, Health and Safety Guidelines: ONSHORE OIL AND GAS DEVELOPMENT (Section 2.1-Table 1)	
Table 1. Emissions, Effluent and Waste Levels from Onshore Oil and Gas Development	
Parameter	**Guideline Value**
Produced water	For discharge to surface waters or to land: Total hydrocarbon content: 10 mg/L pH: 6-9 BOD: 25 mg/L COD: 125 mg/L TSS: 35 mg/L Phenol: 0.5 mg/L Sulphides: 1 mg/L Heavy metals (total)*: 5mg/L Chlorides 600 mg/L (average), 1200 mg/L (maximum)
Hydrotest water	For discharge to surface waters or to land, see parameters for produced water in this table
Stormwater drainage	Stormwater runoff should be treated through an oil/water separation system able to achieve oil & grease concentration of 10 mg/L.

*Heavy metals include: Arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver, vanadium and zinc.

1.4.1.3 Soil Quality

Table 1.4-13 Pollutant Limit Values

Turkish Regulation on Soil Pollution Control and Point Source Contaminated Sites (08.06.2010 dated Official Gazette No. 27605)											
Generic Pollutant Limit Values											
Pollutant	**CAS No**	**Soil ingestion and absorption through skin contact**		**Inhalation of volatile substances in the external environment**		**Inhalation of fugitive dust in the external environment**		**Transport of pollutants into groundwater and drinking underground water [1]** (mg/kg Oven Dry Soil)			
		(mg/kg Oven Dry Soil)		**(mg/kg Oven Dry Soil)**		**(mg/kg Oven Dry Soil)**		**DF = 10**		**DF = 1**	
ORGANIC SUBSTANCES											
Acrylamide	79-06-1	0,1	e	-	i	-		0,00003	e, g	0,000003	e, g
Acrylonitrile	107-13-1	1	c, e	0,3	e	-		0,0003	e, g	0,00003	e, g
Acrolein	107-02-8	39	b, c	0,2	b	-		0,04	b, g	0,004	b, g
Aldrin	309-00-2	0,03	e	-	i	-		0,008	e, g	0,0008	e, g
Anthracene	120-12-7	17203	b	-	f	-		4490	b, g	449	b, g
Asenaften	83-32-9	3441	b	-	f	-		272	b, g	27	b, g
Acetone (2-prophaneone)	67-64-1	70393	b, c	-	f	-		67	b, g	7	b, g
Atrazin	1912-24-9	2	e	-	f	-		0,01	h	0,001	h
Benz (a) anthracene	56-55-3	0,6	e	-	f	-		0,4	e, g	0,04	e, g
Benzene	71-43-2	12	c, e	1	e	-		0,006	ı	0,0006	ı
Benzidine	92-87-5	0,002	e	-	i	-		0,00002	e, g	0,000002	e, g
Benzo(a)pyrene	50-32-8	0,06	e	-	f	-		0,1	e, g	0,01	e, g
Benzo(b)fluoranthene	205-99-2	0,6	e	-	f	-		1	e, g	0,1	e, g
Benzo(k)fluoranthene	207-08-9	6	e	-	f	-		14	e, g	1	e, g

Benzoic acid	65-85-0	244420	b	-	f	-		334	b, g	33	b, g
Bis (2-ethylhekzil) phthalate	117-81-7	35	e	-	f	-		16	e, g	2	e, g
Bis (2-chloroethy) ether	111-44-4	0,6	c, e	0,3	e	-		0,0001	e, g	0,00001	e, g
Bis (2-chloroetoksi) methane	111-91-1	183	b	-	f	-		0,2	b, g	0,02	b, g
Bis (chloromethyl) ether	542-88-1	0,003	c, e	0,0003	e	-		0,0000006	e, g	0,00000006	e, g
Bromodichloromethane	75-27-4	10	c, e	-	f	-		0,003	e, g	0,0003	e, g
Bromoform	75-25-2	61	e	-	i	-		0,3	h	0,03	h
Butanol	71-36-3	6110	b	-	f	-		7	b, g	0,7	b, g
Butyl benzyl phthalate	85-68-7	256	e	-	f	-		7	e, g	0,7	e, g
DDD	72-54-8	2	e	-	f	-		0,9	e, g	0,09	e, g
DDE	72-55-9	1	e	-	f	-		0,6	e, g	0,06	e, g
DDT	50-29-3	2	e	-	i	-		0,9	e, g	0,09	e, g
Dibenz(a, h)anthracene	53-70-3	0,06	e	-	f	-		0,5	e, g	0,05	e, g
1,2-Dichlorobenzene	95-50-1	7039	b, c	222	d	-		11	h	1	h
1,4-Dichlorobenzene	106-46-7	118	c, e	9762	b	-		3	h	0,3	h
3,3'-Dichlorobenzidine	91-94-1	1	e	-	f	-		0,02	e, g	0,002	e, g
1,1-Dichloroethane	75-34-3	15643	b, c	1167	b	-		21	b, g	2	b, g
1,2-Dichloroethane	107-06-2	7	c, e	0,5	e	-		0,002	e, g	0,0002	e, g
1,1-Dichloroethylene	75-35-4	1	c, e	0,06	e	-		0,0004	e, g	0,00004	e, g
1,2-cis-Dichloroethylene	156-59-2	782	b, c	-	f	-		0,2	h	0,02	h
1,2-trans-Dichloroethylene	156-60-5	1564	b, c	118	b	-		2	b, g	0,2	b, g
2,4-Dichlorophenol	120-83-2	183	b	-	f	-		2	b, g	0,2	b, g
2,4-Dichlorophenoxy acetic acid	94-75-7	686	b	-	f	-		0,08	h	0,008	h
1,2-Dichloroprophane	78-87-5	18	c, e	16	b	-		0,1	h	0,01	h
1,3-Dichloropropene	542-75-6	6	c, e	2	e	-		0,003	e, g	0,0003	e, g
Dieldrin	60-57-1	0,03	e	-	i	-		0,0009	e, g	0,00009	e, g
Diethylphthalate	84-66-2	48884	b	-	f	-		132	b, g	13	b, g
1,2-Diphenylhidrazin	122-66-7	0,6	e	-	i	-		0,006	e, g	0,0006	e, g
2,4-Dimethylphenol	105-67-9	1222	b	-	f	-		12	b, g	1	b, g
Dimethylphthalate	131-11-3	611049	b	-	f	-		1001	b, g	100	b, g
Di-n-butyl phthalate	84-74-2	6110	b	-	f	-		99	d	11	b, g
4,6-Dinitro-o-cresol	534-52-1	6	b	-	f	-		0,05	b, g	0,005	b, g

2,4-Dinitrophenol	51-28-5	122	b	-	f	-		0,7	b, g	0,07	b, g
2,4-Dinitrotoluene	121-14-2	122	b	-	f	-		0,7	b, g	0,07	b, g
2,6-Dinitrotoluene	606-20-2	61	b	-	f	-		0,3	b, g	0,03	b, g
Di-n-octyl phthalate	117-84-0	2444	b	-	f	-		24	d	24	d
Endosulphone	115-29-7	367	b	-	f	-		97	b, g	10	b, g
Endrin	72-20-8	18	b	-	f	-		0,1	h	0,01	h
Ethylbenzene	100-41-4	7821	b, c	14	e	-		4	h	0,4	h
Phenol	108-95-2	18331	b	-	f	-		81	b, g	8	b, g
Fluoranthene	206-44-0	2294	b	-	f	-		2073	b, g	207	b, g
Fluorene	86-73-7	2294	b	-	f	-		333	b, g	33	b, g
Furan	110-00-9	78	b, c	-	f	-		0,1	b, g	0,01	b, g
α-HCH (α-BHC)	319-84-6	0,08	e	-	i	-		0,0007	e, g	0,00007	e, g
β-HCH (β-BHC)	319-85-7	0,3	e	-	i	-		0,003	e, g	0,0003	e, g
γ-HCH (Lindane)	58-89-9	0,5	e	-	f	-		0,1	h	0,01	h
Hexachloro-1,3-butadiene	87-68-3	6	e	-	i	-		0,01	h	0,001	h
Hexachlorobenzene	118-74-1	0,3	e	-	i	-		0,003	e, g	0,0003	e, g
Hexachloroethane	67-72-1	35	e	-	i	-		0,03	e, g	0,003	e, g
Hexachlorocyclopentadien	77-47-4	367	b	-	i	-		8	b, g	0,8	b, g
Heptachlor	76-44-8	0,1	e	-	i	-		0,02	e, g	0,002	e, g
Heptachlorepoxide	1024-57-3	0,05	e	-	i	-		0,0008	e, g	0,00008	e, g
Hydroquinone	123-31-9	9	e	-	f	-		0,01	e, g	0,001	e, g
Indeno(1,2,3-cd)pyrene	193-39-5	0,6	e	-	f	-		5	e, g	0,5	e, g
Isophorone	78-59-1	511	e	-	f	-		0,2	e, g	0,02	e, g
Carbaryl	63-25-2	6110	b	-	f	-		25	b, g	2	b, g
Carbazole	86-74-8	24	e	-	f	-		0,8	e, g	0,08	e, g
Carbofuran	1563-66-2	306	b	-	f	-		0,6	b, g	0,06	b, g
Carbon disulphide	75-15-0	7821	b, c	257	d	-		9	b, g	0,9	b, g
Carbon tetrachlorure	56-23-5	5	c, e	0,3	e	-		0,02	h	0,002	h
Chlordane	57-74-9	2	e	-	i	-		0,3	e, g	0,03	e, g
p-Chloroaniline	106-47-8	9	e	-	f	-		0,004	e, g	0,0004	e, g
Chlorobenzene	108-90-7	1564	b, c	374	b	-		5	b, g	0,5	b, g
Chlorodibromomethane	124-48-1	6	e	-	f	-		0,3	h	0,03	h

2-Chlorophenol	95-57-8	391	b, c	-	f	-		2	b, g	0,2	b, g
Chloroform	67-66-3	105	c, e	0,3	e	-		0,8	h	0,08	h
Chloromethane	74-87-3	49	c, e	2	e	-		0,01	e, g	0,001	e, g
beta-Chloronaphtalene	91-58-7	6257	b, c	-	f	-		180	b, g	18	b, g
m-Cresol	108-39-4	3055	b	-	f	-		19	b, g	2	b, g
o-Cresol	95-48-7	3055	b	-	f	-		20	b, g	2	b, g
p-Cresol	106-44-5	306	b	-	f	-		2	b, g	0,2	b, g
Chrysene	218-01-9	62	e	-	f	-		43	e, g	4	e, g
Xylene, mixture	1330-20-7	15643	b, c	298	d	-		81	b, g	8	b, g
m-Xylene	108-38-3	156429	b, c	-	f	-		444	d	80	b, g
o-Xylene	95-47-6	156429	b, c	-	f	-		297	d	81	b, g
Maneb	12427-38-2	306	b	-	f	-		0,4	b, g	0,04	b, g
MCPA	94-74-6	31	b	-	f	-		0,005	h	0,0005	h
Methyl bromide	74-83-9	110	b, c	8	b	-		0,1	b, g	0,01	b, g
Methyl tertiary-butyl ether (MTBE)	1634-04-4	355	c, e	6941	d	-		0,08	e, g	0,008	e, g
Methylene chloride	75-09-2	85	c, e	12	e	-		0,05	h	0,005	h
Metoxycyclor	72-43-5	306	b	-	f	-		156	b, g	16	b, g
Naphtalene	91-20-3	1147	b	165	b	-		28	b, g	3	b, g
Nitrobenzene	98-95-3	39	b, c	147	b	-		0,1	b, g	0,01	b, g
2-Nitrophenol	88-75-5	-	f	-	f	-		-	f	-	f
4-Nitrophenol	100-02-7	489	b	-	f	-		2	b, g	0,2	b, g
N-Nitrozodimethylamine	62-75-9	0,01	e	0,02	e	-		0,3	h	0,03	h
N-Nitrozo-di-N-propylamine	621-64-7	0,07	e	-	f	-		0,0001	e, g	0,00001	e, g
N-Nitrozodiphenylamine	86-30-6	99	e	-	f	-		2	e, g	0,2	e, g
PCB [2]	1336-36-3	0,2	e	-	i	-		0,03	e, g	0,003	e, g
PCB [3]	1336-36-3	6	e	-	f	-		0,9	e, g	0,09	e, g
Pentachlorobenzene	608-93-5	49	b	-	f	-		1	b, g	0,1	b, g
Pentachlorophenol	87-86-5	3	e	-	f	-		0,04	e, g	0,004	e, g
Pyrene	129-00-0	1720	b	-	f	-		1522	b, g	152	b, g
Piridin	110-86-1	78	b, c	-	f	-		0,1	b, g	0,01	b, g
Cyclohexanon	108-94-1	305525	b	-	f	-		421	b, g	42	b, g
Stiren	100-42-5	15643	b, c	1001	d	-		0,2	h	0,02	h

1,2,4,5-Tetrachlorobenzene	95-94-3	18	b	-	f	-		0,3	b, g	0,03	b, g
2,3,7,8-Tetrachlorodibenzo-p-Dioxin	1746-01-6	0,000004	e	-	f	-		0,000002	e, g	0,0000002	e, g
1,1,2,2-Tetrachloroethane	79-34-5	3	c, e	0,7	e	-		0,001	e, g	0,0001	e, g
Tetrachloroethylene	127-18-4	1	c, e	1	e	-		0,2	h	0,02	h
Tetraethyl lead	78-00-2	0,006	b	-	f	-		0,0001	b, g	0,00001	b, g
Toxaphene	8001-35-2	0,4	e	-	i	-		0,1	e, g	0,01	e, g
Toluene	108-88-3	6257	b, c	925	d	-		5	h	0,5	h
Total Petrol Hydrocarbons (Aliphatic) (EC5 - EC8) [4]	0-01-0	4693	b, c	-	i	-		4	b, g	0,4	b, g
Total Petrol Hydrocarbons (Aliphatic) (EC8> - EC16) [4]	0-01-1	7821	b, c	-	i	-		7	b, g	0,7	b, g
Total Petrol Hydrocarbons (Aliphatic) (EC16> - EC35) [4]	0-00-9	156429	b, c	-	f	-		146	b, g	15	b, g
Total Petrol Hydrocarbons (Aromatic) (EC5 - EC9) [4]	0-01-3	15643	b, c	-	i	-		15	b, g	1	b, g
Total Petrol Hydrocarbons (Aromatic) (EC9> - EC16) [4]	0-01-4	1564	b, c	-	i	-		1	b, g	0,1	b, g
Total Petrol Hydrocarbons (Aromatic) (EC16> - EC35) [4]	0-01-2	2346	b, c	-	f	-		2	b, g	0,2	b, g
Tributyltin oxide	56-35-9	18	b	-	f	-		8249	b, g	825	b, g
Trichlorobenzene	120-82-1	782	b, c	95	b	-		6	b, g	0,6	b, g
1,1,1-Trichloroethane	71-55-6	156429	b, c	677	d	-		261	b, g	26	b, g
1,1,2-Trichloroethane	79-00-5	11	c, e	1	e	-		0,004	e, g	0,0004	e, g
Trichloroethylene	79-01-6	2	c, e	0,05	e	-		0,07	h	0,007	h
2,4,5-Trichlorophenol	95-95-4	6110	b	-	f	-		94	b, g	9	b, g
2,4,6-Trichlorophenol	88-06-2	44	e	532	e	-		0,2	e, g	0,02	e, g
Vinyl acetate	108-05-4	78214	b, c	969	b	-		78	b, g	8	b, g
Vinyl chloride (chloroethylene)	75-01-4	0,4	c, e, k	0,6	e,l	-		0,0002	e, g, k	0,00002	e, g, k
INORGANICS											
Antimony	7440-36-0	31	b, c	-		-	f	2	ı	0,2	ı
Arsenic	7440-38-2	0,4	e	-		471	e	3	ı	0,3	ı
Copper	7440-50-8	3129	b, c	-		-	f	514	b, g	51	b, g
Barium	7440-39-3	15643	b, c	-		433702	b	288	h	29	h
Beryllium	7440-41-7	0,1	c, e	-		843	e	0,1	e, g	0,01	e, g
Mercury	7439-97-6	23	b, c	3	d	-		3	d	0,6	b, g
Zinc	7440-66-6	23464	b, c	-		-	f	6811	b, g	681	b, g
Argentine	7440-22-4	391	b, c	-		-	f	16	b, g	2	b, g

Cadmium	7440-43-9	70	b,m	-		1124	e	27	b, g	3	b, g
Tin	7440-31-5	46929	b, c	-		-	f	54794	b, g	5479	b, g
Cobalt	7440-48-4	23	b, c	-		225	e	5	b, g	0,5	b, g
Chrome (III)	16065-83-1	117321	b, c	-		-	f	-	j	-	j
Chrome (VI)	18540-29-9	235	b, c	-		24	e	10	ı	1	ı
Chrome (total) 5	7440-47-3	235	b, c	-		24	e	900000	ı	1	ı
Lead	7439-92-1	400	n	-		-	f	135	b, g	14	b, g
Molybdenum	7439-98-7	391	b, c	-		-	f	14	h	1	h
Nickel	7440-02-0	1564	b, c	-		-	f	13	ı	1	ı
Selenium	7782-49-2	391	b, c	-		-	f	0,5	ı	0,05	ı
Thallium	7440-28-0	5	b, c	-		-	f	2	b, g	0,2	b, g
Titanium	7440-32-6	312857	b, c	-		-	f	-	j	146029	b, g
Vanadium	7440-62-2	548	b, c	-		-	f	2556	b, g	256	b, g
Cyanide	57-12-5	1564	b, c	-		-	f	5	ı	0,5	ı
Thiocyanate	463-56-9	16	b, c	-		-	f	0,02	b, g	0,002	b, g

[1] In the event that the distance to the aquifer is less than 3 m, aquifer has a fractured or carstic structured, or source of pollution is equal to or larger than 10 hectares the dilution factor (DF) shall be considered to be 1; otherwise, DF shall be taken as "10".

[2] Should be taken into account for all mixtures, excluding Arochlor 1016.

[3] Should be taken into account for Arochlor 1016 mixtures only.

[4] EC: Number of equivalent carbon. For detailed information, see. USA EPA, 2002. (Provisional Peer Reviewed Toxicity Values for Total Petroleum Hydrocarbons. Superfund Health Risk Technical Support Center National Center for Environmental Assessment, Office of Research and Development, Cincinnati, OH 45268).

[5] Limit values calculated for Chrome (VI) were used.

[a] Risks on human health were taken into account when calculating Generic Pollutant Limit Values.

[b] Hazard index for the calculation of this value was accepted as "1".

[c] Since there is no skin absorption factor for this pollutant, exposure through soil ingestion was taken into account only.

[d] Soil saturation concentration (C_{sat}).

[e] Cancer risk for the calculation of this value was accepted as "10^{-6}".

[f] There is no toxicological value for this exposure route.

[g] HBL value was used in the calculation of this value.

[h] Drink Water Standard determined by World Health Organization was used in the calculation of this value.

[ı] Limit value given for drink and utility water in TS-266 standard for the Waters Intended for Human Consumption was used in the calculation of this value.

[i] Since there are no D_i , and D_w values of this pollutant the limit value for this exposure route could not be calculated.

[j] Whatever is the pollutant concentration in soil this exposure route does not need to be taken into account because of chemical-specific characteristics.

[k] This limit value was calculated by assuming that exposure to vinyl chloride is continuous throughout life.

[l] This limit value was calculated by assuming that exposure to vinyl chloride is continuous during adulthood.

[m] value, determined for taking Cadmium into the body through food, was used in the calculation of this limit value.

[n] This value was taken from USA EPA 1994. (USA EPA, 1994. Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities, EPA/540/F-94/043, Office of Solid Waste and Emergency Response, Washington, D.C. Directive 9355.4-12.).

[o] This value was calculated by using RfD_o value, determined for mercury chloride (CAS No 7847-94-7).

[ö] This value was calculated by using RfD_o value, determined for thallium sulphate (CAS No 7446-18-6).

1.4.1.4 Noise and Vibration

Table 1.4-14: Turkish Ambient Noise Limits Generated by Industrial Facilities

Turkish Ambient Noise Limits Generated by Industrial Facilities (Regulation on Assessment and Management of Ambient Noise Annex-VII Table 4) (04.06.2010 dated and 27601 numbered)			
Receptor	**LAeq (dBA) Day-time 06:00 – 19:00**	**LAeq (dBA) Evening-time 19:00 – 22:00**	**LAeq (dBA) Night-time 22:00 – 06:00**
Noise sensitive areas - with training, culture and health areas, summer houses and camps	60	55	50
Combination of commercial and noise sensitive areas - with dense residential buildings	65	60	55
Combination of commercial and noise sensitive areas with dense commercial buildings	68	63	58
Industrial areas	70	65	60

Table 1.4-15: Turkish Ambient Noise Limits Generated by Construction Sites

Turkish Ambient Noise Limits Generated by Construction Sites (Regulation on Assessment and Management of Ambient Noise Annex-VII Table 5) (04.06.2010 dated and 27601 numbered)	
Activity (construction, demolition and renovation)	**LAeq (dBA)**
	Day-time (06:00 – 19:00)
Building	70
Road	75
Other sources	70

Table 1.4-16: Maximum Allowable Vibration Values for Nearest Sensitive and Highly Sensitive Areas because of Blasting in Mining Areas and Quarries

Maximum Allowable Vibration Values for Nearest Sensitive and Highly Sensitive Areas because of Blasting in Mining Areas and Quarries (Regulation on Assessment and Management of Ambient Noise Annex-VII Table 6) (04.06.2010 dated and 27601 numbered)	
Vibration Frequency (Hz)	**Maximum Allowable Vibration Speed (Peak Value – mm/sec)**
1	5
4-10	19
30-100	50

Table 1.4-17: Maximum Allowable Vibration Values for Nearest Sensitive and Highly Sensitive Areas because of Piling Activities in Construction Areas (Between 1 Hz and 80 Hz Frequency Band)

Maximum Allowable Vibration Values for Nearest Sensitive and Highly Sensitive Areas because of Piling Activities in Construction Areas (Between 1 Hz and 80 Hz Frequency Band) (Regulation on Assessment and Management of Ambient Noise Annex-VII Table 7) (04.06.2010 dated and 27601 numbered)		
	Maximum Allowable Vibration Speed (Peak Value-mm/sec)	
	Continuous Vibration	Discontinuous Vibration

Residential Areas	5	10
Industrial and Commercial Areas	15	30

Table 1.4-18: IFC Guidelines for Noise

IFC General EHS Guidelines - Noise Standards based on WHO Guidelines (Section 1.7 Table 1.7.1)		
Receptor	**One Hour LAeq (dBA)**	
	Daytime 07:00 - 22:00	**Night time 22:00 - 07:00**
Residential; institutional; educational	55	45
Industrial; commercial	70	70

1.4.2 Best Available Techniques (BATs)

The purpose of "Best Available Techniques" or BAT Process is to ensure the project follows an objective process for evaluating the benefits of technologies selected for the project and considers the state-of-the-art technology in its design.

An assessment of TANAP Project Compressor Stations was done and primarily focused on:

- Basic technology and design consideration;
- Turbine driver selection for mechanical power;
- Fuel consumption rate of gas turbines
- Noise and atmospheric emissions management;
- Hydrocarbon pollution management.

Although the pipeline itself is not meant to be excluded from the BAT approach, BAT Reference Documents (BREFs) are mostly applicable to the compressor station facilities of this Project.

Best Available Techniques for Environmental Protection sets out a range of criteria against which plant design can be assessed. The BAT Standard sets out the following basic framework:

- Overall environmental impacts of new developments shall be minimized using BAT in design, equipment selection and operation;
- The application of BAT shall be implemented at the earliest opportunity in order to minimise environmental impact.

The BAT assessment is conducted according to European Commission Integrated Pollution Prevention and Control Best Available Technology Reference (BREF) notes.

The Best Available Techniques (BAT) Assessment Report is given in Appendices and the BREFs are listed below:

- Large Combustion Plants BREF, 07.2006;
- Requirements of Emission from Storage BREF, 07.2006
- Energy Efficiency BREF, 02.2009

1.4.3 Project Standards

The following section compiles the project standards that will ensure the full compliance of the Project with the abovementioned regulatory requirements.

1.4.3.1 Air Quality Standards

Table 1.4-19: Project Air Quality Standards

Project Air Quality Standards			
SO2 (µg/m3)	Hourly	350 (2019) (not to exceed more than 24 times in a year)	Ambient Air Quality Limits of Turkish Regulation on Air Quality Assessment and Management (Annex I: Future Target Values) Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on Ambient Air Quality and Cleaner Air For Europe
	24 hr	20 (guideline)	WHO Ambient Air Quality Guidelines- IFC General EHS Guidelines: Environmental Air Emissions and Ambient Air Quality – General Guidelines for Human Health
	Yearly and Winter Season (Oct 1 – March 31) (for wildlife and ecosystem)	20 (2014)	Ambient Air Quality Limits of Turkish Regulation on Air Quality Assessment and Management (Annex I: Future Target Values)
NO2 (µg/m3)	Hourly	200 (2024) (not to exceed more than 18 times in a year)	Ambient Air Quality Limits of Turkish Regulation on Air Quality Assessment and Management (Annex I: Future Target Values) WHO Ambient Air Quality Guidelines- IFC General EHS Guidelines: Environmental Air Emissions and Ambient Air Quality – General Guidelines for Human Health Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on Ambient Air Quality and Cleaner Air For Europe
	Yearly	30	WHO Ambient Air Quality Guidelines- IFC General EHS Guidelines: Environmental Air Emissions and Ambient Air Quality – Guidelines for Europe (for ecosystem)
NOx (µg/m3)	Yearly (for vegetation)	30 (2014)	Ambient Air Quality Limits of Turkish Regulation on Air Quality Assessment and Management (Annex I: Future Target Values)
PM10 (µg/m3)	24 hr (For human health)	50 (2019) (not to exceed more than 35 times in a year)	Ambient Air Quality Limits of Turkish Regulation on Air Quality Assessment and Management (Annex I: Future Target Values)
	Yearly (for human health)	20 (guideline)	WHO Ambient Air Quality Guidelines- IFC General EHS Guidelines: Environmental Air Emissions and Ambient Air Quality – General Guidelines for Human Health
PM2.5 (µg/m3)	24 hr	25 (guideline)	WHO Ambient Air Quality Guidelines- IFC General EHS Guidelines: Environmental Air Emissions and Ambient Air Quality – General Guidelines for Human Health

Project Air Quality Standards			
	1 year	10 (guideline)	WHO Ambient Air Quality Guidelines- IFC General EHS Guidelines: Environmental Air Emissions and Ambient Air Quality – General Guidelines for Human Health
Lead (µg/m3)	Yearly (human health) (LTL)	0.5	Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on Ambient Air Quality and Cleaner Air For Europe
Benzene (µg/m3)	Yearly	5 (2021)	Ambient Air Quality Limits of Turkish Regulation on Air Quality Assessment and Management (Annex I: Future Target Values) Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on Ambient Air Quality and Cleaner Air For Europe
CO (mg/m3)	Max daily 8 hr average	10 (2017)	Ambient Air Quality Limits of Turkish Regulation on Air Quality Assessment and Management (Annex I: Future Target Values) Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on Ambient Air Quality and Cleaner Air For Europe
Ozone (µg/m3)	Maximum daily 8 hr average	100 (guideline)	WHO Ambient Air Quality Guidelines- IFC General EHS Guidelines: Environmental Air Emissions and Ambient Air Quality – General Guidelines for Human Health

LTL: Long Term Limit

STL: Short Term Limit

Table 1.4-20: Project Domestic Wastewater Discharge Standards

Project Domestic Wastewater Discharge Standards				
Parameter	**Unit**	**Concentration (mg/L)**	**Minimum Treatment Efficiency (%)**	**Reference regulatory requirements**
Biochemical Oxygen Demand (BOD5)	mg/L	25	70-90 40	Turkish Urban Wastewater Treatment Regulation (08.01.2006 dated and 26047 numbered) Council Directive 91/271/EEC of 21 May 1991 Concerning Urban Wastewater Treatment
Chemical Oxygen Demand (COD)	mg/L	125	75	Turkish Urban Wastewater Treatment Regulation (08.01.2006 dated and 26047 numbered) Council Directive 91/271/EEC of 21 May 1991 Concerning Urban Wastewater Treatment
Suspended Solids (SS)	mg/L	35 35 (more than 10,000 p.e.) 60 (2,000-10,000 p.e.)	90 90 (more than 10,000 p.e.) 70 (2,000-10,000 p.e.)	Turkish Urban Wastewater Treatment Regulation (08.01.2006 dated and 26047 numbered) Council Directive 91/271/EEC of 21 May 1991 Concerning Urban Wastewater Treatment
pH	-	6-9		IFC General EHS Guidelines
Oil and Grease	mg/L	10		IFC General EHS Guidelines
Total Coliform Bacteria	MPN**/100mL	400*		IFC General EHS Guidelines

* Not applicable to centralized, municipal wastewater treatment systems which are included in EHS Guidelines for Water and Sanitation.

** MPN = Most Probable Number

The provisions set in Turkish Urban Wastewater Treatment Regulation, of which the discharge quality standards will be valid by 31.12.2014, are exactly the same with the provisions set in EU Directive 91/271/EEC on Urban Wastewater Treatment. The EU Directive 91/271/EEC sets the general rule of; secondary treatment in all areas, and tertiary treatment with enhanced removal of nutrient is required for sensitive areas.

Table 1.4-21: Drinking Water Standards

Project Drinking Water Standards			
Microbiological Parameters			
Parameter	**Unit**	**Parameter Value /100 mL**	**Reference regulatory requirements**
Escherichia coli (E.coli)	-	*0/100 ml*	*Regulation on Water for Human Consumption Council Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption*
Enterococcus	-	*0/100 ml*	
Coliform bacteria	-	*0/100 ml*	
Chemical Parameters			
Parameter	**Unit**	**Parameter Value**	**Reference Regulatory Requirements**
Acrylamide	µg/l	0,1	Regulation on Water for Human Consumption Council Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption, except Antimony, Cadmium and Vinyl Chloride. WHO parameters are used as project standards for these parameters.
Antimony	µg/l	2	
Arsenic	µg/l	10	
Benzene	µg/l	1	
Benzopyrene	µg/l	0,01	
Boron	mg/l	1	
Bromate	µg/l	10	
Cadmium	µg/l	3	
Chromium	µg/l	50	
Copper	mg/l	2	
Cyanide	µg/l	50	
1,2-Dichloracethane	µg/l	3	
Epichlorhydrin	µg/l	0,1	
Fluoride	mg/l	1,5	
Lead	µg/l	10	
Mercury	µg/l	1	
Nickel	µg/l	20	
Nitrate	mg/l	50	
Nitrite	mg/l	0,5	
Pesticides	µg/l	0,1	
Total pesticides	µg/l	0,5	
Polycyclic aromatic hydrocarbons	µg/l	0,1	
Selenium	µg/l	10	
Tetrachloroethane and Trichloroethane	µg/l	10	
Trihalomethanes-total	µg/l	100	
Vinyl chloride	µg/l	0,3	

Table 1.4-22: Non-Domestic Wastewater Discharge standards

Parameter	Unit	Composite Sample (2 hr)	Composite Sample (24 hr)	Reference Regulatory Requirement
Chemical Oxygen Demand (COD)	mg/l	400	300	Regulation on Water Pollution Control Table 19: Mixed Industrial Wastewater Discharge Standards (Industries for which sector identification cannot be done)
Total Suspended Solids (TSS)	mg/l	200	100	
Oil & Grease (O&G)	mg/l	20	10	
Total Phosphorus	mg/l	2	1	
Total Chromium	mg/l	2	1	
Chromium (Cr+6)	mg/l	0.5	0.5	
Lead (Pb)	mg/l	2	1	
Total Cyanide (CN-)	mg/l	1	0.5	
Cadmium (Cd)	mg/l	0.1	-	
Iron (Fe)	mg/l	10	-	
Fluoride (F-)	mg/l	15	-	
Copper (Cu)	mg/l	3	-	
Zinc (Zn)	mg/l	5	-	
Mercury (Hg)	mg/l	-	0.05	
Total Kjeldahl Nitrogen	mg/l	20	15	
Fish Biotest (ZSF)	-	10	10	
Colour	(Pt-Co)	280	260	
pH	-	6-9	6-9	

1.4.3.2 Soil Quality Standards

"Regulation on Soil Pollution Control and Point Source Contaminated Sites" originally published in the Official Gazette no. 27605, dated 8 June 2010; and amended on 14 June 2012 in the Official Gazette no. 28323 stating that the binding articles provisionally would be effective as of 08 June 2013. There was another amendment to the regulation on 11 July 2013. The recent amendment states that the binding articles for the investigation of soil contamination, risk assessment criteria, reporting process will be in force 06 May 2015.

The preceding regulation, namely the Soil Pollution Control Regulation (SPCR), which became ineffective as of 8 June 2010, did not provide specific guidelines related to dealing with specific types of contamination or activities. The limits given by SPCR did not differentiate the land use type and, thus, did not provide soil pollution limits for industrial areas. The SPCR required compliance with the limits given in the regulation regardless of where the site was located.

In the new regulation, the contaminant indicator parameters for soil for pipeline transport are given by defining generic threshold values indication of contamination.

1.4.3.3 Noise Standards

Table 1.4-23: Noise Standards for Industrial Facilities

Noise Standards for Industrial Facilities			
Receptor	**Period**	**Noise Level**	**Reference regulatory requirement**
Noise sensitive areas - with training, culture and health areas, summer houses and camps	**LAeq (dBA) Day-time 06:00 – 19:00**	60	Regulation on Assessment and Management of Ambient Noise - Turkish Ambient Noise Limits Generated by Industrial Facilities
	LAeq (dBA) Evening-time 19:00 – 22:00	55	
	LAeq (dBA) Night-time 22:00 – 06:00	50	
Combination of commercial and noise sensitive areas - with dense residential buildings	**One Hour LAeq (dBA) Daytime 07:00 - 22:00**	55	IFC General EHS Guidelines - Noise Standards based on WHO Guidelines
	One Hour LAeq (dBA) Night time 22:00 - 07:00	45	
Industrial areas	**LAeq (dBA) Day-time 06:00 – 19:00**	70	Regulation on Assessment and Management of Ambient Noise - Turkish Ambient Noise Limits Generated by Industrial Facilities
	LAeq (dBA) Evening-time 19:00 – 22:00	65	
	LAeq (dBA) Night-time 22:00 – 06:00	60	

Table 1.4-24: Noise Standards for Construction Sites

Noise Standards for Construction Sites		
Activity (Construction, Demolition and Renovation)	**Noise Level**	**Reference regulatory requirement**
	LAeq (dBA) Day-time (06:00 – 19:00)	
Building	70	Regulation on Assessment and Management of Ambient Noise - Turkish Ambient Noise Limits Generated by Construction Sites
Road	75	
Other sources	70	

1.5 Local Corporate Requirements

The project is committed to structure the corporate systems to ensure the following minimum national legislation requirements.

All permits required by the Environment Law and other applicable legislation will be obtained for the project.

The definition of projects for which EIA reports have to be prepared, the EIA process and the relevant principles and procedures are given in detail in the regulation on EIA. Annex 1 of the regulation points out the projects subject to EIA studies and Annex 2 of the regulation points out the projects subject to selection and elimination criteria.

Article 30 in Annex 1 of the regulation on EIA states that, "Pipelines for the transportation of gas, oil or chemicals with a diameter over 600 mm and a length of more than 40 km", are included in the list of projects subject to EIA studies. The proposed TANAP project is 56-inch and 48-inch pipeline system of approximately 1800 km and is subject to EIA studies. Thus the preliminary action to be taken is to obtain EIA positive certificate in compliance with the Regulation on EIA. Please refer to related Legislation and EIA Report for the EIA Process.

The planned TANAP Project and highways, roads, rural roads, railways, rivers, irrigation channels, water pipeline and sewage systems and other pipelines which exist on the project route will cross at several locations. Protocols will be signed for the aforementioned crossings with the relevant authorities (Ministry of Defence, Regional Directorates or General Directorate of State Railways, Regional Directorates or General Directorate of Highways, Regional Directorates or General Directorate of State Hydraulic Works, BOTAŞ Petroleum Pipeline Corporation, All Provincial Special Administrations, Provincial Irrigation Channel Corporations) after the EIA process and before the construction phase and required permits will be obtained. TANAP will have the construction drawings for crossings prepared and submitted to the relevant authorities for approval. The crossings will be installed with compliance to the construction drawings.

The potable and domestic water needs during the construction phase will be fulfilled according to the requirements of the Regulation on Water Intended for Human Consumption and Public Sanitation Law. The required permits will be obtained from the General Directorate of State Hydraulic Works to dig wells where municipal water cannot be provided.

The solid waste that would occur at all stages of project will be stored separately in impermeable, closed containers according to their properties; solid waste which can be recycled, which cannot be recycled and hazardous waste. It is planned to make use of the existing Regular Solid Waste Landfills and Recycle, Storage and Disposal Facilities licensed by MoEU and not to establish waste landfills in the scope of the project.

Land to be acquired in the scope of the project will be expropriated by the General Directorate of BOTAŞ, assigned as the Nominated Official Authority based on the Host Government Agreement as per the Law on Expropriation no. 2942.

Permits for the use of areas qualified as forest in the scope of the project will be obtained as per Article 17 of the Forestry Law no. 6831 and permit studies and procedures will be conducted in line with the relevant instructions of the General Directorate of Forestry.

In addition, necessary permits will be obtained for the use of agricultural areas for non-agricultural purposes within the scope of the project, from the relevant Provincial Directorates of Food, Agriculture and Livestock and/or the Ministry of Food, Agriculture and Livestock, as applicable, as per the provisions of Law no. 5403 on Soil Conservation and Land Use, which was published on the Official Gazette no. 25880 dated 19.07.2005.

In the presence of areas qualified as pasture in the project area, necessary application for the amendment of the allocation purpose of the areas in question will be made to Provincial Directorates of Food, Agriculture and Livestock (Provincial Pasture Commission) prior to the execution of the investment with regard to Law on Transit Passage of Petroleum by Pipelines, and necessary permits will be obtained.

In cases where the surface water existing on the project route is subject to the defined locations in the Law on Aquatic Products no. 1380, application will be made to Provincial Directorate of Food, Agriculture, and Livestock as per Article 7 of the regulation and authority opinion will be obtained.

The provisions of the approved plans on the project route (at all scales) will be considered as per the Law on Land Development no. 3194. The pipeline and the permanent above ground installations will be inserted on the Spatial Environmental Master Plans and other relevant land development plans after the EIA process. The buildings in the scope of the project will be installed with compliance to land development plans, regulations, licences and annexes regarding the Law on Land Development and building licence will be obtained.

The necessary permits will be obtained from the General Directorate of Cultural Entities and Museums and relevant Regional Directorate of Cultural Entities Protection Boards for the archaeological sites which are on the project route. The detailed information for the archaeological sites on the project route is given in Chapter 7.3.3.8. For these sites recovery excavations will be conducted under the supervision of the General Directorate of Cultural Entities and Museums. The authority opinions are given in Annex-4.3 of EIA Report. The issues indicated in Records of Commitments which are given in Annex-4.7 of EIA Report will be fulfilled.

If any cultural entity in the scope of the Law on Cultural and Natural Entities Protection on the project route is crossed during the works, the work will be stopped and the nearest Administrative Authority and the Directorate of Museum will be informed pursuant to the relevant legislation.

During the pre-route determination the required correspondence was provided with the Department of Provincial Treasury National Estate of the relevant Governorships (see Annex-4.4 of EIA Report).

For the mine sites on the project route, correspondence with the General Directorate of Mining Affairs of Ministry of Energy and Natural Resources and Provincial Special Administrations was carried out. The authority opinions are given in Annex-4.3 of EIA Report. Protocols will be issued with the mine licence owners and necessary permits will be obtained. The issues indicated in Records of Commitments which are given in Annex-4.7 of EIA Report will be fulfilled.

All the construction studies within the scope of the project will be performed in compliance with the provisions of the "Regulation on Buildings Constructions in Disaster Areas" which was published in the Official Gazette no. 26454 and dated 06.03.2007 (amended by the Official Gazette no. 26511 and dated 03.05.2007). The project route determination studies were performed avoiding the areas with high risk of landslide, flood, avalanche, rock fall whenever possible, and TANAP construction technology and design were carried out taking the earthquake risks and active fault zone crossings into account.

It is required to obtain environmental permit(s) for the facilities prior to the operation phase according to the Regulation on Permits and Licences in Accordance with the Environment Law. Natural gas pipelines are not subject to environmental permits according to the aforementioned regulation; however, due to the activities that will take place at the above ground installations, such as combustion plants at the

compressor stations, environment permit(s) are required to be obtained in the scope of Project.

The environmental permit will cover all Project activities that are subject to permits according to the regulation (e.g., emission permit, discharge permit, environmental noise permit). The application for environmental permits shall approve compliance with the regulation and shall document that the commitments provided in the EIA report are fulfilled. However, before starting Project activities the commitments on permits cannot be documented, so a "Provisional Activity Certificate" will be obtained. The activities are allowed to be started with the receipt of the certificate, which is effective for one year and the required information, licenses, and permits will be provided within this period. The application for an environmental permit shall be made when the required procedures are completed 3 months before the effective date of Provisional Activity Certificate ends. If the procedures cannot be completed for the application within this period, the period of validity of the Provisional Activity Certificate is extended provided by a letter citing justification. Once the environment permit is received the period of validity is 5 years and 3 months; prior to the end of this period an application shall be resubmitted for a permit extension.

Each phase of the TANAP Project will be conducted within compliance to the required legal procedures according to the national and international legislation and authority opinions. The authorities have informed MoEU about their significant issues on the Project, also taking into consideration the public opinions and suggestions received during public participation meetings in the scoping phase of the Project. Within the Project many procedures will be implemented to address significant issues. The explanations and commitments addressing the issues provided by the Project are presented in Annex-4.7 of EIA Report as well as in the relevant sections of the EIA report.