SUSTAINABILITY FUTURE GROWTH	**TANAP TRANS ANATOLIAN NATURAL GAS PIPELINE PROJECT**	TANAP

IESCs Site Visit Report October 2018

Rev	Status	Date	Status Description	Issued by	Checked by	Approved by	TANAP Approval
P4-A	DIC	15.10.2018	Discipline Internal Check	CD JM CC AS	CD JM	JM	
P4-B	IDC	19.10.2018	Inter-Discipline Check	CD JM CC AS	CD JM	JM	
P4-C	IFR	31.10.2018	Issued for Review	CD	JM	JM	
P4-D	Re-IFR	13.11.2018	Re-issued for Review	CD	JM	JM	
P4-E	Re-IFR	22.11.2018	Re-issued for Review	CD	JM	JM	
P4-0	IAA	30.11.2018	Issued as Approved	 CD	 JM	 JM	

DOCUMENT REVISION HISTORY

REV.	REVISION DESCRIPTION	DATE ISSUED	UPDATE / AMENDMENT DETAILS
P4-A	DIC	15.10.2018	First issue
P4-B	IDC	19.10.2018	Issued for IDC incorporating DIC comments
P4-C	IFR	31.10.2018	Issued for Review
P4-D	Re-IFR	13.11.2018	Re-issued for Review incorporating TNP comments
P4-E	Re-IFR	22.11.2018	Re-issued for Review incorporating TNP and IFI comments
P4-0	IAA	30.11.2018	Issued as Approved

HOLDS

No.	Section	Description	Input From	Planned Date
1	Appendix A	Fatality Incident Investigation Report was ongoing during development of Revision P4-C	TANAP	07.11.2018

Acronyms and Abbreviations

AGI	Above-Ground Installation
BAP	Biodiversity Action Plan
BAT	Best Available Technology
bcma	billion cubic meters per annum
BTC	Baku-Tbilisi-Ceyhan
CAP	Corrective Action Plan
CC	Construction Contractor
CST	Compressor Station
ERP	Emergency Response Plan
CFC	Chlorofluorocarbon
CHMP	Cultural Heritage Management Plan
CHSS	Community, Health, Safety, and Security
ESDD	Environmental and Social Due Diligence
EBRD	European Bank for Reconstruction and Development
EHS	Environment, Health and Safety
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EPs	Equator Principles
ERMP	Employee Relations Management Plan
ES	Environmental and Social
ESAP	Environmental and Social Action Plan
ESHS	Environmental, Social, and Health and Safety
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
ESMS	Environmental and Social Management System
ESR	Environmental and Social Review
EU	European Union
GHG	Greenhouse Gas
GIP	Good International Practice
H&S	Health and Safety
HR	Human Resource
HSES	Health, Safety, Environmental and Social
HSE	Health, Safety and Environmental
IBA	Important Bird Area
IESC	Independent Environmental and Social Consultant
IFC	International Finance Corporation
ILO	International Labour Organisation
IP	Indigenous Peoples
JV	Joint Venture
KBA	Key Bird Area
KPI	Key Performance Indicator
MoEU	Ministry of Environment and Urbanisation
MP	Management Plan
MSDS	Material Safety Data Sheet

NCR	Non-Conformance Report
NGO	Non-Governmental Organisation
NO2	Nitrogen Dioxide
OHS	Occupational, Health and Safety
OMS	Operating Management System
OSID	Online Stakeholder Interaction Database
PAHs	Polycyclic Aromatic Hydrocarbons
PAP	Project-Affected Person
PPE	Personal Protective Equipment
PS	Performance Standard
PR	Performance Requirement
RAP	Resettlement Action Plan
SCP	Southern Caucasus Pipeline
SCPx	South Caucasus Pipeline Expansion Project
SD	Shah Deniz
SEP	Stakeholder Engagement Plan
SMP	Social Management Plan
SOP	Standard Operating Procedure
SPS	Safeguard Policy Statement
Sustainability	Sustainability Pty Ltd
TAP	Trans Adriatic Pipeline
TANAP	Trans Anatolian Pipeline
TSP	Total Suspended Particle
VOC	Volatile organic compounds

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Report

Executive Summary

TANAP Doğalgaz İletim A.Ş.(TANAP) has engaged Sustainability Pty Ltd (Sustainability) for the delivery of Independent Environmental, Social, Occupational Health and Safety Monitoring and Consultant Services (IESCS) for the Trans Anatolian Natural Gas Pipeline (the Project), effective of 24 July 2018. The scope of the IESCS activities is specific to Phase 1 construction works and for operation phase(s) of Phase 0 and Phase 1. The services include an independent assessment of the Project's compliance with relevant local and international legal requirements, the various Lender requirements and commitments given in the ESIA package including the management system documents of both TANAP and its Contractors. The services include the presentation of recommended actions associated with identified non-compliances or areas of improvement. A summary of the recommendations is provided in Table 1 below.

Sustainability completed the site visit in accordance with the IESCS agreed Project Execution Plan from 8-12 October 2018. The visit was focussed on the Project's environmental, occupational health, safety and social performance during: commissioning and operations phase activities at AGI's in Lots 1 and 4; AGI construction activities in Lots 1 and 4; verification of RoW reinstatement including critical habitat bio restoration in Lot 1, and; on-going RoW construction activities in Lot 4. The IESC identified 17 areas of partial compliance, 3 observational findings and no material non-compliances were identified.

The IESC review of environmental and social aspects of the Project demonstrated a continued general trend in improved social and environmental performance. Occupational health and safety performance has been substantially impacted by a recent workplace fatality at a TANAP construction site during vessel pressure testing. This incident follows a sustained period of very low health and safety incident rates. TANAP's initial response to the fatality was appropriate in that all similar activities were immediate suspended at all TANAP sites until the initial investigations had been complete. TANAP also stood down work and provided a full safety briefing to the workforce. The initial incident investigation report has been provided to the IESC for review. The IESC comments on the incident investigation were being finalised at the time of this draft report and will be updated in the final IESC report.

The IESC reviewed a number of high potential incidents at various construction sites across the Project and notes that the lack of adequate supervision has been identified repeatedly in incident investigation reports. However, there was no evidence that TANAP or its contractors were implementing measures to address this common cause. A range of recommendations have been provided in regard to this issue. The IESC found a high level of awareness and implementation of the Permit to Work systems, but some lapses were identified at some construction sites, where Contractor's Health and Safety Permit to Work Systems apply, during the IESC site visits in regard to barrier controls, hazardous materials and mobile equipment. These lapses have the potential to result in significant incidents and actions have been recommended to reduce the incidents of non-conformance to existing safety requirements.

A key focus of this IESCS monitoring was on the environmental and social assessment of project changes being those aspects that vary from the initial disclosed ESIA and management plans. The two areas identified where changes have occurred which have been subject to management of change processes include:

- The potential change to the final land use for 6 Project early works accommodation camps that were initially proposed to be removed, the land restored to original condition and returned to the landowners in accordance with agreed land exit

protocols. TANAP has been approached by Government agencies seeking to use these accommodation camps as permanent facilities.

- Additional environmental and social assessments had started in December 2016 by TANAP and had been completed in June 2018 by Çınar for overhead power lines (OHL) and anode bedlines, associated with cathodic protection systems that were not assessed in the initial ESIA documentation. The design specifications and location of OHLs and anode bed lines were not determined at the time of the preparation of TANAP Project ESIA Report.

The IESC has identified concerns regarding the change in land use for the early works accommodation camps in relation to the ability for TANAP to ensure that landowners are fairly dealt with and affected communities are adequately consulted by the authorities who propose to take over the land rental agreements where the camps are situated. It is recommended that TANAP initiate independent monitoring of the land transfer processes for the camps to verify that Project standards and protocols are maintained.

The IESC is concerned that the timing of the environmental and social risk assessment for the Overhead Powerlines (OHL) and anode bed line management of change documents did not allow the recommended impact mitigation measures to be incorporated in design. Specifically, the assessment's recommended mitigations for bird collisions and electrocutions from the OHL were developed after construction of this infrastructure had commenced. The IESC has recommended further assessment of impacts based on as built designs and identification of additional feasible mitigations as necessary, and consideration of any residual impacts to conservation significant species or habitats within the Biodiversity Offset Management Planning process

The IESC noted that engagement with Vulnerable Groups has been improved within the framework of the Stakeholder Engagement Plan, with work underway to continue to identify and support vulnerable people. The identification of Vulnerable Households can be an effective way to minimise potential grievances or later claims that the land acquisition process was not well understood or fairly implemented. Recommendations have been provided to continue with identification of vulnerable households and retain the flexibility to ensure those who may be disadvantaged or unclear about their rights and responsibilities are identified and receive specific support as necessary.

The IESC noted the grievances regarding Right of Way (RoW) reinstatement received from landholders after the land exist process had been complete at Lots 2 and 3. The close out of outstanding grievances by the construction contractors is one of the requirements for provisional acceptance of the RoW. TANAP needs to ensure that those items under construction contractors' responsibility are allocated in a timely manner before demobilisation of the construction contractors and their equipment.

TANAP oversight of construction contractor's human resource management has been very effective in identifying discrepancies in worker payments, including overtime payments. The IESC is satisfied that this oversight is effective in providing verification of appropriate human resource management practices across the TANAP workforce. Similarly, the IESC is supportive of the construction workforce demobilisation process defined by TANAP, which is being implemented by contractors.

The progress and performance of RoW reinstatement and bio-restoration works was a key focus for the IESC visit. The IESC is satisfied that the monitoring of completed reinstatement is successfully identifying problem areas and a range of improvement actions that have been

registered and are being tracked through to completion. A very high standard of reinstatement of critical habitat was observed in Lots 1 and 4. The financial, technical and human resources that TANAP has applied to reinstatement and bio-restoration appear to be sufficient to meet Project commitments and obligations.

Table 1 Recommendations

ID #	Monitoring Exercise Date	Closing Date	Description	Compliance Category	Ref.	Status	Comments / Report Reference
Environmental and Social Assessment and Management System							
1.5	8th – 12th October 2018		**Management of Change for overhead powerlines and anode bed-lines.** The IESC recommends that: a) TANAP undertake further assessment of biodiversity impacts associated with the OHL and Anode Bed-lines with a focus on those areas where recommended mitigations were not incorporated in design or not implemented in construction. This further assessment should re-visit the impact and risks associated with the infrastructure and consider mitigation measures that reflect the current status of that infrastructure. The additional environmental assessment should be completed prior to completion of the OHL and anode bed-line construction; b) The OHL and anode bed–line infrastructure assessment of impacts is included in the TANAP Biodiversity Offset Management Planning process; c) TANAP monitoring of impacts to bird species as identified in the OHL environmental assessment and the performance of any mitigation measures be included in the post construction monitoring programs for the Project. It is recommended that TANAP seeks advice from the IESC prior to commencement of all Project activities that fall outside of approved ESIA and agreed management plans, including management of change documentation, so that the IESC can review the sufficiency of assessments and advise lenders and TANAP on the potential for noncompliance with project or Lender standards	**PC**	IFC PS1	**Open**	Appendix A IFC PS Assessment Table
1.17	8th – 12th October 2018		**Organisational Capacity and Competency** It is recommended that TANAP appoint additional human resources to assist in the timely delivery of social impact mitigation commitments,	**PC**	IFC PS1	**Open**	Appendix A IFC PS Assessment Table

ID #	Monitoring Exercise Date	Closing Date	Description	Compliance Category	Ref.	Status	Comments / Report Reference
			including emergency preparedness, RAP/LRP and reinstatement commitments.				
1.20	8th – 12th October 2018		**Emergency Preparedness and Response** While recognising that emergency response plans and procedures are in place, it is recommended that TANAP develop the scope of work to determine areas of risk in communities and settlements with regards to AGIs and the pipeline, which must include an assessment of the capacity of local emergency responders. Additional risk factors, such as multiple pipelines and the subsequent coordination in the event of an emergency, must also be considered.	**PC**	IFC PS1	**Open**	Appendix A IFC PS Assessment Table
1.26-1.28	8th – 12th October 2018		**Stakeholder analysis and engagement planning** Continue with identification of vulnerable households using the specific tools that have been developed. In addition, retain the flexibility to ensure those who may be disadvantaged or unclear about their rights and responsibilities are identified and receive specific support as necessary.	**FC (Observation)**	IFC PS1	**Open**	Appendix A IFC PS Assessment Table
1.29	8th – 12th October 2018		**Disclosure of information** TANAP is recommended to undertake a review with BOTAS of potentially vulnerable or otherwise hard to reach (e.g. absentee, semi-permanent resident) stakeholders in advance of the January 2019 Annual Stakeholder meeting. The purpose is to ensure that as wide a cohort as possible receive the latest and most appropriate information.	**PC**	IFC PS1	**Open**	Appendix A IFC PS Assessment Table
1.33	8th – 12th October 2018		**Private sector responsibilities under government-led stakeholder engagement** **Camps – change in land use** TANAP has 6 main camps allocated for 6 spreads in 3 Lots which are temporarily rented for 5 years for construction; the leases will expire in March 2019. The ESIA for the project assessed and consulted potentially affected communities on a temporary land use for CC camp, and so, TANAP initiated a management of change process to determine the most	**PC**	IFC PS1	**Open**	Appendix A IFC PS Assessment Table

ID #	Monitoring Exercise Date	Closing Date	Description	Compliance Category	Ref.	Status	Comments / Report Reference
			appropriate management responses to the issue that instead of demobilising, abandoning or reinstating/rehabilitating the camps, assets at the camp site are to be granted to AFAD or PPAA, who would then take over responsibility for implementing the legal and regulatory requirements related to land use at each camp location. The MOC process resolves to conduct stakeholder engagement with affected landowners. However, there are a number of issues: • The nature of the future land use by AFAD is not clear so any negotiation with landowners may not be fully informed; • The Protocol with AFAD ('Camp Sites Grant Protocol') does not reference consultation with affected landowners, or, the communities nearby; the camps have the potential to affect a wider community beyond only the landowner. The Protocol references undertaking 'all the necessary procedures' to obtain rights of use, however this does not explicitly reference any consultation requirement. • Consultation during the ESIA was on the basis of the land use being TANAP's temporary construction camp, and so any change to this use requires consultation with Affected stakeholders. • The IESC recommends a third party Turkish national consultant review the transfer process to assess whether: • The decision by affected landowners to extend any rental agreements with AFAD is an informed decision and is made free of coercion; • Consultation with potentially affected communities is undertaken by AFAD/PPAA. It is recommended that this is applied to all six camps, i.e. regardless of whether they are on private or public land, given that all may potentially affect other stakeholders/neighbouring settlements. It is noted that in				

ID #	Monitoring Exercise Date	Closing Date	Description	Compliance Category	Ref.	Status	Comments / Report Reference
			Turkey on a previous pipeline project, camps were also handed over to the Government; this 'temporary' change in land use is still active more than ten years later. While this may not occur in this case, there is precedent for extended use. The IESC recognises the challenge that TANAP does not have authority over PPAA/AFAD's consultation participation or process, however TANAP's project requirements include ensuring that stakeholders have been adequately consulted prior to any material changes in the Project.				
1.35	8th – 12th October 2018		**Grievance mechanisms** Provide refresher training to OSID users about correct categorisation of grievance data in the database. Provide refresher training to CLOs on use of culturally appropriate language to encourage stakeholders to raise issues/problems. These should then be raised and managed as grievances through OSID. Consider quality of reinstatement in corporate dashboard metrics as a leading indicator.	**PC**	IFC PS1	**Open**	Appendix A IFC PS Assessment Table
1.36	8th – 12th October 2018		**Ongoing reporting to Affected Communities** TANAP provides ongoing reporting back to stakeholders in various formats. TANAP is recommended to use the Annual Stakeholder Meeting opportunity to verify: • that stakeholders are receiving information disclosure packages • that vulnerable households continue to be identified and engaged • that information is effectively being shared between TANAP, BOTAS and CCs regarding potentially vulnerable or other hard-to-reach households.	**PC**	IFC PS1	**Open**	Appendix A IFC PS Assessment Table

ID #	Monitoring Exercise Date	Closing Date	Description	Compliance Category	Ref.	Status	Comments / Report Reference
Labour and Working Conditions							
2.23	8th – 12th October 2018		**HS02 H&S Performance** TANAP need to assess the suitability of the HS targets. If deemed appropriate, strategies need to be identified and implemented to achieve the target. If deemed inappropriate, then consideration should be given to changing them.	**PC**	IFC PS2	**Open**	Appendix A IFC PS Assessment Table
2.23	8th – 12th October 2018		**HS03 Fatality investigation** It is recommended that TANAP take action to ensure that for significant incidents: a) Interviews and / or witness statements occur immediately (without a delay in time) after the incident. This could be done by formalising the informal interviews. b) The investigation team incorporate employee representatives. c) Evidence is documented in the reports to demonstrate that root cause analysis has been completed. d) It is suggested that TANAP give consideration to the use of external expert investigators for significant incidents.	**PC**	IFC PS2	**Open**	Appendix A IFC PS Assessment Table
2.23	8th – 12th October 2018		**HS04 Incident management** Incident management outcomes must ensure that actions are taken to prevent recurrence of incidents. TANAP should ensure that action is taken to prevent recurrence of similar incidents or incidents with similar causes. For example, issues where deficient supervision was identified as a cause of incidents must have corresponding actions to address this deficiency.	**PC**	IFC PS2	**Open**	Appendix A IFC PS Assessment Table

ID #	Monitoring Exercise Date	Closing Date	Description	Compliance Category	Ref.	Status	Comments / Report Reference
			In addition, to improve TANAP's response to incidents, it is recommended that: • Consideration should be given to including employee representatives in the investigations. • Consideration should be given to the conduct of drug and alcohol testing for personnel involved in incidents.				
2.23	8th – 12th October 2018		**HS05 HS Supervision** A review of the quality / competence of supervisors is recommended and, if found to be an issue, subsequently develop a plan to overcome the gaps considering education, training and mentoring. It is recommended that a review be conducted to establish if the ratio of supervisors (operational) to workers is appropriate. It is recommended that a review be conducted to establish if there is an over dependence upon H&S advisors regarding operational responsibility for ensuring workers are following safe work methods.	**PC**	IFC PS2	**Open**	Appendix A IFC PS Assessment Table
2.23	8th – 12th October 2018		**HS06 H&S Systems** In light of the prevalence of HS lapses and the significance of some of the lapses, it is recommended that TANAP investigate the suitability and effectiveness of systems utilised to identify and prevent them i.e. supervision, inspection and audit.	**PC**	IFC PS2	**Open**	Appendix A IFC PS Assessment Table
2.23	8th – 12th October 2018		**HS08 Significant Lapses** Take action to ensure that the standard of barricading is improved so as to prevent accidental falling into open excavations. Take action to ensure that Spotters on mobile equipment are aware of and do not leave their sentry location. With regards to Hazardous Materials, TANAP is recommended to:	**PC**	IFC PS2	**Open**	Appendix A IFC PS Assessment Table

ID #	Monitoring Exercise Date	Closing Date	Description	Compliance Category	Ref.	Status	Comments / Report Reference
			• Take action to ensure that all MSDSs are available in Turkish language • Take action to ensure the separation storage of non-compatible materials. Consideration may be given to improved training, procedural control and signage. • Take action to ensure that all material is suitably labelled The management of hazardous materials were raised by TANAP with the contractors prior to the IESC monitoring visit and improvement were underway but not yet complete. The IESC recommends TANAP investigate the conduct of drug testing to determine: • if the sample size for alcohol and fatigue testing is suitable. • that the scheduling of fatigue and alcohol testing is random so as not to be predicted.				
Resource Efficiency and Pollution Prevention							
3.10	8th – 12th October 2018		**Air Quality** It is recommended that additional dust sampling be undertaken where dust issues have been identified so as to verify that dust mitigation measures have been effective.	**FC (observation)**	IFC PS3	**Open**	Appendix A IFC PS Assessment Table
3.12/3.13	8th – 12th October 2018		**Hazardous and non-hazardous waste management** All construction sites It is recommended that responsibilities for correct waste management be delegated to the individual work packages/streams that produce the wastes so that incidents of incorrect waste management can be corrected by the relevant supervisors and managers. MS3	**PC**	IFC PS3	**Open**	Appendix A IFC PS Assessment Table

ID #	Monitoring Exercise Date	Closing Date	Description	Compliance Category	Ref.	Status	Comments / Report Reference
			Additional inspections outside of the boundary at MS3 are required to ensure windblown waste is collected and managed in accordance with the waste management plans. Adequate separation of potentially incompatible chemicals from flammable waste oil storage is recommended. TANAP are to ensure that the domestic waste area is covered in periods of rainfall to prevent risk of leachate migrating into road drainage system.				
Community Health, Safety and Security							
4.7	8th – 12th October 2018		**Exposure to hazardous materials and substances** Hazardous material management was assessed, in particular at CS1 and MS3. Key findings were that generally controls were good and in accordance with good practice and the requirements of the MSDS /SDS. The follow recommendations are made: • Ensure that all MSDSs are available in Turkish language • Ensure the segregated storage of non-compatible materials. Consideration may be given to improved training, procedural control and signage. • Ensure that all material is suitably labelled.	**PC**	IFC PS4	**Open**	Appendix A IFC PS Assessment Table
Biodiversity Conservation and Sustainable Management of Living Natural Resources							
6.7	8th – 12th October 2018		See ID 1.5 PS1 action in regard to biodiversity assessments of OHL and anode bedlines.	**PC**	IFC PS6	**Open**	Appendix A IFC PS Assessment Table
Cultural Heritage							
8.9	8th – 12th October 2018		**Consultation**	**FC (observation)**	IFC PS8	**Open**	Appendix A IFC PS

ID #	Monitoring Exercise Date	Closing Date	Description	Compliance Category	Ref.	Status	Comments / Report Reference
			It is recommended that TANAP consider / investigate opportunities for partnership to support further pursuit of excavation, documentation, protection, tourism and/or other cultural heritage work on the Alaybeyi Archaeological site.				Assessment Table

1. INTRODUCTION

TANAP Doğalgaz İletim A.Ş.(TANAP) has engaged Sustainability Pty Ltd (Sustainability) for the delivery of Independent Environmental, Social, Occupational Health and Safety Monitoring and Consultant Services (IESCS) for the Trans Anatolian Natural Gas Pipeline (the Project), effective of 24 July 2018. The first IESCS monitoring visit undertaken for this assignment occurred in Turkey from 8-12 October 2018. Sustainability had previously been engaged by the EBRD as the Independent Environmental and Social Consultant to support financing requirements and had completed an environmental and social due diligence in 2016 and monitoring visits in 2017 and in June 2018.

The TANAP Project involves a 1,850km pipeline to facilitate the transport of natural gas produced from the Shah Deniz Phase II development in Azerbaijan to Turkey and Europe. The Project is being developed by a group of shareholders who currently comprise of Southern Gas Corridor Closed Stock Joint Company (58%), BOTAS (30%) and BP (12%) and are herein referred to collectively as the "Sponsors".

The Project runs from the Georgian border, beginning in the Turkish village of Türkgözü in the Posof district of Ardahan, passes through 20 provinces, ending at the Greek border in the İpsala district of Edirne. Two off-take stations are located within Turkey for national natural gas transmission, one located in Eskişehir and the other in Thrace. With 19km running under the Sea of Marmara, the main pipeline within Turkey reaches a total of 1,850km, along with off-take stations and above-ground installations.

TANAP is being developed in phases, as defined below. It is currently nearing completion of Phase 0 construction.

- Phase 0: Initial phase of operation, 6bcma capacity of Shah Deniz 2 by mid-2018 will be delivered to BOTAS through the 56" pipeline section through the Eskisehir Off-take. No gas will be delivered to Thrace or Greece. Mechanical completion of Phase 0 was completed in Q4 2017. The Project is about to complete the Phase 0 construction works.
- Phase 1: To meet the throughput pf 16bcma, sized to transport the production capacity of Shah Deniz 2 by 2019 to BOTAS and TAP, the operation of 48" section of the onshore pipeline and the two compressor stations (CS-1 and CS-5) will be required. Mechanical completion of Phase 1 works is expected for Q4 of 2018.
- Phase 2: To meet the throughput of 24bcma by 2023, upgrading of the Phase 1 compressor stations is required and an additional 2 compressor stations are needed to meet 24bcma flow requirements.
- Phase 3: To meet throughput of 31bcma by 2026, upgrading of the Phase 1 and Phase 2 compressor stations is required and an additional 3 compressor stations are needed to meet 31bcma requirements.

1.1 Scope of the Monitoring

The scope of the IESCS activities is specific to Phase 1 construction works and for operation phase(s) of Phase 0 and Phase 1. The services require an independent assessment of the Project's compliance with relevant local and international legal requirements, the various environmental and social requirements of the International Financial Institutions (IFIs), TANAP policies and the commitments given in the ESIA package including the management system

documents of both TANAP and its Contractors. The services include the presentation of recommended actions associated with identified non-compliances or areas of improvement.

The key objectives are to:

- Provide an independent assessment of the Project's compliance with project commitments, including relevant local and international legal requirements and IFIs' Standards, Requirements, Guidelines; and
- Present recommended actions associated with identified non-compliances or areas of improvement.
- To achieve these objectives, the IESC undertakes the role of identifying, monitoring and verifying:
- The implementation of specific provisions, commitments and the overall objectives of the Project ESIA, BAP, BOS, SEP, RAPs-LRPs and other related Project documents;
- Implementation of mitigation measures, as documented in the Commitments Register, Environmental and Social Management Plans, Health and Safety Plans and relevant procedures to address material risks and issues associated with Phase 1 construction works and operations;
- Material changes in design and operations, which have been issued and assessed in line with the Environmental Management of Change Procedure (TNP-PCD-ENV-GEN-002); and
- The implementation of Legal, Political and Institutional framework as presented in Chapter 4 of ESIA Report (TNP-REP-ENV-GEN-002) considering the current updates and relevant IFIs' Standards, Requirements and Guidelines.

1.2 Summary Project Description

1.3 Project Status

At the time of the Monitoring visit (8-12 October 2018), the construction phase (Phase 0) of the Project was complete in Lots 1-3 and associated AGIs (Above Ground Installations). Construction activities were ongoing in Lot 4 and associated AGIs (Phase 1) which are planned to transition to the operational phase in June 2019.

An inauguration ceremony for Phase 0 of the TANAP Project was held in Eskisehir (CS5-MS2) on 12th June 2018 to mark commercial operation of Phase 0 which became effective on 30th June 2018 as planned.

A summary of milestone events is outlined below:

Phase 0

- 1340km of 56" pipeline completed
- 39 Block Valve Stations (BVS) completed
- 6 Pig Stations (PS) completed
- 2 Metering Stations (MS) completed
- 1 Offtake Compressor Station (CST)

Phase 1

- 462km of 48" pipeline ongoing
- 10 Block Valve Stations ongoing
- 4 Pig Stations ongoing
- 2 Metering Stations ongoing
- 2 Compressor Stations ongoing

Offshore Pipeline Construction

- 17.6km of 2 parallel 36" offshore pipelines complete
- 4 Fiber Optic Cables complete
- 24 Crossing complete

1.4 Applicable Project Standards

International Lender financed projects are expected to be designed and operated in compliance with good international practices relating to sustainable development. TANAP adhere to relevant IFIs' Standards, Requirements and Guidelines including:

IFC Performance Standards (2012)

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

IFC Environmental, Health and Safety (EHS) Guidelines, including EHS General Guidelines (2007)

EBRD Environmental and Social Policy and Performance Requirements (2014)

- PR1 – Assessment and Management of Environmental and Social Impacts and Issues;
- PR2 - Labour and working condition;
- PR3 – Resource Efficiency, Pollution prevention and Control;
- PR4 – Health and safety;
- PR5 - Land acquisition, involuntary resettlement and economic displacement;
- PR6 - Biodiversity conservation and sustainable management of living resources;

- PR8 - Cultural heritage; and
- PR10 - Information disclosure and stakeholder engagement.

World Bank Safeguard Policies

- OP 4.01 Environmental Assessment;
- OP 4.04 Natural Habitats;
- OP 4.09 Pest Management;
- OP 4.36 Forestry;
- OP 4.11 Physical Cultural Resources; and
- OP 4.12 Involuntary Resettlement

Equator Principles (2013)

- Principle 1: Review and Categorisation;
- 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; and
- Principle 10: Reporting and Transparency.

MIGA Policy on Environmental and Social Sustainability (2013)

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

1.5 Sources of Information

The IESCS included a document review component with key documents being supplied by TANAP prior to the site visit in response to a request form Sustainability. Further documentation was provided during and immediately following the site visit as requested by the IESC team to allow clarification and verification of the site visit findings. The primary sources for information accessed for this IESCS review included, but was not limited to:

- Project ESIAs produced for the Project including the information prepared for the trans-boundary notification and consultation;
- Supplementary environmental and social assessments undertaken in accordance with project management of change processes;
- Construction and Operational Phase Environmental and Social Management Plans (ESMPs) and relevant additional specific plans including the Stakeholder Engagement Plan (SEP);
- Other relevant HSES materials including HSE statistics, incident reports, external monitoring reports and audits, surveys, grievance registers and additional assessments;
- Environmental and social monitoring reports completed by construction contractors, third party monitoring service providers and TANAP;
- Information regarding Project progress and performance in the public media including newspaper articles, TANAP website and information published from stakeholders;
- Information from site inspections and interviews with TANAP personnel, contractors and stakeholders; and
- Relevant Land Acquisition and Compensation (LAC) and Resettlement Action Plan (RAP) documentation and Grievance Mechanism.

1.6 Monitoring Site Visit Attendance

The site visit was conducted from the 8th to the 12th October 2018 by the Independent Consultant team, EBRD and MIGA. The team members included:

- John Miragliotta: Independent Consultant Team Project Manager and Environment and Biodiversity Specialist;
- Chris Coutinho: Independent Consultant Team OHS Specialist;
- Amy Sexton: Independent Consultant Team Social, labour and Cultural Heritage Specialist;
- Colin Davies: Independent Consultant Team Assistant Project Manager and Environment Specialist[1];
- Bossan Annayeva: EBRD Senior Environmental Adviser; and
- Peter Bergsten: MIGA Environment and Social Specialist.

[1] Remote based

1.7 Monitoring Site Visit Itinerary

In summary, the following activities were undertaken, and locations were visited:

Day 1. 8 October 2018, TANAP Head office in Ankara

- Opening meeting with TANAP Management
- Meeting with TANAP on Overall progress of the Project
- Meeting with TANAP HR team for HR management/oversight for contactors and TANAP operational labour discussions
- Meeting with TANAP HS team
- Meeting with TANAP Environmental Team including Cultural Heritage Team
- Meeting with TANAP Social Team including RAP, LRP etc
- Meeting with TANAP Land Acquisition Team including discussions on the management of change for the camp facilities
- Red zone induction training

Day 2. 9 October 2018, MS1 & LOT 1

- Observation of work being completed on commissioning of AGI's at MS1
- Observation of operations at MS1
- Observation of critical habitat restoration at RoW at CH1 and CH2
- Visit to Completed restoration activities at Kumlukoz Pipe Stockyard Reinstatement
- Discussions with affected landholders in Kars Selim-Tuygun and Ardahan Merkez-Çamlıçatak (where project land relinquishment has been completed or in process)

Day 3. 10 October 2018, CS1 & LOT 1

- Current active construction sites including pipelay and AGIs
- Discussions with contracted workers to verify labour conditions and access to grievance
- Discussions with Contractor's HR Manager of TKN regarding labour management - hiring and retrenchment.

Day 4. 11 October 2018, MS3 & LOT 4

- Current active construction at MS3 with TEKFEN and TANAP
- Active Lot4 RoW construction with PLK and TANAP
- Active river crossing construction at Gönen River KP1661 +511 which is also a freshwater critical habitat, FCH 26.
- Meetings with Project (RoW and AGI) affected communities nearby to active construction areas (Gelibolu-Kavakköy-MS 3 and Çanakkale, Biga-Kepekli)

Day 5. 12 October 2018, CS5/MS2

- Current active construction sites at CS5/MS2 with TEKFEN and TANAP
- Meetings with workforce representatives at CS5

- Observation of operations at MS2 Site including red zone activities
- Close Out Meeting at TANAP Headquarters (Ankara)

1.8 Report Organisation

This Report follows the format as outlined in the IESCS Project Execution Plan developed by Sustainability and approved by TANAP. This is the first IESCS report issued under the current scope of services and it is intended that this reporting template and structure be further refined based on TANAP review and the IESCS experience. The reporting template reflects the scope of IESCS activities and reporting requirements against the full range of Project standards and lender obligations. Sustainability's previous IESC role, including an ESDD in 2016 and two monitoring site visits (2017 and 2018), was focussed on compliance with EBRD Performance Requirements. This monitoring report is expanded to include the assessment against full scope of IESCS criteria as outlined above. However, the IESCS has only limited time to review Project performance and not all criteria are assessed in single visits.

The report has been structured to incorporate the full range of environmental and social assessment criteria within the appended tables with the key findings discussed in the text contained in Sections 1-5. The intent is to provide significant findings and recommendations within the body of text of the report. The appended assessment tables provide the specific details form site visits and document reviews where relevant. It is not intended that all assessment criteria included in the tables is assessed for every IESCS monitoring review.

The general structure and organisation of the report includes:

Section 1: Introduction

Section 2: Status of Previous IESC Findings

Section 3: Compliance with Local Legislation

Section 4: Internal Compliance

Section 5: Compliance with IFI Requirements

Appendix A: IFI Assessment Tables

1.9 Classification criteria for review findings

The format approach to reporting Project compliance and performance against the assessment criteria will use a risk-based approach, including priority ranking. Indicators, with whole number reference, will provide a summary of compliance for each criterion. Justification for any derogation from criteria will be summarised in the table and supporting documents referenced

For each indicator within a PS/PR, the steps below will be completed:

1. Apply a risk-based approach - including priority ranking in findings;
2. Ensure number reference to specific requirement, standard, guidance or policy;
3. Determine if the criteria is applicable and if not then score as N/A and provide a brief summary of the reason given (e.g. indigenous people requirements in Turkey);
4. Determine if an opinion is possible - if "no' then No Opinion Possible (NOP) finding is made and reasons given (e.g. too early in Project to determine);
5. Provide commentary on the relevance of the requirements and the reason for allocating the score;

6. Reference the evidence that was assessed in making the finding.

7. Actions Required: Where applicable, briefly describe any actions required by TANAP to achieve full compliance with each requirement. Where a relevant action is included in the ESAP, reference to the ESAP will be made.

Scoring of the indicator will be completed as follows, along with provision of justification**:**

EC	**Exceeding Compliance:** The project has gone beyond the expectations of relevant IFI requirements / standard / principle. IFIs should be able to use projects rated EC as a role model for positive Environmental and Social effects.
FC	**Fully Compliant:** The project is fully in compliance with relevant IFI requirements / standards / principles, and local environmental, health and safety policies and guidelines.
PC	**Partial Compliance:** The project is not in full compliance with relevant IFI requirements / standards / principles, but has systems, processes or mitigation measure in place which are working towards addressing the deficiencies.
MN	**Material Non-compliance:** The project is not in material compliance with relevant IFI requirements / standards / principles, and the systems, processes and mitigation measures in place are not working towards addressing the deficiencies.

The Material Non-compliance score has significant implications and requires particular care. In judging whether the measures sufficiently address deficiencies the consultant will consider in a structured way both the level of residual risk and the level of confidence that the Project can successfully bring the issue into compliance with relevant IFI requirements / standards / principles. The table below illustrates the approach to be taken.

Risk				
	High	PC	MN	MN
	Medium	PC	PC	MN
	Low	FC	PC	PC
		High	Medium	Low
		Confidence		

2. STATUS OF PREVIOUS IESC FINDINGS

This table below provides an overview of the past IESC findings from ESDD and monitoring visits undertaken by Sustainability Pty Ltd on behalf of the EBRD from 2016 to 2018. Action item status is determined on the basis of evidence provided by TANAP, interviews with relevant personnel and/or site visits. A justification is provided where the item is found to remain open. Ongoing status reflects the need for the item to remain open due to a recurring action items nature even though action items have been completed.

Table 2 Status of previous IESC findings

Ref.	Performance Requirement	Actions Required	TANAP Response	Status
1.2	Environmental and Social Management Systems	The planning and strategy for implementing the operational phase ESMS should be described in the Management System and include the human resources and organisational requirements for implementation of E&S commitments and compliance during the Operational phase. The ESMS operational framework should include transitional arrangements to reflect the project schedule and include consideration of the human resources required following reinstatement and to address ongoing land exit and community grievances. Further improvement in monitoring and additional refresher training and communication between TANAP, Construction Contractors and third party monitors is required to ensure gaps in E&S commitments are adequately identified, and corrective actions are implemented.	The Environmental and Social Management Plan is updated to include the transitional arrangements. Both separate Environmental and Social Management System Documentation is registered and updated within the ESMP. SMS Documentation: Operational Phase SMS documentation is completed. In this scope, two new documents (Social Action Plan for Operations and Social Monitoring Plan for Operations have been produced and one existing document (Stakeholder Engagement Plan) has been revised with addition of operational phase implementations. SMS HR: There are currently three Social Impact Specialists assigned for Operations Phase. This team is holding meetings at all project-affected settlements and dealing	**Closed**

Ref.	Performance Requirement	Actions Required	TANAP Response	Status
			with land exit and community grievances. EMS: Operational Phase EMS is completed. Environmental Action Plan, Environmental Monitoring Plan, Pollution Prevention Plan, Waste Management Plan were prepared and issued.	
1.3	Environmental and Social Policy	Ensure that the Environmental and Social Policies are updated as necessary to reflect the transition from the existing TANAP Company to the new Operating Company.	The existing IMS policy is rather a generic one, stating all activities of TANAP, which means operation is also covered. Please refer to the attached policy. Considering this, the transitional arrangements are considered and updated in Environmental and Social Management Plan. Social Policy is being updated as per the requirements of the operational phase.	Closed
1.5	Social Management Plans	Address community safety in the OSMPs Include transitional arrangements to manage social performance construction legacy issues prior to full handover to operations.	There are currently three Social Impact Specialists assigned for Operations Phase. This team is conducting meetings at all project-affected settlements to inform communities about land use restrictions, community safety issues and to introduce themselves as contact points for resolution of the grievances remaining from construction phase and those that may be raised in forthcoming periods.	Closed

Ref.	Performance Requirement	Actions Required	TANAP Response	Status
1.6	Organisational Capacity and Commitment	Going forward, the new Operating Company must be suitably structured and employ sufficient environmental and social personnel with relevant experience to ensure the effective implementation of the ESMS and that environmental, social and H&S issues present on the Project continue to be managed effectively.	After a professional screening, the required positions are filled with employees, such as Operations Site QHSE and Social Impact Specialists, who have TANAP experience and quite familiar with the Project, in compliance with the site organization requirements. Ankara Headquarters (Quality, Safety, Env and Social) will provide support to both Construction and Operations during the Transition period.	Open Further review of action item as construction phase is completed across Lots.
1.7	Project Monitoring and Reporting	TANAP must ensure that overspill areas are reinstated in parallel with the RoW in accordance with the relevant specification, to an adequate standard. Opportunities for improvements to overall monitoring have been identified considering the observations noted in 1.2 abo	TEKFEN submitted the document, "TKF-PLN-CVL-PL3-006, Plan for Reinstatement Aftercare, Monitoring and Corrective Actions During Warranty Period'' for Lot 3. Outstanding overspill areas will be reinstated in parallel with the RoW according to project requirements. Those were registered and followed through an official Provisional Acceptance Defect List. Reinstatement has just started in Lot4, and in case of encountering any area, which is over spilled, it will be reinstated in parallel with the relevant specifications. Damaged scour protection at KP 1257 RVX is registered on Provisional Acceptance Defect List for follow up and will be repaired by PCC during warranty period refer to	Open Further review of action as reinstatement progresses in Lot 4

Ref.	Performance Requirement	Actions Required	TANAP Response	Status
			relevant design & project specification requirements.	
2.5	Wages, benefits, and conditions of work and accommodation	Monitor labour practices of stations and telecoms contractors, including camp management	TANAP is using services of an independent company that conducts the legal labour requirements with monthly inspections to contractors. TANAP has also developed a register and the formal letter process for systematic follow up of the actions identified through the audits	Closed
2.6	Retrenchment	Investigate practices of subcontractors in fully investigating the collective grievance received from SitePlus workers regarding unpaid notice and overtime payments. Provide specific preparatory support to Lot 4 and Stations workforces prior to retrenchment in these work areas, which is anticipated from August 2018.	Collective SitePlus complaints were received in Lots 2 and 3. CC's HR Departments and Site Managements investigated the complaints and all complaints were closed by payment of employees' legal rights including notice payments. In addition, Retrenchment Plan for Lot4 has been updated and details of the retrenchment process has been disclosed to all employees (appr. 1700 employees) via a social stand-down conducted in all main and fly camps.	Closed
3.2	Pollution Prevention and Control	Barricading should be used where necessary to protect the area at the foot of topsoil stock piles by preventing vehicle parking. Additional refresher training and a focus on pollution prevention, specifically on maintaining spill kits and storage of hazardous materials on site is required via the monthly meetings with CC environment managers and toolbox talks etc. to ensure that	Barricading are used where necessary to protect the area at the foot of topsoil stock piles by preventing vehicle parking. Additional refresher training, toolboxes are provided.	Closed

Ref.	Performance Requirement	Actions Required	TANAP Response	Status
		commitments made in the Pollution Prevention Plan are being met.		
3.5	Water	Frequent potable water quality sampling at workers accommodation (hotels and camps) should be continued to identify any issues as soon as possible and enable bottled water to be provided as an alternative where necessary.	Monthly monitoring is conducted by a certificated laboratory for each camp sites. Until now no issue has been observed according to analysis results.	Closed
3.6	Waste	TANAP must ensure that all CC and sub-contractor staff have received adequate and appropriate training prior to commencing work. It is recommended that there is a focus on meeting training requirements in the TANAP management meetings with CCs. Environmental tool box is required to provide a further refresher session on waste segregation and recycling commitments across sites.	Evidence of waste segregation awareness training and tool box talks provided during IESC visit	Ongoing Although some improvements in segregation at active work sites, the use of “at source” segregation bins by workforce remains generally poor. All separation is being undertaken by waste management personnel
4.1	Occupational Health and Safety (OHS)	An improvement in the awareness of the TANAP Golden Rules is required to ensure all fundamental HSE measures are fully understood and being effectively implemented. It is recommended that workers be issued with summary Golden Rules cards for quick reference. The status of on-site first aid kits should be checked and signed off as fully stocked on a daily basis by CC first aid trained individuals. Ensure the provision of toilets, bottled water and dedicated eating facilities at all construction sites. More stringent standards of safety with regard to barricading of open excavations and trenches should be applied across Lot 4 and implemented by the on-site safety officers. It is recommended that more stringent monitoring is undertaken by TANAP to ensure satisfactory and comparable standards of	Check list to be developed and regular inspection of AGI work areas to be done. TANAP golden rules have been placed at all work location on Lot 4. Add printed GR to the back of the current ordered Safety Passport. Design correct size and order paper stickers to add to the current safety passports that are on site Barricading is used where necessary to protect the area at the foot of topsoil stock piles by preventing vehicle parking. Additional refresher training, toolboxes are provided.	Closed

Ref.	Performance Requirement	Actions Required	TANAP Response	Status
		protection for workers (and members of the community) and the management of open trenches and excavations.	Monthly monitoring is conducted by a certificated laboratory for each camp sites. Until now no issue has been observed according to analysis results. Check list to be developed and regular inspection of AGI work areas to be done. TANAP golden rules have been placed at all work location on Lot 4. Add printed GR to the back of the current ordered Safety Passport. Design correct size and order paper stickers to add to the current safety passports that are on site. •Check list to be developed and regular inspection of AGI work areas to be done. Monthly inspection check list to be developed for the stock/content of First Aid kits at all AGI works. •Check list to be developed and regular inspection of AGI work areas to be done. Verification of all AGI work areas with available toilets on site. Email notification from PLK management to all sub-contractor to supply sufficient quantity of drinking water at all work locations. Welfare facilities to be available at all AGI work areas. Construction to implement barricading issue by following SOB registers and open trench register.	

Ref.	Performance Requirement	Actions Required	TANAP Response	Status
4.3	Infrastructure, Building, and Equipment Design and Safety	Install external safety signage at all restricted area AGIs as soon as possible to ensure public awareness of safety risks.	The typical safety signage panel was shared with PCC to provide & install at entry of all AGIs to ensure public awareness of safety risks. This requirement is also registered to Provisional Acceptance Defect List for follow up.	Closed
4.9	Emergency Preparedness and Response	It is recommended that the Emergency Response Procedure is revised to include EERT members' details as well as details of how communications with local communities should be managed in the event of an emergency. It should also indicate how the protection of the environment should be ensured during an emergency.	Incident Management Plan was prepared for these purposes. Therefore, required revisions have been done in the Incident Management Plan.	Open TANAP advised of continued work undertaken to assess public safety risk from Project facilities and operations. This information is expected to further define the operational ER Plans.
5.2	Consultation	TANAP to hold RAP meetings in Lots 1 and 3.	Ongoing in Lot 1	Ongoing in Lot 1
5.4	Grievance Mechanism	TANAP to provide additional focus on Grievance resolution support for Stations CLOs	The complaints and their resolution process were closely followed-up and the Contractor Social team were provided with a refresher, with a resulting decrease in responses from 51 to 43 days to the end of June, and then to an average of 6 days as at the end of September 2018. In addition to that, Grievance Management Procedure has been revised as of August 28, 2018 including the revisions on complaint qualitative monitoring process and relevant checklist and data log template were added and the Grievance Form was revised with	Ongoing Action item to remain due to priority needed to manage grievances closely prior to completion of works

Ref.	Performance Requirement	Actions Required	TANAP Response	Status
			an emphasis on TANAP's compliance with Turkish Personal Data Protection Law No: 6698.	
5.5	RAP/LRP documentation	Disclose the LPR for AGIs on the TANAP website.	Completed (ENG)	Closed
5.6	RAP/LRP implementation	•Commence a Management of Change process with Lenders in advance of any material change to the Project, specifically, should reinstatement and handover of camps be substantially delayed, or their proposed future use differ from that described in the ESIA.	Closed and shared with EBRD & Sustainability.	Closed
5.7	Monitoring	The IESC notes that the LRAP database will need to enable capture of roles, responsibilities and ongoing monitoring not only for construction phase, but also the transition phase to operations. Livelihoods support may need to continue through the transition/operations phases in the case where livelihood restoration has not yet been achieved.	Ongoing	Ongoing Continue through transition phase to operations (anticipated December 2019 and dependent on the results of Completion Audit).
6.2.1	Conservation of Biodiversity – Terrestrial Critical Habitat Biorestoration	The IESC found that the documented process for assessing the deviation request to undertake work on Lot 4 FCH sites during the constraints period identified in the BAP did not fully apply the mitigation hierarchy as there is no documented consideration of alternatives, including delay of works until after the constraints period. TANAP should ensure documented assessment of any approved deviations from the BAP that demonstrates how the mitigation hierarchy was applied including consideration of the option to not carry out the work during the period. • The Deviation Request (PLK-DVR-GEN-PL4-086) was approved by TANAP on 27 April 2018	Initially any work was not planned during this period, due to unforeseen construction delays this area of construction comes under critical path, hence for avoiding delay in Mechanical Completion, Contractor has to reschedule some works in this period after consulting environmental expert by considering his suggestions & precautions. After the approval of DVR (PLK-DVR-GEN-PL4-086), construction activities were started at the mid of April according to recommendation of contractor's hydro biologist.	Closed

Ref.	Performance Requirement	Actions Required	TANAP Response	Status
		and included conditions that the mitigation measures outlined in the TPMC report be fully implemented. • TANAP's third party monitoring, in addition to contractor monitoring should record compliance to these additional mitigation controls approved through the deviation request and the effectiveness of these controls. The frequency of monitoring and reporting would be expected to be increased during the high-risk periods associated with the constraints period. • The BAP discusses mitigation measures that avoids disturbance of potential European Eel habitat during spawning periods. However, the studies undertaken for PLV JV indicate that no spawning occurs in Turkish Rivers for this species.	During the activities, spawning of fish and tiddler were not observed and no movement was observed. As an extra precaution, stagnant areas were implemented for spawning at the starting and ending points of the construction area. During the hydrotest activity, water pumps were placed deep part of the river and as far away from the shore as possible. Daily inspection was conducted for the water pumps against to any adverse effects. In order to prevent turbidity during water discharge, the discharge time were extended by leaving the water gradual. Construction activities at the Gönen River and DSI channels were conducted by implementing derivation channel in line with the expert opinion. FCHs and activities carried out in the relevant period: FCH 20 - Orhaneli River Hydrotest+Construction FCH 21- Emet River- Hydrotest FCH 25 - Koca River-Hydrotest FCH 26 - Gönen River-Construction FCH 27 - DSİ-Hydrotest+Construction.	

Ref.	Performance Requirement	Actions Required	TANAP Response	Status
			The recommendations have been considered in the recent third party monitoring visits and reports.	
6.2.2	Conservation of Biodiversity Monitoring	The quarterly third party monitoring reports are very comprehensive and clearly presented, but can be improved with the inclusion of some details regarding the sites visited by the monitoring team for each quarterly period and some justification for the site sampling. Third party environmental monitoring of biorestoration and critical habitat protection should include assessment of compliance with additional mitigation measures approved through approved deviation requests where relevant.	The recommendations have been considered in the recent third party monitoring visits and reports.	Closed
6.2.3	Conservation of Biodiversity, Bio-restoration	TANAP should ensure that overspill areas are reinstated in parallel with the RoW in accordance with the relevant specification to an adequate standard, with erosion control measures such as slope breakers implemented where required.	Please see action status comments for 1.7 TEKFEN submitted the document, "TKF-PLN-CVL-PL3-006, Plan for Reinstatement Aftercare, Monitoring and Corrective Actions During Warranty Period'' for Lot 3. Outstanding overspill areas will be reinstated in parallel with the RoW according to project requirements. Those were registered and followed through an official Provisional Acceptance Defect List. Reinstatement has just started in Lot4, and in case of encountering any area, which is overspilled, it will be reinstated in parallel with the relevant specifications.	Open Continue to verify status during RoW reinstatement works

Ref.	Performance Requirement	Actions Required	TANAP Response	Status
10.1	Stakeholder Engagement Plan	Update the SEP Annex 2 (RAP-specific engagement) to include Transition phase activities as these emerge	Completed; submitted the revised version to EBRD for review and approval.	Closed
10.3	Information Disclosure	Information disclosure must include preparation and appropriate disclosure of a Transition Plan for the Project. The Transition Plan should cover the period between/overlap of construction and operations, to manage E&S legacy and emerging issues during this period between responsible teams/companies.	Information meetings have been initiated targeting all project-affected settlements and main purpose of those meetings are; to inform communities about land use restrictions, community safety issues, management of third party crossings to the P/L and introduce Social Impact Specialists as contact points for resolution of the grievances remaining from construction phase and those that may be raised in forthcoming periods	Closed

3. COMPLIANCE WITH LOCAL LEGISLATION

The environmental and social impacts of the Project have been assessed through a systematic process applied for all Project components as identified through the ESIA scoping process and engagement with key Government stakeholders in Turkey. The ESIA has been developed to meet national standards, TANAP policy and guidance provided by international institutions. The ESIA of the TANAP Project was completed in 2013 and "EIA Positive Decision" for the TANAP Project was obtained from the Ministry of Environment and Urbanization (MoEU) in 2014.

The following table outlines any warnings, penalties or correspondence provided by local, regional or governmental authorities to the TANAP Project to date:

Table 3 Compliance with local legislation

Construction Site	Warning	Penalty
Lot 1	Nothing to report	Nothing to report
Lot 2	Nothing to report	Nothing to report
Lot 2	Nothing to report	Nothing to report
Lot 2	Nothing to report	Nothing to report
Stations	Nothing to report	Nothing to report
Offshore	Nothing to report	Nothing to report
Scada/Telecoms	Nothing to report	Nothing to report

According to the latest CINAR quarterly environmental and social monitoring report (CIN-PRQ-PRC-GEN-021 Rev-P3-C) issued in October 2018, there has not been any breech of Turkish legislation.

4. INTERNAL COMPLIANCE

The IESC identified two key findings which have been subject to TANAP management of change processes:

- The potential change to the final land use for 6 Project early works accommodation camps that were initially proposed to be removed, the land restored to original condition and returned to the landowners in accordance with agreed land exit protocols. TANAP has been approached by Government agencies seeking to use these accommodation camps as permanent facilities.
- Additional environmental and social assessments had started by TANAP in December 2016 and had been completed by Çınar in June 2018 for overhead power lines (OHL) and anode bedlines, associated with cathodic protection systems that were not assessed in the initial ESIA documentation. The design specifications and location of OHLs and anode bed lines were not determined at the time of the preparation of TANAP Project ESIA Report.

These two findings along with operational mitigation measures for ESMPs and relevant procedures are discussed in greater detail in Section 5 and Appendix A.

The ESAP was last updated in April 2017. Following review, the IESC has not identified any outstanding actions. The GHG report was submitted to the Lenders in Q1 2018 as required (ESAP Number 3.1). A Biodiversity Offset Management Plan is required as part of the Biodiversity Offset Strategy (EASP Number 6.1). Site monitoring and validation surveys have been completed by Golder including rehabilitation status along the BTC pipeline and baseline degradation levels along the TANAP route.

5. COMPLIANCE WITH IFI REQUIREMENTS

This section outlines compliance with IFI requirements. The IFC Performance Standards have been selected to form the basis of the compliance assessment with narrative descriptions focussed on describing key findings/issues of the monitoring visit.

Narrative description of key findings is provided for the EBRD Performance Requirements where they differ materially from the IFC Performance Standards.

Assessment against MIGA Performance Standards and the Equator Principles is not undertaken in this section, as the Equator Principles follow the IFC Performance Standards, and as such, content mirrors that which is provided for the assessment of compliance with IFC Performance Standards. An Equator Principles assessment table is included in the Appendices Section.

5.1 IFC Performance Standards (2012)[2]

Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts;

A key focus of this IESCS monitoring was on the environmental and social assessment of project changes being those aspects that vary from the initial disclosed ESIA and management plans. The two areas identified where changes have occurred which have been subject to management of change processes include:

- The potential change to the final land use for 6 Project early works accommodation camps that were initially proposed to be removed, the land restored to original condition and returned to the landowners in accordance with agreed land exit protocols. TANAP has been approached by Government agencies seeking to use these accommodation camps as permanent facilities.
- Additional environmental and social assessments were completed in June 2018 for overhead power lines (OHL) and anode bed-lines, associated with cathodic protection systems that were not assessed in the initial ESIA documentation. The design specifications and location of OHLs and anode bed lines were not determined at the time of the preparation of TANAP Project ESIA Report.

Additional assessments were completed in June 2018 for overhead power lines (OHL) and anode bed lines that were not assessed in the initial TANAP Project ESIA documentation as the design specifications and location of OHLs and anode bed lines were not determined at the time of the preparation of TANAP Project ESIA Report. TANAP has assessed the need for assessment of the OHLs and anode bed lines against the requirements of Turkish EIA Regulations and has determined that the proposed infrastructure does not require further approval and assessment by the Ministry of Environment and Urbanisation (MoEU).

The scope of the Environmental and Social Report extends to 61 overhead power lines (OHLs) and 32 cathodic protection anode bed lines situated throughout the pipeline corridor across Turkey being installed within the scope of Phase 0 and Phase 1 of the Project. At the time the Environmental and Social Assessment Report was completed, June 2018, construction was already completed on 45 of the 61 OHLs and for 23 of the 32 anode bed lines. TANAP had completed a range of targeted pre-construction surveys including environmental, social and cultural heritage specialist studies of the proposed infrastructure locations and consultations with

[2] Including Equator Principles and MIGA Performance Standards.

relevant external parties including museums and institutions. However, the pre-construction survey information, and specifically the heritage information, was not included in the assessment report provided to the IESC to support the Management of Change.

The assessment report included the assessment of residual significant impacts using baseline data that was gathered after construction of the OHL and the cathodic protection anode bed lines had already commenced. The OHL and anode bed-line sites were subject to environmental and social screening using a desktop analysis and pre-construction surveys as described above. The assessment report provides baseline study information for 32 of the locations, and these were limited to ecological studies only, and in some cases, only bird studies were included. Ten sites were identified as having potential for impact on protected areas or conservation significant areas. The assessment report provided to the IESC for the OHL and anode bed-lines did not include the cultural heritage and other pre construction surveys that were completed and recorded by TANAP and its consultants.

The IESC's initial review of the assessment report concluded that the assessment of the OHL and anode bed lines was insufficient to demonstrate the application of the mitigation hierarchy. However, additional documentation and records of pre-construction surveys were provided following the IESC visit and these records are sufficient to demonstrate that potential impacts were identified and considered during the planning process for this infrastructure. The IESC did note that the assessment report for the OHL and anode bed-lines included recommended mitigations for OHL design to mitigate bird collision and electrocution risk in identified areas. Discussions with TANAP indicate that not all mitigation measures have been implemented due to the assessment report recommendations being available after design and during construction of the infrastructure.

The IESC recommends that:

a) TANAP undertake further assessment of biodiversity impacts associated with the OHL and Anode Bed-lines with a focus on those area where recommended mitigations were not incorporated in design or not implemented in construction. This further assessment should re-visit the impact and risks associated with the infrastructure and consider mitigation measures that reflect the current status of that infrastructure. The additional environmental assessment should be completed prior to completion of the OHL and anode bed-line construction;

b) The OHL and anode bed–line infrastructure assessment of impacts is included in the TANAP Biodiversity Offset Management Planning process;

c) TANAP include the monitoring of impacts to bird species as identified in the OHL environmental assessment and the performance of any mitigation measures be included in the post construction monitoring programs for the Project.

It is recommended that TANAP seek advice from the IESC prior to commencement of all Project activities that fall outside of approved ESIA and agreed management plans, including management of change documentation, so that the IESC can provide advice on the sufficiency of assessments and advise lenders and TANAP on the potential for noncompliance with project or Lender standards

The IESC review of the land and livelihoods displacement aspects of the OHL and anode bed-lines management of change found that the processes used for land access and compensation arrangements was consistent with that used for the Project pipeline RoW and there are no concerns raised regarding these aspects.

Management of change – Camps

TANAP has 6 main camps allocated for 6 spreads in 3 Lots which are temporarily rented for 5 years for the period of construction; the leases will expire in March 2019. The consultation with Affected Communities regarding the use of these sites was on the basis of temporary construction camps by TANAP.

TANAP has advised, through management of change requests, that three of these camps have been delivered to the Provincial Administration Authority (PPAA) of the relevant Governorship, while the other three are potentially to be handed over to AFAD, the Turkish Disaster Authority. It is noted that this comprises handover of the infrastructure and the lease for the use of the property. Any new lease (i.e. beyond the expiration of March 2019) would be the responsibility of the new user (AFAD or PPAA) and the landowner.

The MOC process resolves to conduct stakeholder engagement with affected landowners. However, there are a number of issues:

- The nature of the future land use by AFAD is not clear so any negotiation with landowners may not be fully informed.
- The Protocol with AFAD ('Camp Sites Grant Protocol') does not reference consultation with affected landowners, or, the communities nearby; the camps have the potential to affect a wider community beyond only the landowner. The Protocol references undertaking 'all the necessary procedures' to obtain rights of use, however this does not explicitly reference any consultation requirement.
- Consultation during the ESIA was on the basis of the land use being TANAP's temporary construction camp, and so any change to this use requires consultation with affected stakeholders.

The IESC recommends a third party Turkish national consultant review the transfer process to assess whether:

- The decision by affected landowners to extend any rental agreements with AFAD is an informed decision and is made free of coercion; and
- Consultation with potentially affected communities is undertaken by AFAD/PPAA.

It is recommended that this is applied to all six camps, i.e. regardless of whether they are on private or public land, given that all may potentially affect other stakeholders/neighbouring settlements. It is noted that in Turkey on a previous pipeline project, camps were also handed over to the Government; this 'temporary' change in land use is still active more than ten years later. While this may not occur in this case, there is precedent for extended use.

Stakeholder Engagement

Ongoing stakeholder analysis and planning is undertaken by TANAP and CCs. The Stakeholder Engagement Plan (SEP) was most recently updated in September 2018. The SEP describes responsibilities for TANAP, CCs and LRE for the construction phase, and with the latest update additionally provides for the updated RAP-specific stakeholder engagement provisions (Annex 2), and analysis, methods and engagement activities and monitoring during the operations phase of the Project (Annex 3).

Evidence from stakeholder interviews undertaken by the IESC in project affected communities suggests that there is a need to strengthen engagement with vulnerable people and other hard to reach households. The IESC recommends that there remains some flexibility in identifying

potentially vulnerable households so that if, through engagement, there is evidence that the household is not aware of their rights and responsibilities associated with the Project, that this person is included in the vulnerable groups list and will therefore receive follow up support.

Engagement specifically with Vulnerable Groups has been improved within the framework of the SEP, with work underway to continue to identify and support vulnerable people. The Vulnerable Group Identification Questionnaire has been used to make a final check of vulnerable people along the pipeline-affected settlements to plan any support for them, where necessary. This work has been completed in Lots 3 and 4, and is underway in Lot 2, and yet to be commenced in Lot 1.

As a risk mitigation strategy, this rolling process for identification of VHHs can be an effective way to minimise potential grievances or later claims that the land acquisition process was not well understood or fairly implemented. It is recommended that TANAP continue with identification of vulnerable households using the specific tools that have been developed. In addition, retain the flexibility to ensure those who may be disadvantaged or unclear about their rights and responsibilities are identified and receive specific support as necessary.

As the intensity of BOTAS role with affected stakeholders' declines, the IESC recommends that TANAP, Construction Contractor CLOs and BOTAS undertake a joint review to cross-check engagement and information disclosure activities. During a site visit interview, a semi-permanent resident did not hear about the Project and being affected by land acquisition until, reportedly, receiving an expropriation notice via the Muhtar[3]. TANAP is encouraged to cross-reference its stakeholder lists with those of BOTAS, with a focus on identifying the vulnerable / hard to reach, but with a broader agenda of ensuring all affected households are receiving information disclosure packages, and eligible households are fully informed of their entitlements.

The IESC had previously recommended the completion of a Transition Plan between construction and operations phases, with a disclosure process to ensure stakeholders were well informed as necessary. The IESC notes that TANAP determined, rather than create a standalone plan, to update the existing Social Action Plan and Monitoring Plan, and SEP. Additionally, TANAP has commenced carrying out informative community meetings to provide updates and respond to any issues raised by affected communities regarding these arrangements, including to ensure that the primary contact person (i.e. TANAP's Social Impact staff) is introduced.

Grievance mechanisms

The previous CINAR (third party monitoring contractor) Quarterly E&S Monitoring report identified outstanding grievances as a non-conformance, in particular, for Lot1 with 73% overdue grievances, and 98% of open complaints overdue in Lot 2 (i.e. these are grievances over 30d old). Further, damage to irrigation channels had also been identified. As a result of this spike, TANAP provided additional focus on Grievance resolution support for Stations. Days of outstanding complaints were significantly decreased from 51 days to 43 days as at of end of June, and then down to an average of 6 days by the end of September 2018. A range of incentives have been tried and found effective in ensuring the grievances are better managed by CCs, including tailored incentives for the general workforce and for the CLOs.

[3] The IESC notes that, as a prerequisite for Land acquisition, expropriation notices are sent to all landowners and shareholders via official letter by BOTAŞ and local courts during the expropriation process, which must be evidenced during the court process. Additionally expropriation decisions need to be published in local and national newspapers before starting the court process, as defined in the national Land Acquisition Law.

Guidance is in place on grievance categorisation from TANAP Social Impact and RAP/LRP staff, to Construction Contractor CLOs. Regular training conducted with OSID users on categorisation of grievances in place, however there is evidence that root cause analysis not there. The outcome of this mis-categorisation is that grievances are directed to the incorrect party to address (e.g. overspill causing loss of income at harvest time needs to be directed to the Construction Contractor not the LRP team). Lots 2 and 3 Land Exit process is completed, and more grievances have been received at that time, most of which are about reinstatement. Provisional acceptance by Lots is dependent on close out of outstanding grievances: so TANAP needs to ensure that those items under CC responsibility are allocated in a timely manner before demobilisation of the CCs and their equipment.

Concerns raised during stakeholder interviews in the audit related to the quality of land reinstatement.

Reporting to Affected Communities

Forthcoming work on periodic reporting includes conducting an annual meeting with Stakeholders commencing in January 2019. These meetings will provide an opportunity for TANAP to hear directly from Affected Communities and other stakeholders.

TANAP is recommended to use this Annual Stakeholder Meeting opportunity to verify:

- that stakeholders are receiving information disclosure packages
- that vulnerable households have been fully identified and engaged
- that information is effectively being shared between TANAP, BOTAS and CCs regarding potentially vulnerable or other hard-to-reach households

Performance Standard 2: Labour and Working Conditions

TANAP has continued to provide oversight of construction contractor HR management including the use of quarterly third party labour audits[4] to verify contracted labour is being managed in accordance with TANAP's standards and national law. The third party labour audits have maintained a focus on compliance with working hours and payments of wages in accordance with laws. Findings from the audits are registered and tracked by TANAP HR with actions being closed out in a timely manner. The issues identified in the third party labour audits are mostly discrepancies in worker payments, including overtime payments. The IESC is satisfied that this oversight is effective in providing verification of appropriate human resource management practices across the TANAP workforce.

The Project has seen a reduction in both Integrated Project Management Team (IPMT: Staff comprised of employees and Agency staff contracted to TANAP and indicated at TANAP Organisation Chart) and construction contractor labour as work Lots and packages are being completed. Substantial demobilisation of the workforce for IPMT commenced in September 2017 with 160 workers being retrenched from completed construction contracts. There have been 4 cases where demobilised workers have made claims against the employer for the termination of employment without a valid reason. These cases are pending legal proceedings. TANAP has had considerable focus on ensuring that worker demobilisation is implemented in accordance with all legal requirements in Turkey. The demobilisation process has been defined by TANAP for implementation by contractors, through contract specific Retrenchment Management Plans to

[4] Practical Solutions Group Audit Report: TNP 2018/06, (dated 24 Sept 2018)

ensure consistency of employee notification of contract termination and to confirm that the notification is supported by appropriate records, communications and verification protocols.

Accommodation camps were inspected by the IESC at MS1/CS1, MS3 and CS5/MS2. All accommodation facilities were found to comply with Project standards. Accommodation quarters and, recreational facilities are to a high standard. Regular inspections are undertaken on hygiene standard in kitchens and ablutions, on fire safety systems and for extinguishers.

Worker grievance mechanisms are in place at all Project work sites. Worker grievance records were reviewed at CS1/MS1 site where Tekfen is the EPC contractor. Tekfen had recorded 45 overtime grievances, of which, 42 had been closed. The employee working hours and overtime hours are maintained within the legal limits established in the Labour Code. Other worker grievances include 9 complaints regarding unpaid claimed overtime. All of these 9 grievances had been successfully resolved and closed. The EPC contractor has held back payments to sub-contractors where there has been late payment to sub contracted workers. This action has been effective in rectifying the sub-contractor late payment concerns.

Occupational Health and Safety

H&S performance has seen a very positive trend in recent times. Lost time, total recordable and road transport incident frequency rate targets have all been met very comfortably. This appears to be attributed to the fundamental approach of utilising a permit system for all work, which drives risk assessment, documentary control and communication. However, the IESC has observed lapses in safety practices at some construction sites where Contractor Permit to Work System are in place. These lapses in H&S performance can result in significant incidents and may have contributed to a recent spate of high potential incidents experienced at Project active construction sites.

The IESC reviewed the Project's responses to a fatality that occurred at CS-5 Utility area on 28 September 2018 during pressure testing of a diesel storage tank. The initial response taken by TANAP and the construction contractor to the fatality was appropriate with an immediate cessation of work. The pressure test work at CS5 and all Project sites was ceased until after the findings of investigation. A Safety Stand-down was conducted at all project sites and an investigation was initiated.

The incident report for the fatality was provided after the site visit and this is currently under review. This report will be updated on completion of the incident investigation review.

The depth of cause analysis was found to be an issue in incidents that were assessed as a part of the IESC monitoring visit. Supervision deficiencies were a common cause from the investigations that were reviewed by the IESC. The IESC is concerned that the corrective and preventative actions to address supervision issues do not appear to have been effective when considering the repeat occurrence of supervision deficiencies identified in the incident reports reviewed. The intent should be that action taken will prevent recurrence.

Supervision deficiencies were found to be a root cause in 100% of the incidents sampled. Whilst it is clear that the incidents reports found that there was an issue with supervision, what was not clear was whether the issue was as a result of numbers of supervisors and the associated allocation of work to them; the quality / competence of the supervisors; whether there was an over dependence upon HS staff, or; whether there were production pressures that resulted in schedule or budget issues being prioritised above safety concerns.

Health and safety management systems are in place and are effectively implemented for health and safety on all Project components including construction and operational activities. For work done by contractors, TANAP has driven the use of H&S management systems by setting the standard and contractually requiring the contractors to be compliant with the standards. Compliance is validated by TANAP who has developed an H&S team whose primary responsibility is to ensure that the standards are maintained. In essence the H&S team have a governance and assurance role. TANAP set the standard and then ensure that the standard is being complied with.

TANAP have recently taken control of a number of sites from construction and are now operating them. This change has necessitated a dedicated management system to manage operational health and safety. This has been done via the development of an H&S Operations Management Plan which provides a framework for the system and which incorporates a number of key plans, procedures and work instructions.

The primary and consistent approach within the management system revolved around the use of a permit system. The permits were found to drive the:

- Conduct of risk assessment
- The use of a safe work method statement which articulated the controls
- The conduct of toolbox meetings.

The IESC found a high level of awareness and implementation of the Permit to Work systems. These appeared to drive an effective level of control, however there was evidence of lapses in application of Contractor Permit to Work systems on active construction sites. Some of the lapses were significant and could result in significant incidents. A sample of lapses include:

- examples sighted where there were deep excavations where the placement of the hard barricading was not suitable, and it left the risk of a significant fall
- there were a couple of examples where barricading had been removed to allow work to be conducted, where they had not been replaced when the workers had gone for lunch leaving an un-manned barricaded excavation
- It was noted on one job high potential incident that the mobile equipment spotter walked away from the worksite
- Some MSDSs were in English only
- Some materials in the hazardous materials storage area was found to be unlabelled and in water bottles
- There was no evidence of the conduct of drug testing
- It is questioned whether alcohol checking and fatigue checking is done on a reflective sample size and on a timetable that allows for a realistic picture of exposure.

The IESC also observed significant positive H&S behaviours, a sample of which includes:

- Site security was found to be managed well on all sites via the use of fencing, electronic access control, approval to gain access and the use of licensed security personnel monitoring and controlling access.
- Compliance with respect to the use of personal protective equipment was found to be very high at all sites.

- In spite of the fact that a number of sites in particular those still under construction were extremely tight on space, housekeeping was found to be generally good.
- Road safety was found to be managed by a number of controls which included systems, rules, IVMS (monitoring) and training. These controls were found to be well implemented
- For the lifting operations sighted, the controls implemented were found to be appropriate, including but not limited to the use of permits, documented procedures, competent qualified personnel, suitable equipment that was inspected, certified and maintained

TANAP's emergency response plans are articulated within plans and procedures. Emergency event prevention is engineered into the operation and is a part of the fundamental design. Medical facilities and first aid capability was to an excellent standard and are readily available to provide effective first response for injured personnel.

Performance Standard 3: Resource Efficiency and Pollution Prevention

The IESC observed robust performance against IFC Performance Standard 3 with full compliance demonstrated except for waste management which is considered as partially compliant. The ESIA and ESMPs which in large have transitioned from the construction and commissioning phase into the operations phase provide the overarching Project principles for the application of resource efficiency and pollution prevention principles. These Principles are defined as: identify and understand impacts; consult with others; design and avoid adverse impacts and minimise use of natural resources.

Pollution Prevention

The IESC observed adequate waste management in accordance with good international industry practice. Construction contractors' individual waste management plans that align to TANAP's continue to be well implemented through the remainder of the construction phase. Attributed to the reduction of construction activities, the IESC observed a reduction in pollution emitting activities and waste volume generated throughout the site visit, particularly in Lot 1.

Waste management at sites visited was observed to be generally good and aligned to TANAPs construction and operational phase waste management plans. However, the incorrect use of allocated waste and recycling bins was observed at all work sites visited. Specific bins are being provided for the workforce to separate recyclables, general waste and hazardous wastes. Incorrect use of these bins creates additional work and hazards for the waste teams to separate and sort waste at the central waste transfer facility located at each ASI work site. Previous IESC visits have reported this as observational and actions have been taken by TANAP and its contractors to increase awareness of correct waste separation at source. The ongoing incorrect waste separation at source has been elevated as a partial compliance finding for this IESCS review in response to the continuing workforce noncompliance with waste management procedures and the additional worker health and safety hazards posed in separation of wastes that were incorrectly disposed of. The IESC notes that contractor tool box awareness sessions on waste management and correct use of waste bins have been regularly provided to workers with no obvious improvement in performance. It is recommended that TANAP/contractors consider apportioning the responsibilities for correct waste management be assigned to the various work streams that produce the waste so that there is a consequence or cost apportioned to those work streams that do not separate waste correctly.

Co-location of incompatible wastes such as flammable liquids and hazardous chemicals such as thinners and corrosive material which present a potential fire risk were observed within the

chemical storage area at MS3. The IESC therefore recommends that an assessment of hazardous waste is conducted, and wastes segregated accordingly to prevent risk of fire etc.

The domestic waste storage facility at MS3 presents a potential pathway for migration of waste leachate into municipal storm drains during periods of heavy rainfall as the wastes is placed on a temporary liner. Despite domestic waste being stored in dedicated bins and bags on a lined plastic area, the IESC recommends the waste area is completely covered during rainfall to prevent leaching and run-off.

GHG Emissions Quantification

The TANAP Project generated 162,544.63 t CO_2 eq/yr. during 2017 (scope 1 and 2 emissions) triggering the requirement to develop and submit an annual GHG Report which submitted to Lenders in Q1 2018. TANAP are in the process of procuring consultant services to compile GHG emissions for the operations phase and intend to commence operational GHG records in 2018 with a 2018 Phase 0 operations GHG report to be developed in due course.

Performance Standard 4: Community Health, Safety, and Security

The key identified health and safety risk to the community during the project construction phase is road safety. Road safety is prioritised as a Golden Rule due to the potential for significant incidents involving workers and the public. The IESC found that the Project has managed road safety effectively, achieving a very low incident rate, and using: systems that minimise road transport where possible; In Vehicle Monitoring Systems (IVMS); journey management procedures and driver training. These controls were found to be well implemented at all TANAP work sites.

Operational public risks associated with live gas in commissioned equipment are managed through site security. Security was found to be managed well on all sites via the use of fencing, electronic access control, the presence of security personnel and continuous camera monitoring.

Equipment integrity for operational live gas facilities has been subject to verification and assurance for all stages of hand-over from construction to commissioning and then transfer from commissioning to operations. TANAP Project integrity risk was found to be controlled through a “ready for gas” certificate and a “ready to operate” certificate respectively following an engineering assessment.

TANAP’s systems are designed to prevent incidents. However, TANAP has identified emergency scenarios, including loss of containment, fire and explosion that may impact on nearby residents and communities. TANAP’s emergency response plans are articulated within plans and procedures and emergency mitigation is engineered into the operation and is a part of the fundamental design, including Emergency Shut Down (ESD) systems, fire systems and emergency gas venting. Medical facilities and first aid capability and resource are available to provide effective first response. Previous IESC visits identified that the emergency management plans have not adequately addressed risks to communities or identified which communities may be affected by emergency scenarios. The Emergency procedures in place do not include communications with potentially affected communities and the development of protocols for emergency preparedness within nearby communities that fall within specific risk criteria. TANAP has advised that studies are being planned to quantify public risk from operational facilities with the scope currently being defined.

TANAP has completed its training programs on community exposure to disease in line with progressive demobilisation of the construction workforce along the pipeline route. Security

personnel engaged on the Project have continued to receive regular training on good industry practice and there have been no reported incidents of unlawful or abusive acts.

Performance Standard 5: Land Acquisition and Involuntary Resettlement

The Livelihoods Restoration Plan (LRP) for AGI's has been completed since the last IESC visits and is publicly available. TANAP has developed procedures for implementing the LRP and provided additional information to affected households on entitlements and the various support programs under the LRP for AGIs. The procedures and information packages developed by TANAP for the LRP ensure compliance with Lender requirements, as the land acquisition process implemented by Botas, as the Land Rights Entity (LRE) was developed to meet Turkish national requirements.

Resettlement Action Plan (RAP) Fund payments are continuing with 4,639 PAPs out of 5,066 being compensated to date with total payments of 4,010,000TL. TANAP's Social Impact Department are continuing to coordinate meetings and provide printed information to landholders who have restrictions on land that has been returned following the land exist process. These restrictions are required to ensure the ongoing safe operation of the gas pipeline and to prevent inadvertent excavations on the RoW.

TANAPs community grievance management process has been revised to capture RAP find related issues. Additional support and resources have been made available by TANAP to reduce the average time for the close out of grievances. The efforts have been very successful with close out periods on community grievances being reduced from 43 days at the end of June to 6 days at the end of September.

The current status of land acquisition for the Project includes:

- Total number of parcels subject to land acquisition is 28,390 of which 20,830 are private.
- The approximate number of affected landowners is 112,618.
- In total, 17,774 private parcels and 7,026 public parcels have been registered in the name of Botas (as the LRE)
- The total registration for private and public parcels is at 87.35%.

TANAP completed its environmental and social assessment of the overhead power lines and anode bed lines in June 2018. This assessment does not constitute a change from the ESIA or Land Acquisition Strategy, as Botas acquired land as LRE for the Project for both temporary acquisition during line construction, and permanent acquisition for poles, under the same framework for stakeholder engagement and land acquisition as for pipelines and AGIs. No physical displacement is required for the power lines or Anode bed lines. However, the IESC notes that this detailed assessment was undertaken after construction had commenced.

With regards to Livelihood Restoration for Fishing Communities since the last audit, TANAP prepared and implemented a follow up study to determine if there were variations in fish catch upstream and downstream of the affected fishing communities. Under the FLRP, 67 payments to 44 vessel owners were paid towards fuel subsidy. Following the completion of implementation, two rounds of qualitative monitoring were undertaken, along with interviews, and there was found to be no difference in fish catch due to TANAPs activities.

Performance Standard 6: Biodiversity Conservation and Sustainable management of Living Natural Resources

The IESC has reviewed and is satisfied with the progress in development of the Biodiversity Offset Management Plan (BOMP) being completed by the Project's biodiversity specialist consultant team engaged by TANAP in 2017. The most recent report has focussed on analysis of field and desktop studies to better define degradation values of natural freshwater and terrestrial habitats within the Project Local Study Area (LSA) assessed in the initial ESIA and to better define likely rehabilitation success for project disturbed areas including assessment of other pipelines in Turkey (BTC). The current BOMP fieldwork program was planned through to the end of September 2018, which will be followed, by data analysis and interpretation of the desktop and field data using a coherent framework to ensure the various data are all contributing to the definition of the rehabilitation status of all the habitats in the various ecoregions. The second phase of work being undertaken for the BOMP is the review of the legal and institutional framework relevant to the implementation of biodiversity offsets in Turkey and includes a review of the legal provisions and institutional roles and responsibilities on how protected areas, forestry and pasture land are managed and to find the opportunities for implementation of biodiversity offsets for the Project. Both BOMP work streams are expected to continue through to the end of 2019.

The progress and performance of RoW reinstatement and bio-restoration works was a key focus for the IESC visit. Reinstatement progress, including bio restoration works is completed in Lots 2 and 3 and offshore shore crossings, is almost complete in Lot 1. The RoW in Lot 4 is subject to significant current reinstatement activity with topsoil placement and bio restoration work yet to be commenced. The monitoring of completed reinstatement by construction contractors, third party environment and social consultants and TANAP has identified a range of improvement actions that have been registered and are being tracked through to completion. The key RoW reinstatement improvement actions issues that TANAP is implementing with its construction contractors are focussed on the following key areas:

- Aligning the standards and practices of RoW aftercare and monitoring plans between all Lots;
- Implementation of processes to ensure RoW overspill areas are identified and included in reinstatement planning;
- Site drainage reinstatement following completion of construction is a key focus
- Topsoil losses due to erosion following heavy rainfall;
- Excess materials, sub soil and topsoil, from permanent installations require either reuse and/or disposal.

The IESC visited freshwater and terrestrial critical habitat sites in Lots 1 and 4 and noted a high standard of reinstatement works being performed. These sites are subject to further monitoring by construction contractor ecologists and soils specialists who have demonstrated effectiveness in identifying post reinstatement improvements. The additional third party monitoring contractors are providing additional oversight and have identified key issued in Lot 1 with subsoil compaction and Lot 4 invasive weed species management requirements. The IESC observations from the site visits (see details in Appendix 1) confirm that the monitoring, verification and oversight processes established for the RoW reinstatement and critical habitat reinstatement is effective.

As expected, there are a range of improvement actions required for completed RoW across all Lots, especially in the first year after works have been completed when erosion risk is at its highest. However, the IESC is satisfied that TANAP, and its contractors, have applied sufficient human and financial resources to effectively implement its reinstatement activities in accordance with its plans and method statements.

The IESC's findings in regard to the biodiversity assessment of the OHL and anode bed lines through management of change processes is included in the PR1 discussions above.

Performance Standard 8: Cultural Heritage

TANAP and the Ministry of Culture and Tourism are working closely to ensure identification, protection, mitigation and management of cultural heritage sites associated with the Project, and in line with both national and lender requirements. During the ESIA and engineering design, 106 new archaeological sites were discovered, and registered as archaeological and cultural immovable assets. The Chance Find Procedures implemented during the ground disturbance activities identified 48 archaeological areas and approximately 1000 artefacts. All chance finds reported during the project excavations have been successfully closed out. Chance Find procedures remain in place but there is very limited ground disturbance taking place at this stage of the Project.

The IESC review of the management of change process and assessments related to the construction of overhead power lines and anode bed lines found that there was documented pre-construction surveys of areas subject to the additional infrastructure and relevant cultural heritage organisation and institutions were consulted during the planning for the infrastructure. However, the environmental and social assessment report provided to the IESC to support the management of change did not include this detail. The IESC has made recommendations regarding the content of any future management of change documentation.

Appendix 1: Assessment Table - IFC Performance Standards (2012)

PS Heading Para. Ref.	Description of IFC PS Requirements	Findings / Comments	Compliance Category	Actions Required
1. PS1: Assessment and Management of Environmental and Social Risks and Impacts				
Environmental and Social Assessment and Management System				
1.5	Conduct a process of environmental and social assessment and establish and maintain an Environmental and Social Management System (ESMS)	The environmental and social impacts of the Project have been assessed through a systematic process applied for all Project components as identified through the ESIA scoping process and engagement with key Government stakeholders in Turkey. The ESIA has been developed to meet national standards, TANAP policy and guidance provided by international institutions such as the IFC, EBRD and EU. The ESIA of the TANAP Project was completed in 2013 and "EIA Positive Decision" for the TANAP Project was obtained from the Ministry of Environment and Urbanization (MoEU) in 2014. **Management of Change** for overhead powerlines and anode bed-lines, Additional assessments were completed in June 2018 for overhead power lines (OHL) and anode bed-lines that were not assessed in the initial ESIA documentation. The design specifications and location of OHLs and anode bed lines were not determined at the time of the preparation of TANAP Project ESIA Report. The voltage capacity of the proposed OHLs is lower than 154 kV (high voltage). In addition, the proposed anode bed lines are also not included in the Annex-1 and Annex-2 of the local Environmental Impact Assessment (EIA) Regulation in Turkey. Thus, the development of OHLs and anode bed lines are not included within the scope of EIA Regulation in Turkey. No environmental and social assessment study is required to be performed and submitted to MoEU. The purpose of the Environmental and Social Assessment Report prepared for the proposed OHLs and cathodic protection anode bed lines is to provide a structure for the assessment and management of	**PC**	The IESC recommends that: a) TANAP undertake further assessment of biodiversity impacts associated with the OHL and Anode Bed-lines with a focus on those area where recommended mitigations were not incorporated in design or not implemented in construction. This further assessment should re-visit the impact and risks associated with the infrastructure and consider mitigation measures that reflect the current status of that infrastructure. The additional environmental assessment should be completed prior to completion of the OHL and anode bed-line construction; b) The OHL and anode bed–line infrastructure assessment of impacts is included in the TANAP Biodiversity Offset

PS Heading Para. Ref.	Description of IFC PS Requirements	Findings / Comments	Compliance Category	Actions Required
		environmental and social risks and impacts that goes beyond compliance with Turkish requirements. The scope of the Environmental and Social Report extends to 61 overhead power lines (OHLs) and 32 cathodic protection anode bed lines situated throughout the pipeline corridor across Turkey being installed within the scope of Phase 0 and Phase 1 of the Project. At the time the Environmental and Social Assessment Report was completed, June 2018, construction was already completed on 45 of the 61 OHLs and for 23 of the 32 anode bed lines. TANAP had completed a range of targeted pre construction surveys including environmental, social and cultural heritage specialist studies of the proposed infrastructure locations including consultations with relevant external parties including museums and institutions. However, the pre-construction survey information, and specifically the heritage information, was not included in the assessment report provided to the IESC to support the Management of Change. The assessment report included the assessment of residual significant impacts using baseline data that was gathered after construction of the OHL and the cathodic protection anode bed lines had already commenced. The OHL and anode bed-line sites were subject to environmental and social screening using a desktop analysis and pre construction surveys as described above. The assessment report provides baseline study information for 32 of the locations, and these were limited to ecological studies only, and in some cases, only bird studies were included. Ten sites were identified as having potential for impact on protected areas or conservation significant areas. The assessment report provided to the IESC for the OHL and anode bed-lines did not include the cultural heritage and other pre construction surveys that were completed and recorded by TANAP and its consultants. The IESC's initial review of the assessment report provided concluded that the assessment of the OHL and anode bed lines was insufficient to demonstrate the application of the mitigation hierarchy. However,		Management Planning process; c) TANAP include the monitoring of impacts to bird species as identified in the OHL environmental assessment and the performance of any mitigation measures be included in the post construction monitoring programs for the Project. It is recommended that TANAP seeks advice from the IESC prior to commencement of all Project activities that fall outside of approved ESIA and agreed management plans, including management of change documentation, so that the IESC can provide advice on the sufficiency of assessments and advise lenders and TANAP on the potential for noncompliance with project or Lender standards

PS Heading Para. Ref.	Description of IFC PS Requirements	Findings / Comments	Compliance Category	Actions Required
		additional documentation and records of pre-construction surveys were provided following the IESC visit and these records are sufficient to demonstrate that potential impacts were identified and considered during the planning process for this infrastructure. The IESC did note that the assessment report for the OHL and anode bed-lines included recommended mitigations for OHL design to mitigate bird collision and electrocution risk in identified areas. Discussions with TANAP indicate that not all mitigation measures have been able to be included due to the assessment report recommendations being available after design and during construction of the infrastructure.		
Policy				
1.6	Establish an overarching, stand-alone, project-specific policy, which defines E&S objectives and principles that guide the project to achieve sound E&S performance.	TANAP has a current documented Environmental and Social Policy. TANAP contractors and subcontractors also have documented Environmental and Social policies. TANAP have ensured that their Environmental and Social Policies have been updated to reflect details of the new operating Company. Construction contractors and subcontractor Policies have been revised to reflect this if where required thus far, during the transition period from construction to operations.	**FC**	
Identification of Risks and Impacts				
1.7	Establish and maintain a process for identifying project-related E&S risks and impacts, in accordance with good international industry practice (GIIP). transboundary effects.	The environmental and social impacts of the Project have been assessed through a systematic process applied for all Project components as identified through the ESIA scoping process and engagement with key Government stakeholders in Turkey. The ESIA has been developed to meet national standards, TANAP policy and guidance provided by international institutions such as the IFC, EBRD and EU.	**FC**	
1.8	Analyse risks and impacts in the context of the project's area of influence.			

PS Heading Para. Ref.	Description of IFC PS Requirements	Findings / Comments	Compliance Category	Actions Required
1.9	Consider risks and impacts resulting from third party involvement (where the client can reasonably exercise control).			
1.10	Consider risk and impacts associated with primary supply chains (where the client can reasonably exercise control) defined in PS2 and PS6.			
1.11	Take cognisance of the findings and conclusions of related plans, studies or assessments that are directly related to the project and its area of influence and the outcome of engagement with Affected Communities.			
1.12	Identify individuals and groups directly and differentially or disproportionately affected by the project because of their disadvantaged or vulnerable status and implement differentiated measures to ensure they are not disproportionally impacted or disadvantaged in terms of benefits and opportunities.			
Management Programs				
1.13	Establish management programmes that describe mitigation and performance	Previously, TANAP supplied 6 Operational OHS Plans and 4 Draft Environmental Operational Plans for IESC review. These plans were considered fit for purpose at the time but subject to review and	**FC**	

PS Heading Para. Ref.	Description of IFC PS Requirements	Findings / Comments	Compliance Category	Actions Required
	improvement measures and actions that address the identified risks and impacts.	finalisation prior to implementation. Prior to commencement of the operations phase in June 2018, the operational ESMPs have been finalised and incorporate transitional planning from construction and commissioning through to operations as recommended by the IESC. The operational environment, safety and social management systems are therefore considered to be generally in place with operational risks being effectively managed. Operational E&S commitments are tracked and implemented through the Commitments Register. Despite the above, there is ongoing work required to fully implement the ESMS, ESMPs and ensure operational readiness including: • Further review of operational management plans to ensure all HSE aspects are included • Ensure all operational environmental plans have been implemented • Continuation of operations phase Environmental Permitting (provisional operation certificates) • Review of waste management which is under the responsibility of contractors • Review of waste water management which is sent to municipalities • Community risk management and operational maintenance strategies The tendering processes for third party environmental monitoring including bio-restoration and biodiversity monitoring (currently performed by CINAR) and greenhouse gas (GHG) verification are on-going. GHG monitoring and reporting has been assigned for the operations Phase. With construction activities remaining in Phase 1, the existing construction contractors' ESMSs remain to be comprehensive and well		
1.14	Favour impact and risk avoidance over minimisation, and where residual impacts remain, compensate or offset these, where technically and financially feasible.			
1.15	Ensure mitigation and performance measures comply with applicable laws and regulations and meet PS1 to PS8.			
1.16	Establish E&S Action Plans defining desired outcomes as measurable events with performance indicators, targets and acceptable criteria that can be tracked over defined periods, with estimates of resources and responsibilities for implementation.			
	Plans must recognise the role of third parties and must be responsive to changes in circumstances, unforeseen events and results of monitoring and review.			

PS Heading Para. Ref.	Description of IFC PS Requirements	Findings / Comments	Compliance Category	Actions Required
		established with regular monitoring, reporting and inspections taking place across the construction Lots. The construction contractor's environmental and social responsibilities are well understood, which is complemented by adequate numbers of skilled staff to maintain high levels of implementation and management. The IESC has observed continuous improvement in HSE management. However, the monitoring site visit identified a number of examples (as outlined further in PR3 and PR4 discussions) where there was an absence of implementation of environmental and safety controls by construction contractors in Phase 1 (OHS, waste segregation, air quality monitoring etc.). The IESC therefore recommends that additional refresher training and communication between TANAP, Construction Contractors and third party monitors is required to ensure that gaps in commitments are adequately identified and corrective actions are implemented when gaps in commitments are observed throughout the remainder of construction activities.		
Organisational Capacity and Competency				
1.17	Establish, maintain and strengthen as appropriate an organisational structure that defines roles and responsibilities, authority to implement the ESMS. Specific personnel with clear lines of responsibility and authority should be designated.	Along the operational pipeline route, the TANAP Social Impact Team comprises 1 specialist in each of CS1/MS1, CS5, Maintenance Centre 3. Work is underway to secure an additional resource to support this team, which will continue from Construction into the Operations phase (i.e. into 2020). Until such time, the core team in Ankara remains in place and will continue to support operational activities (including continuing to conduct awareness activities to ensure land use restrictions and third-party crossings are well understood in the community), as well as RAP implementation. The RAP Implementation team has been strengthened, with one FTE RAP Specialist supported by a TANAP Assistant Social Impact Specialist, as well as the external expert Implementation team for the LRP (AGIs), comprising two senior development experts and one supporting staff member.	**PC**	Appoint additional human resources to assist in the timely delivery of social impact mitigation commitments, including emergency preparedness, RAP/LRP and reinstatement commitments.
1.18	Personnel with direct responsibility for E&S performance must have the appropriate knowledge, skills, and experience necessary to perform their work, including implementation of the			

PS Heading Para. Ref.	Description of IFC PS Requirements	Findings / Comments	Compliance Category	Actions Required
	measures and actions in the ESMS and current knowledge of host country regulation and the requirements of PS1 to PS8.			
1.19	E&S process must consist of an adequate, accurate, and objective evaluation and presentation, prepared by competent professionals. External experts must assist in the risks and impacts identification process for projects with significant adverse impacts or that are technically complex.			
Emergency Preparedness and Response				
1.20	Establish and maintain an emergency preparedness and response system.	In line with the Project schedule and preconditions for applying for certification of completion, the 'As built' data has not yet been developed. At that point, pipeline markers with emergency contact information will be attached to line poles spaced at 500m intervals along the pipeline route. Until such time, emergency contact information is provided to land-owners/land-users at the point of completing the Land Exit procedure. Communities interviewed during the audit consistently reported that their primary contact point in the event of an emergency is the Jendarm (police). The IESC notes that while emergency response plans and procedures are in place[5], TANAP is preparing a scope of work for addressing emergency response in communities. This study will identify feasible risk scenarios and TANAP's alert and response actions, and externally,	**PC**	While recognising that emergency response plans and procedures are in place, it is recommended that TANAP develop the scope of work to determine areas of risk in communities and settlements with regards to AGIs and the pipeline, which must include an assessment of the capacity of local emergency responders. Additional risk factors, such as multiple pipelines and the subsequent
1.21	Assist potentially affected communities and local government with preparations to enable effective response to emergency situations (if applicable). Where local government agencies have little or no capacity to respond effectively, the Client will play an active role in preparing for and responding to			

[5] TNP-PCD-HSM-GEN-039 (Emergency Response Procedure); TNP-PLN-HSM-GEN-016 (Incident Management Plan); TNP-PLN-HSE-GEN-004 (Emergency Response Plan for CS5-MS2); and TNP-PLN-HSE-GEN-005 (Emergency Response Plan for MS1).

PS Heading Para. Ref.	Description of IFC PS Requirements	Findings / Comments	Compliance Category	Actions Required
	emergencies associated with the project. Document and disclose to Affected Communities and government agencies.	will engage and communicate with stakeholders, including response should there be a gas leak or other emergency, including which may require evacuation of community members. The work is to be carried out in the transition phase for immediate implementation. The scope is to investigate emergency response provisions with regards to protecting the community from potential risks associated with the AGIs, the pipeline, their proximity to settlements, and consideration of local capacities of emergency responders. The IESC is available to review and provide any additional guidance to a scope of work before experts are appointed. This is of high priority given that Phase 0 is already operational. The IESC also notes that TANAP will also be conducting a gap analysis of local fire brigades and will conduct synchronisation training of local emergency responders within first quarter of 2019. The capacity of potentially affected communities, local government and first responders will be examined in the framework of the above scenarios. Following this initial assessment, TANAP will need to determine with local government and first responders what assistance will be most appropriate, if any.		coordination in the event of an emergency, must also be considered.
Monitoring and Review				
1.22	Establish procedures for monitoring and measuring effectiveness of the management programme and compliance with legal/contractual obligations and regulatory requirements. Include representatives from Affected Communities in the monitoring activities (where appropriate). Retain qualified external experts to verify monitoring information.	TANAP has prepared 6 Operational OHS Plans and 4 Environmental Operational Plans and 3 Social Operational Plans as follows: OHS • Emergency Response Procedure; • Operations H&S Management Plan; • H&S Risk Assessment and Management Procedure; • Operations Permit to Work Procedure; • Health Plan; and	**FC**	

PS Heading Para. Ref.	Description of IFC PS Requirements	Findings / Comments	Compliance Category	Actions Required
1.23	Use inspections and audits to verify compliance and progress toward desired outcomes. Document results and corrective and preventative actions implemented and followed up.	• Incident Management Plan ENV • Environmental Monitoring Plan; • Pollution Prevention Plan; • Ecological Management Plan; and • Waste Management Plan. SOC • Social Action Plan; • Social Monitoring Plan; and • Operations Phase Stakeholder Engagement Plan. TANAP will assess operational compliance via a combination of the following internal and external methods: • Site inspections including internal and external environmental and HS monitoring to ensure TANAP operations comply with all Project Standards and Regulatory Requirements; • Audits including compliance with Legal & Other Requirements including relevant permit conditions and annual IESC assessments and reports to TANAP and the IFIs on the Project's compliance against its commitments and environmental and social provisions contained within the respective Project finance agreements; and • Action tracking where non-conformances identified during both internal & external verification and monitoring activities will be registered and require corrective actions to be provided to the relevant Site Managers to disseminate as appropriate.		
1.24	Relay the effectiveness of the ESMS to senior management on a periodic basis. Senior management should take appropriate steps to ensure that the intent of the client's policy is met, the ESMS is being implemented and is effective.			

PS Heading Para. Ref.	Description of IFC PS Requirements	Findings / Comments	Compliance Category	Actions Required
		The IESC notes that the tendering processes for third party environmental monitoring including bio-restoration and biodiversity monitoring (currently performed by CINAR) and greenhouse gas (GHG) verification are on-going. HSE and Social monitoring will continue for Phase 1 construction activities as per construction phase ESMPs: • Environmental Action Plan; • Environmental Monitoring Plan; • Social Action Plan; • Social Monitoring Plan; • Resettlement Action Plan; and • Biodiversity Action Plan.		
Stakeholder Engagement				
1.25	Stakeholder engagement is an ongoing process that may involve the following elements: • stakeholder analysis and planning; • disclosure and dissemination of information; • consultation and participation; • grievance mechanism; • ongoing reporting to Affected Communities.	Ongoing stakeholder analysis and planning is undertaken by TANAP and CCs. The Stakeholder Engagement Plan (SEP) was most recently updated in September 2018 (TNP-PLN-SOC-GEN-001-P3-4). The SEP describes responsibilities for TANAP, CCs and LRE for the construction phase, and with the latest update additionally provides for the updated RAP-specific stakeholder engagement provisions (Annex 2), and analysis, methods and engagement activities and monitoring during the operations phase of the Project (Annex 3). Community relations management is undertaken by CCs for each Lot and AGI construction. The management framework guiding engagement comprises the Community Relations Management Plan, ESMP, and E&S Monitoring Plan. Engagement and ongoing information disclosure activities are carried out with Affected Communities, then documented and reported by CCs to TANAP in the Daily Report, Monthly Report, Social KPIs and monthly registers (Key Engagement Activities register, Grievance summary register). In	**FC**	

PS Heading Para. Ref.	Description of IFC PS Requirements	Findings / Comments	Compliance Category	Actions Required
		parallel, TANAP's Social Impact specialists support CCs and deliver targeted LRP and operational readiness engagement activities. Samples of stakeholder engagement registers were viewed and verified during the audit.		
1.26	Identify stakeholders, including Affected Communities, and consider external communications to facilitate a dialog with them.	Stakeholders are identified in the SEP and the mechanisms in use to facilitate dialogue with each group. The SEP (including the topic-specific and phase-specific Annexes) is periodically updated in accordance with ESMS requirements. Targeted methods of engagement are documented and carried out with Affected Communities. These include specific meetings during the construction phase: Pre-construction, Consultation, Women, Safety Awareness training, and Local Authority Meetings. These have been carried out across all Lots and at AGIs. Evidence of meetings was sighted and verified with Affected Communities at CS1/MS1, CS5/MS2, MS3 during this visit. However, evidence from stakeholder interviews additionally suggests that there is a need to strengthen engagement with vulnerable people and other hard to reach households. Engagement specifically with Vulnerable Groups has been strengthened within the framework of the SEP, with work underway to continue to identify and support vulnerable people. The Vulnerable Group Control Checklist has been developed and used to identify land users affected by unviable lands, additional female land users, land users of public/common lands and landless, identified during Disclosure and Engagement Meetings on the RAP Fund in each pipeline- and AGI-affected settlement. The Vulnerable Group Identification Questionnaire has been used to make a final check of vulnerable people along the pipeline-affected settlements to plan any support for them, where necessary. This work has been completed in Lots 3 and 4, and is underway in Lot 2, and yet to be commenced in Lot 1.	**FC**	Continue with identification of vulnerable households using the specific tools that have been developed. In addition, retain the flexibility to ensure those who may be disadvantaged or unclear about their rights and responsibilities are identified and receive specific support as necessary.
1.27	Develop and implement a SEP tailored to the characteristics and interests of the Affected Communities. Include differentiated measures to allow effective participation of those identified as disadvantaged or vulnerable.			
1.28	Where the project location is not known, prepare a stakeholder engagement framework including general principles and strategy to: • identify Affected Communities and other stakeholders; and • plan for an engagement process.			

PS Heading Para. Ref.	Description of IFC PS Requirements	Findings / Comments	Compliance Category	Actions Required
		Interviews with stakeholders during the audit, including some vulnerable people, revealed that there remain a number of individuals who are not well equipped to deal with the Project and navigate their potential eligibility for support. In one of a number of examples, one elderly farmer was affected by multiple pipelines, an access road and the ROW. He thought that he had signed a form (this may have been the Land Exit form), but he was not sure what it was and therefore, what he had agreed to. The need to follow up and ensure that conditions and future land use is well understood is paramount. The IESC recommends that there remains some flexibility in identifying potentially vulnerable households so that if, through engagement, there is evidence that the household is not aware of their rights and responsibilities associated with the Project, that this person is included in the vulnerable groups list and will therefore receive follow up support. As a risk mitigation strategy, this rolling process for identification of VHHs can be an effective way to minimise potential grievances or later claims that the land acquisition process was not well understood or fairly implemented.		
1.29	Disclose information on the purpose, nature, scale of the project, duration of activities, risks and impacts on communities, the envisaged stakeholder engagement process and grievance mechanism.	Periodic village level meetings have been held and construction progress disclosed to affected communities. The primary mechanism for information disclosure is through CC CLOs to the Muhtars, as the elected officials for each affected settlement, while RAP or LRP specific information is delivered through TANAP to the Muhtars and affected households. Stakeholder interviews during the site visit indicated that the level of information flowing through to affected communities is heavily dependent on the Muhtar in each locality and the Muhtar's engagement in and understanding of the Project, as well as engagement/interest of the individual. Additionally, handouts/brochures are distributed in settlements, as was verified during the site visit.	**PC**	TANAP is recommended to undertake a review with BOTAS of potentially vulnerable or otherwise hard to reach (e.g. absentee, semi-permanent resident) stakeholders in advance of the January 2019 Annual Stakeholder meeting. The purpose is to ensure that as wide a cohort as possible receive the latest and most appropriate information.

PS Heading Para. Ref.	Description of IFC PS Requirements	Findings / Comments	Compliance Category	Actions Required
		As the intensity of BOTAS role declines, the IESC recommends that TANAP, CC CLOs and BOTAS undertake a joint review to cross-check engagement and information disclosure activities. During a site visit interview, it was reported to the IESC that a semi-permanent resident did not hear about the Project and being affected by land acquisition until receiving an expropriation notice via the Muhtar. TANAP is encouraged to cross-reference its stakeholder lists with those of BOTAS, with a focus on identifying the vulnerable / hard to reach, but with a broader agenda of ensuring all affected households are receiving information disclosure packages, and eligible households are fully informed of their entitlements.		
1.30	Undertake a consultation process that provides Affected Communities with opportunities to express their views on project risks, impacts and mitigation measures.	The SEP identifies the consultation processes associated with the Project for TANAP, while each of the Construction Contractors is responsible for developing, delivering and periodically reviewing their own Community Relations MP. These plans address engagement activities, responsibilities and interfaces, monitoring and reporting, and grievance management.	**FC**	
1.31	Conduct an Informed Consultation and Participation (ICP) process for projects that may have significant adverse impacts.	Separate meetings are being held periodically with women and vulnerable households in the Project Area. At the previous audit, the IESC recommended the completion of a Transition Plan between construction and operations phases, with a disclosure process to ensure stakeholders were well informed as necessary. The IESC notes that TANAP determined, rather than create a standalone plan, to update the existing Social Action Plan and Monitoring Plan, and SEP. Additionally, TANAP has commenced carrying out informative community meetings to provide updates and respond to any issues raised by affected communities regarding these arrangements, including to ensure that the primary contact person (i.e. TANAP's Social Impact staff) is introduced.	**FC**	
1.32	Conduct an ICP process for projects that may have	The requirements of PS7 are not triggered by the Project.	**FC**	

PS Heading Para. Ref.	Description of IFC PS Requirements	Findings / Comments	Compliance Category	Actions Required
	adverse impacts to Indigenous Peoples. In certain circumstances the client may be required to obtain their free, prior and informed consent (FPIC) (refer PS 7).			
1.33	When stakeholder engagement is the responsibility of the host Government: • collaborate with the responsible agencies (to the extent permitted) to achieve outcomes consistent with the objectives of this PS. • play an active role in engagement planning, implementation planning and monitoring (if Government capacity is limited). • conduct a complementary process when the Government-led process does not meet the relevant requirements of this PS.	TANAP, and its CCs, have responsibility for engagement with stakeholders with the exception of BOTAS in its role as the LRE, and in engaging with stakeholders regarding a change in land use for the construction camps. **Camps – change in land use** TANAP has 6 main camps allocated for 6 spreads in 3 Lots which are temporarily rented for 5 years for construction; the leases will expire in March 2019. The consultation with Affected Communities regarding the use of these sites was on the basis of temporary construction camps by TANAP. TANAP has advised that three of these camps have been delivered to the Provincial Administration Authority (PPAA) of the relevant Governorship, while the other three are potentially to be handed over to AFAD, the Turkish Disaster Authority. It is noted that this comprises handover of the infrastructure and the lease for the use of the property. Any new lease (i.e. beyond the expiration of March 2019) would be the responsibility of the new user (AFAD or PPAA) and the landowner. The ESIA for the project assessed and consulted potentially affected communities on a temporary land use for CC camp, and so, TANAP initiated a management of change process to determine the most appropriate management responses to the issue that instead of demobilising, abandoning or reinstating/rehabilitating the camps, assets at the camp site are to be granted to AFAD or PPAA, who would then take over responsibility for implementing the legal and regulatory requirements related to land use at each camp location. The MOC	**PC**	Appoint a third party Turkish national consultant review the transfer process to assess whether: • The decision by affected landowners to extend any rental agreements with AFAD/PPAA is an informed decision and is made free of coercion; • Consultation with potentially affected communities is undertaken by AFAD/PPAA.

PS Heading Para. Ref.	Description of IFC PS Requirements	Findings / Comments	Compliance Category	Actions Required
		process resolves to conduct stakeholder engagement with affected landowners. However, there are a number of issues: • The nature of the future land use by AFAD is not clear so any negotiation with landowners may not be fully informed; • The Protocol with AFAD ('Camp Sites Grant Protocol') does not reference consultation with affected landowners, or, the communities nearby; the camps have the potential to affect a wider community beyond only the landowner. The Protocol references undertaking 'all the necessary procedures' to obtain rights of use, however this does not explicitly reference any consultation requirement. • Consultation during the ESIA was on the basis of the land use being TANAP's temporary construction camp, and so any change to this use requires consultation with Affected stakeholders. The IESC recommends a third party Turkish national consultant review the transfer process to assess whether: • The decision by affected landowners to extend any rental agreements with AFAD is an informed decision and is made free of coercion; • Consultation with potentially affected communities is undertaken by AFAD/PPAA. It is recommended that this is applied to all six camps, i.e. regardless of whether they are on private or public land, given that all may potentially affect other stakeholders/neighbouring settlements. It is noted that in Turkey on a previous pipeline project, project pump station camps were also allocated for use by the Government; this 'temporary'		

PS Heading Para. Ref.	Description of IFC PS Requirements	Findings / Comments	Compliance Category	Actions Required
		change in land use is still active more than ten years later. While this may not occur in this case, there is precedent for extended use. The IESC recognises the challenge that TANAP does not have authority over PPAA/AFAD's consultation participation or process, however TANAP's project requirements include ensuring that stakeholders have been adequately consulted prior to any material changes in the Project.		
External Communications and Grievance Mechanisms				
1.34	Implement and maintain a procedure for external communication.	TANAP's Grievance Mechanism and Online Stakeholder Information Database (OSID) provides for both complaints management and their responses, as well as enquiries / general feedback. Any complaints, requests for information or enquiries are recorded in OSID and responded to by the appropriate team. OSID is used by TANAP and the CCs to track all external communications; provisions have recently been introduced to encourage better use of /incentivise use of the system. More detail is provided in the SEP (TNP-PLN-SOC-GEN-001 and OSID Guideline (TNP-GUI-SOC-GEN-01).	**FC**	
1.35	Establish a grievance mechanism to receive and facilitate resolution of Affected Communities concerns about the project's environmental and social performance.	TANAP has implemented a Grievance Mechanism (TNP-PCD-SOC-GEN-001-P3-2), which communities report is well understood and utilised. The previous CINAR Quarterly E&S Monitoring report (CIN-PRQ-PRC-GEN-021-Rev-P3-C) identified outstanding grievances as a non-conformance, in particular, for Lot1 with 73% overdue grievances, and 98% of open complaints overdue in Lot 2 (i.e. these are grievances over 30d old). Further, damage to irrigation channels had also been identified. As a result of this spike, TANAP provided additional focus on Grievance resolution support for Stations. Days of outstanding	**PC**	Provide refresher training to OSID users about correct categorisation of grievance data in the database. Provide refresher training to CLOs on use of culturally appropriate language to encourage stakeholders to raise issues/problems. These should then be raised and

PS Heading Para. Ref.	Description of IFC PS Requirements	Findings / Comments	Compliance Category	Actions Required
		complaints were significantly decreased from 51 days to 43 days as at of end of June, and then down to an average of 6 days by the end of September 2018. A range of incentives have been tried and found effective in ensuring the grievances are better managed by CCs, including tailored incentives for the general workforce and for the CLOs. It is apparent following the site visit that there is in some areas a disconnect within communities between impacts and benefit sharing. For example, in Lot 1 communities suggested that the Social investment program was a means of securing Land Exit, and that community members didn't complain during the construction phase and sae this as a reason for being able to receive more communal benefits from the Project. In addition to putting in place a process to identify opportunities for benefit sharing at AGIs (through firstly screening with Muhtars before a site visit by the LRP team), external communications should continue to reference the SEIP, benefit sharing programs and the Grievance mechanism. Further, the Grievance Mechanism should be described in a culturally appropriate way, i.e. stakeholders indicated that they 'don't want to make a complaint'. The language used by TANAP with communities about the GRM doesn't have to be the same language as how it is described internally. **OSID** Guidance is in place on grievance categorisation from TANAP Social Impact and RAP/LRP staff, to Construction Contractor CLOs. Regular training conducted with OSID users on categorisation of grievances in place, however there is evidence that root cause analysis not there. The outcome of this mis-categorisation is that grievances are directed to the incorrect party to address (e.g. overspill causing loss of income at harvest time needs to be directed to the Construction Contractor not		managed as grievances through OSID. Consider quality of reinstatement in corporate dashboard metrics as a leading indicator.

PS Heading Para. Ref.	Description of IFC PS Requirements	Findings / Comments	Compliance Category	Actions Required
		the LRP team). Lots 2 and 3 Land Exit process is completed, and more grievances have been received at that time, most of which are about reinstatement. Provisional acceptance by Lots is dependent on close out of outstanding grievances: so TANAP needs to ensure that those items under CC responsibility are allocated in a timely manner before demobilisation of the CCs and their equipment. Concerns raised during stakeholder interviews in the audit related to the quality of land reinstatement. In some specific sites affected by multiple pipelines, stakeholders reported back that they had concerns over the quality of the reinstatement, suggesting in some areas that reinstated areas were full of stones (therefore not possible to conduct agricultural work), and that in one area, topsoil and subsoil had been mixed together when carrying out soil placement. This has not been able to be verified. The Land exit process requires inputs from a multidisciplinary team hence should be able to address the validity of such claims. However there is cause for some concern including for TANAPs reputation and future grievance claims. Stakeholders who have multiple pipelines on their land were very clear about the varying quality of reinstatement between the Shah Deniz and BTC pipelines; quality of reinstatement should be prioritised by TANAP to ensure a positive legacy in future.		
1.36	Provide periodic reports (not less than annually) to Affected Communities that describe progress with implementation of project Action Plans on issues of ongoing risk or impact on Communities and on issues that are of concern to Affected Communities.	TANAP provides ongoing reporting back to stakeholders in various formats. Completed since the last audit are the following items regarding this engagement work: • Reporting on the top ten issues for open complaints (this task has been included as a result of the External RAP Monitoring team advice);	**PC**	TANAP is recommended to use this Annual Stakeholder Meeting opportunity to verify: • that stakeholders are receiving information disclosure packages • that vulnerable households continue

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	Communicate material changes or additions to mitigation measures or actions described in the Action Plans to Affected Communities not less than annually.	• The GRM Procedure was revised to include quality monitoring (i.e. all complaints receive a call regarding quality control in the grievance management process); and • E&S Annual Compliance Review, which enables TANAP to identify reasons and responsible parties for open complaints. Forthcoming work on periodic reporting includes conducting an annual meeting with Stakeholders commencing in January 2019. These meetings will provide an opportunity for TANAP to hear directly from Affected Communities and other stakeholders.		to be identified and engaged • that information is effectively being shared between TANAP, BOTAS and CCs regarding potentially vulnerable or other hard-to-reach households.

PS 2: Labour and Working Conditions				
Working Conditions and Management of Worker Relationships				
2.8	Adopt and implement appropriate human resource policies and procedures that set out the approach to managing workers in line with national law and PS2.	TANAP, through its Human Resources (HR) team has continued to provide oversight of construction contractor HR management including the use of third party labour audits to verify contracted labour is being managed in accordance with TANAPS standards and national law. TANAP's labour standards have been developed in compliance with Project lender standards/requirements. The TANAP HR function has also focussed on the development of the operational workforce as the Project transitions from construction through commissioning and into operations. TANAP and construction contractor HR personnel operate in an integrated manner to ensure effectiveness. The overall -Integrated Management Team Staff across the project are approximately 600 personnel. The Practical Solutions audits have maintained a focus on compliance with working hours and payments of wages in accordance with laws. Findings from the audits are registered and tracked by TANAP HR. The action register as of the end of July 2018 had 9 open actions and two ongoing actions. The majority of these actions (9) were in relation to identified wage payment deficiencies, including insufficient records of payment and two actions were identified in regard to working hour discrepancies. There were 50 actions satisfactorily closed on the register. The review of Construction Contractor employee working hours against the legislative standard working hours has resulted in discrepancies as the employees are transported on the Company provided transport and are paid for the time transported. However, the actual hours at the workplace do comply with the Labour Code requirements. The Project has seen a reduction in construction contractor labour as work Lots and packages are being completed. Substantial demobilisation of the workforce for IPMT commenced in September 2017. There has been a considerable focus on ensuring that worker demobilisation is implemented in accordance with all legal requirements in Turkey as the legislative process	**FC**	
2.9	Provide workers with clear and understandable, documented information regarding their rights under national labour and employment law and any applicable collective agreements including rights related to: hours of work, wages, overtime, compensation, benefits upon beginning the working relationship, and when any material changes occur.			
2.10	Respect collective bargaining agreements with workers' organisations. Provide reasonable working conditions and terms of employment where collective bargaining agreements do not exist, or do no address working conditions and terms of employment.		**FC**	
2.11	Ensure migrant workers are identified and engaged on substantially equivalent terms and conditions to non-migrant			

	workers carrying out similar work.	tends to favour the employee in legal disputes between workers and employers in Turkey. The demobilisation process has been defined by TANAP for implementation by contractors to ensure consistency of employee notification of contract termination and to confirm that the notification is supported by appropriate records, communications and verification protocols. Demobilisation requirements include one on one communications with affected workers; opportunities to seek other Project work where appropriate; demobilisation payments and offers of support for transition of workers to new employment outside the project. TANAP and its construction contractors have been successful in in re-allocating employees between work packages where the opportunity and capabilities allow. Each EPC contractor has developed specific retrenchment management plans that are in line with TANAP's environmental and social management plans, Turkish Labour Law and the ILO Termination of Employment Convention No 158. The plans outline a strategic approach to planned retrenchment with an emphasis on communication, managing expectations and seeking fair remuneration and benefits to workers. The retrenchment management plans should result in a uniform approach to retrenchment across TANAP construction workforce. The Project has demobilised 160 workers from IPMT beginning from September 2017. There have been 4 cases where demobilised workers have made claims against the employer for the termination of employment without a valid reason. These cases are pending legal proceedings. TANAP ensured that employees and contractors associated with temporary construction work were provided with advance notice to workers about the fact that there will be demobilisation at the end of construction and that there is no commitment or guarantee of employment beyond the construction. Workers are being advised by employers of their employee entitlements and rights including how to access the Speakout system which facilitates workers raising concerns and issues on labour and worker safety issues. Workers are also regulatory provided with information regarding fatigue management. The Tekfen direct employers working on the AGI construction were members of a trade union, but sub-contractors are generally not union members.		
2.12	Where accommodation services are provided to workers: Implement policies on quality and management of accommodation and provision of basic services. Provide services consistent with principles of non-discrimination and equal opportunity. Allow workers' freedom of movement or association.		**FC**	
2.13	Allow workers to develop alternative mechanisms to express their grievances and protect their rights regarding working conditions and terms of employment.		**FC**	
2.14	Do not discourage, discriminate or retaliate against workers from electing worker representatives, forming or joining workers organisations, and from collective bargaining. Engage with workers' representatives and workers' organisations and provide information needed for negotiation in a timely manner.			

		Employees at MS1/CS1 are accommodated in a site camp, which has a POB of 1565, including 17 women, with 61 skilled employees accommodated in the nearby town of Ardahan. The employees in town are bussed to work each day. The workers are predominantly working a 213 days on 1 day off roster. Accommodation camps were inspected by the IESC at MS1/CS1, MS3 and CS5/MS2. All accommodation facilities were found to comply with Project standards. Accommodation quarters and, recreational facilities are to a very good standard. Regular inspections are undertaken on hygiene standard sin kitchens and ablutions; fire safety systems and extinguishers.		
2.15	Adopt the principles of equal opportunity and fair treatment with respect to employment relationship. Take measures to prevent harassment, intimidation and exploitation especially against women. Apply principles of non-discrimination to migrant workers.	All Project employment contracts reflect TANAP labour policies that include fair work and non-discriminatory employment practices.	**FC**	
2.16	Comply with national law that requires non-discrimination or if law silent then comply with PS2.			
2.17	Measures to remedy past discrimination or selection are not be deemed as discrimination, if consistent with national law.			
2.18	Analyse alternatives to retrenchment, prior to implementing collective dismissals. Where retrenchment is unavoidable, develop and implement a retrenchment plan to reduce the impacts of retrenchment on	See discussion on demobilisation above	**FC**	

	workers. Base the retrenchment plan on the principle of non- discrimination, consultation undertaken with affected parties (workers, organisations and government) and legal, contractual and collective bargaining requirements.			
2.19	Provide workers with notice of dismissal and severance payments in a timely manner. Pay outstanding pay, benefits and contributions on or before termination, for the benefit of the worker or in accordance with a collective agreement. Provide evidence of such payments to the workers.			
2.20	Provide a grievance mechanism for workers to raise workplace concerns. Inform workers of the grievance mechanism when recruited and make it easily accessible. Address concerns promptly using a transparent process that provides timely feedback, without retribution. It will not impede access to judicial or administrative remedies.	Worker grievance mechanisms are in place at all Project work sites. Worker grievance records were reviewed at CS1/MS1 site where Tekfen is the EPC contractor. Tekfen had recorded 45 overtime grievances, of which, 42 had been closed. The employee working hours and overtime hours are maintained within the legal limits established in the Labour Code. Other worker grievances include 9 complaints regarding unpaid claimed overtime. All of these 9 grievances had been successfully resolved and closed. A number of grievances have resulted from late payment to workers by sub-contractors, these are often newly established companies.	**FC**	
Protecting the Workforce				
2.21	Children will not be employed in a manner that is economically exploitative, hazardous, interferes with their	Third party audits undertaken by Practical Solutions focus on the compliance of contractors with the Turkish Labour Code, Social Security and General Health insurance Law and associated Regulations. The audits have verified	**FC**	

	education, or harmful to health or their physical, mental, spiritual, moral or social development. Comply with national laws. Under 18s will not be employed in hazardous work. Identify persons under the age of 18 and undertake an appropriate risk assessment and regular monitoring of health, working conditions and hours of work.	that no workers under the age of 18 years were employed within the scope of the Project (March 2018 Audit Report). The audits verify that workers are engaged in accordance with legal obligations in Turkey which prohibits forced labour and employment of trafficked persons.		
2.22	Forced labour will not be employed, whether involuntary or compulsory. Do not employ trafficked persons.			
OHS				
2.23	Provide a safe and healthy work environment that takes account of inherent risks and hazards and threats to women. Minimise the cause of hazards (as far as practicable) to prevent accidents, injury and disease. In line with GIIP, including WBG EHS Guidelines, address areas including: • identification of potential hazards to workers (especially life threatening); • provision of protective and preventive measures (modification;	**HS01 Summary** H&S performance has seen a very positive trend in recent times. This appears to be attributable to the fundamental approach of utilising a permit system for all work which drives risk assessment, documentary control and communication. However, there does appear to be a lack of attention to detail which results in lapses which eventually can result in significant incidents as has been the case at TANAP where there has been a number of high potential incidents. A key issue that has been identified at this audit that requires attention is Supervision. A summary of the findings are provided below. **HS02 H&S Performance** Health and Safety Performance Data indicates that with respect to the key lag indicators that performance was strong. With the key indicators significantly exceeding the set targets. A summary is provided in the table below: **Key indicator** / **Target** / **Actual Current**	**PC**	**HS02 Recommendations** For key lead performance indicators that are not being met consistently. i.e. • training hours per million manhours

	• substitution/elimination of hazardous conditions or substances); • training of workers; documentation and reporting of accidents, diseases and incidents; and • emergency prevention, preparedness and response arrangements.	<table><tr><td>Lost time injury frequency rate (LTIFR)</td><td>0.74</td><td>0.12</td></tr><tr><td>Total recordable incident frequency rate (TRIFR)</td><td>1.80</td><td>0.40</td></tr><tr><td>Road transport Incident frequency rate (RTAFR)</td><td>1.19</td><td>0.34</td></tr></table> Whilst this is a very positive indicator, it is tempered with the fact that there has recently been a fatality. The fatality was very recent and as such the investigation was underway and not finalised at the time of the audit. As such, the audit did not include an assessment of the incident but only TANAP's reaction to it. Positive aspects of TANAPS reaction to the incident was: • The immediate initiation of an investigation, (Terms of reference for TOR sighted) • The immediate cessation of all work on site and the test work at CS5 ceased until after the findings of investigation • The conduct of a Safety Stand-down at all project sites. It is suggested that TANAP consider formalising an approach to provide Psychological / counselling support for significant incidents such as fatalities. Subsequent to the monitoring visit an investigation report was provided. This was assessed and comment made below. There are two key lead performance indicators that are not being met consistently: training hours per million manhours, and; safety observations per million manhours. It is suggested that TANAP assess the suitability of these targets. If deemed appropriate, strategies need to be identified and implemented to achieve the target. If deemed inappropriate, then consideration should be given to changing them. **HS03 Fatality investigatio**n		• Safety observations per million manhours TANAP need to assess the suitability of these targets. If deemed appropriate, strategies need to be identified and implemented to achieve the target. If deemed inappropriate, then consideration should be given to changing them. **HS03 Recommendations**

		A fatality occurred on the 28th September 2018 at CS5 as a result of a diesel tank rupture following incorrectly pressure testing the tank. The investigation was not complete at the time of the audit and the investigation report was provided to the IESC subsequent to the audit. The following comment is made on the investigation process for consideration. It is acknowledged that this incident is still subject to investigation by both the Contractor and the State Prosecutor, Gendarme. Because of the future potential litigation, the finalised reports for these are likely to take a longer time to be released and these investigations are likely to be subject to greater rigour. Positively, this investigation, provides for the taking of immediate action. In particular, it was noted that vessel pressure testing was ceased throughout all of TANAP Project sites subsequent to the incident. The investigation has initiated corrective and preventative action that will prevent recurrence of this incident and will allow the vessel testing to recommence. Examples of the preventative action initiated include clearly marking leak test P&IDs indicating which equipment is not subject to leak testing. The incident occurred on Friday the 28th September 2018 and the investigation, and interviews commenced on Monday the 1st October 2018. The timing of interviews and the documenting of witness statements are critical and the immediate conduct of them ensures that the factors are fresh in the minds of the witnesses and that the witnesses do not adjust their story to get it to a consensus following discussion. Interviews between the IESC with TANAP's investigation lead team suggested that whilst the formal interviews started on Monday the 1st October 2018, informal interviews actually started immediately, and the incident and the investigation team compared the information in the formal interviews with the informal interviews. It is suggested that for future significant incidents, that the immediate interviews be formalised to ensure statements are taken as soon as		It is recommended that TANAP take action to ensure that for significant incidents, that: • Interviews and /or witness statements occur immediately (without a delay in time) after the incident. This could be done by formalising the informal interviews. • The investigation team incorporate employee representatives. • Evidence is documented in the reports to demonstrate that cause analysis is completed utilising a mechanism that provides assurance that the analysis has

		possible following an incident even though there may be some short delays in formally initiating the incident investigating team. There was no employee representative in the investigation team. Investigation teams should include a range of expertise and experience. Worker representatives often provide unique insight into the factors and behaviours that result in incidents occurring. The report does not clearly demonstrate a through and systematic approach to identify the root cause(s) that contributed directly, or indirectly, to the incident. The section on root cause analysis in the report does not have sufficient detail. As a result of this, the IESC is not able to state whether the identified corrective and preventative actions are in fact complete. The IESC recommends that future incident investigation reports provide greater detail and depth of analysis in terms of the cause analysis and evidence to demonstrate that all root causes had been identified. For example, the investigation identified a key cause as being incorrect judgement by the Lead Mechanical Engineer. To further probe the incorrect judgement cause, the investigation team's analysis would be expected to have considered the following questions: • Was there a competence gap with the lead Engineer? Was the qualifications and experience suitable? • What experience did the Engineer have on this project, was the Engineer familiar with the work area and processes? • Was the engineer's work process defined and followed? • Was the engineer suitably supervised? • Was the Supervisor under work or personal pressures/stress?		got to the root cause. It is suggested that TANAP give consideration to the use of external expert investigators for significant incidents.

		• Was the Engineer fit for work (not fatigued or under the influence of drugs and or alcohol)? • Was the Engineer trying to save time and if so, was there time pressures? There is no evidence of this level of cause analysis in the report. The IESC's discussions with the lead investigator suggest that these questions were evaluated during the investigation, however, the detailed information is not included within the report. Similar deeper questioning could also be done on the other defined key causes. The investigation of reasons why the IP was on the tank roof at the time of the incident was attributed to poor supervision and working without a permit. The analysis of both of these causes has insufficient detail documented within the investigation report. It would be expected that the investigations report would have included consideration of the questions listed below. These are provided to TANAP as an indication of the level of analysis expected within the investigation report. • Was their insufficient number of supervisors (was the supervisor too busy to supervise)? • Was there an issue with the quality or competence of supervision? • Was the Supervisor over dependent on HS staff? • Did the Supervisor prioritise production and schedule targets over safety objectives? • Why was there no HS sign-off during the permit process? • Why the Area Authority did not check the conditions before signing the Permit To Work?		

		• Why did the IP need to retrieve the tools whilst the pressure test was underway? (Was he instructed to do so and why?) (Was there a work pressure to do so?) • What physical barriers were there to prevent access to the area when pressure testing was underway? • Was a risk assessment done and did it identify an exclusion zone during testing? • Were safe work procedures available for the task and if so were they followed? • What training was done that may have contributed to preventing this incident? **Summary** This incident is still subject to investigations by the contractor and the regulator and these processes may take some weeks or months to complete due to the legal processes and the need for detailed analysis of events. TANAP has completed an investigation within a reasonable timeframe to allow identified preventative and corrective actions to be implemented for vessel testing across all Project sites. The IESC recognises that TANAP's investigation report does not provide a complete picture of the full investigation process and outcomes. There are two other parallel investigations being undertaken and these will provide additional information to TANAP in regards to incident cause and further corrective and preventative actions to prevent recurrence. This review includes recommendations for future significant incident investigations. These include improvements in the timeliness of interviews and / or witness statements, the inclusion of employee representatives in the investigation team and ensuring that reports capture information on cause analysis that demonstrate rigour with respect to identifying the root causes.		

HS04 Incident management

An analysis of a small sample of 8 HIPOs and incidents provided demonstrated that consistent causes included supervision, procedures (not available or inadequate or not followed) and issues with monitoring and inspection (see table below). It is noted that all of these have a have a supervisory dimension.

Direct / Implied Cause	Percentage
Supervision	100%
Procedures – Not available or inadequate or not followed	75%
Monitoring and Inspection	50%

The IESC notes the following in regard to the incident investigations for HIPO incidents.

- Incident investigation identification of actual root cause is unclear and of insufficient detail/analysis;
- Action was not always consistent with all of the root causes e.g. concrete pump boom striking power line; significant work was done on the permit process and isolation but no focus on causes such as supervisory issues;
- No worker representatives on the investigation team;
- Incident reports include no evidence of drug and alcohol testing of operators/workers involved;
- In light of the repetition of the causes, it is questioned whether the actions taken are truly effective. The intent is that action taken should be to prevent recurrence. Multiple incidents are reporting similar incident cause (supervision) but there is no actions taken on improving or increasing supervision.

HS04 Recommendations

Incident management must ensure that action is taken to prevent recurrence of incidents. TANAP should ensure that action is taken to prevent recurrence of similar incidents or incidents with similar causes. For example, issues where deficient supervision was identified as a cause of incidents must have corresponding actions to address this deficiency.

In addition, to improve TANAP's response to incidents, it is recommended that:

- Consideration should be given to including employee representatives in the investigations.
- Consideration should be given to the conduct of drug and alcohol testing for personnel involved in incidents.

		HS05 HS Supervision It is noted that the analysis of a sample of incidents indicated that supervision was identified as a factor / cause in most of them. It was not clear from the incident reports whether the actual basis for this was one or a combination of: • The quantity of supervisors; • The quality / competence of supervisors; • The over dependence on HS staff to check safety compliance of work activities; • The potential for prioritising work productivity over safety risk management. A review of the quality / competence of supervisors on work sites should be considered in consideration of the repeat incidents where this issue has been identified as a root cause. The review should aim to identify gaps in supervisor capability, experience, training and also identify of the ratio of supervisor to workers is sufficient. There is no current defined ratio of supervisors (operational) to workers. It is suggested that consideration be given to defining a standard / ratio and establishing if the level meets the standard. There is regulation that requires a minimum of one H&S personnel for every 50 workers. For the sample assessed, the IESC found good compliance with this ratio. However, it is suggested that consideration be given to establishing if there is an over dependence upon the H&S advisors and if there is a common perception that operational responsibility for health and safety sits with the H&S advisors and not the operational work supervisors.		**HS05 Recommendations** A review of the quality / competence of supervisors is recommended and, if found to be an issue, subsequently develop a plan to overcome the gaps considering education, training and mentoring. It is suggested that a review be conducted to establish if the ratio of supervisors (operational) to workers is appropriate. It is suggested that a review be conducted to establish if there is an over dependence upon H&S advisors regarding operational responsibility for ensuring workers are following safe work methods.

		HS06 HS Systems **Contractors** TANAP have driven the use of HS management systems by the contractors. This fundamentally revolves around the setting of the standard and contractually requiring the contractors to be compliant with the standards. This was found in Appendix K on Health and Safety within the contractual documentation. TANAP have developed an HS team whose primary responsibility is to ensure that the standards are maintained. In essence the HS team have a governance / Assurance role. TANAP set the standard and then ensure that the standard is being complied with. **TANAP Operations** TANAP have recently taken control of a number of sites from construction and are now operating them. This change has necessitated a dedicated management system to manage operational health and safety. This has been done via the development of a H&S Operations Management Plan TNP-PLN-GEN-012 Rev P3-2. This provides a framework for the system which incorporates a number of key plans, procedures and work instructions. A summary of which is provided within Appendix 3 of the document. A key driver of the H&S are the TANAP Golden rules. These were found to be communicated and utilised throughout the business within both operation and construction. The Golden rules include the following: • Ask / learn/ cooperate – Ask when you are in doubt • PPE – Always use your proper PPE • Risk Analysis Know the hazards before you start • Work permit – Make sure you have a valid work permit or authorisation for your job • Working at Height – Use fall protection whenever you could fall from heights • Lifting operations – Follow basic rules for every lift and plan your lifts		**HS06 Recommendations** In light of the prevalence of HS lapses and the significance of some of the lapses, it is recommended that TANAP investigate the suitability and effectiveness of systems utilised to identify and prevent them ie supervision, inspection and audit..

		• Excavations – Check the excavation area before and eliminate possible hazards • Housekeeping – Keep your/our workplace clean and tidy • Stop the work – Stop all unsafe work. Acts and conditions • Road safety – Drive safely and comply with road transportation rules These golden rules were found to be supported by detail on what they mean and how to ensure compliance with them. **Primary approach** The primary and consistent approach to the management of work from a safety perspective revolved around the use of a permit system. The permits were found to drive the: • Conduct of risk assessment • The use of a safe work method statement which articulated the controls • The conduct of toolbox meeting In most scenarios where evidence of this was requested, it was presented. Compliance with this process was found to be high. This appeared to drive a good level of control, however there was evidence of lapses. A sample of which are provided below: • At MS1, the regular task of calibration did not have a standard operating procedure. Risk assessment for this task was detailed on the relevant PTW Form. • CS1 MSDSs not all in Turkish (some English) • MS3 Segregation of non compatible materials • CS1 Some unlabelled materials in water bottles • CS1 Confined Space Spotter walk away from sentry duties		

		• CS5 CS1 Evidence of poor barricading of deep excavations resulting in risk of significant fall • MS3 evidence of scaffolding tags not showing weekly inspections • MS3 WAH harness and lanyard no evidence of inspection status • MS3 Barricading removed to do work but not replaced when leaving work area for lunch • MS3 Temporary covers over trenches introducing trip hazard at entry to work area • MS3 No evidence of daily inspections on Scissor lifts • CS5 Some toe plates missing on scaffolding • CS5 Some fire extinguisher inspections out of date • CS5 1st aid kit inspection record not readable • MS2 speed sign indicate 25 not 20 as per plan. (it is noted that TANAP is standardising all speed limits and signs at operational sites as 30km/hr and updating the Transport Operations Procedure [HED-PCD-HSM-GEN-003] to reflect this. It is noted that for all these lapses, that there is a joint responsibility which resides with the operators, the Supervisors and the HS staff. Some of the key positives sighted included: • PPE use compliance high • housekeeping • security • access control particularly to red zone • travel and traffic management		

		SOPs It is acknowledged that a significant number of documents have been developed for operations. The task sighted was calibration. This is a task that has been occurring monthly. And will continue to be conducted regularly. In light of this, it is suggested that consideration be given to the development of a SOP for this task. This would be consistent with the Operations H&S management plan. **HS07 Positive findings Controls (Sample)** **Security** Security from a risk perspective is seen as being important from both an employee perspective as well as a community perspective. Security was found to be managed well on all sites via the use of fencing with razor wire on top, electronic access control, approval to gain access and security personnel, monitoring and controlling access. Operating sites were found to have double fencing with gates with both electronic access and access controlled by security staff. **PPE use** Compliance with respect to the use of personal protective equipment was found to be very high at all sites. The general requirements were clearly articulated at the inductions and the supported by signage. Additional requirements were identified utilising the risk management process within the permit to work system and defined within procedures and within signage. **Housekeeping** In spite of the fact that a number of sites in particular those still under construction were extremely tight on space, housekeeping was found to be generally good. **Toilet, washing and drinking water facilities** Toilets, washing facilities and access to clean drinking water were found to be available at all sites sampled. The statutory requirement for toilets was one per 50 workers. For the sample assessed the actual was found to be one per 40 workers. **Validating integrity of plant**		

		Knowledge of the integrity of the plant from a safety perspective was queried at the stages of transfer from construction to commissioning and then transfer from commissioning / construction to operations. This was found to be controlled via the issuing of a ready to gas certificate and a ready to operate certificate respectively following an engineering assessment. **Road Safety** Road safety is seen as one of the most significant risks at TANAP. It has a potential impact to both workers as well as the communities affected by the travel, and the potential consequence is a multiple fatality. Road safety was found to be one of TANAP's golden rules. The key risks identified were • speed which was found to be well controlled via the use of an In-Vehicle Monitoring System (IVMS), rules and training; • lack of use of seat belts, which was found to be controlled by rules and training (training provided by a specialist road safety contractor); and • using mobile phones while driving which was found to be controlled by rules and training. The efficacy of these controls was observed in the high level of compliance observed during the audit. Other controls were also sighted including • Utilising vehicles for the functions for which they were designed • Controlling night driving by a permit • Reverse parking • Vehicles inspection and maintenance • Planning and taking rest breaks • Managing fatigue • No unauthorised passengers • No overloading of vehicles		

		• No carrying of more passengers that the vehicle is designed to carry • Attending training • Drivers licenced and trained • Drivers medical fit and fit for work not suffering from fatigue or the effects of drugs and or alcohol • Driving to conditions • Pre-use inspections • Journey management plans • Night drive permits • Travel to work on a daily basis in company cars • Use of traffic controllers were appropriate • Use of one-way traffic where practicable • Speed limits of 20 KM on site (it was noted that at MS2 within the red zone that the signs indicated a limit of 25 in error) It is noted that TANAP is standardising all speed limits and signs at operational sites as 30km/hr and updating the Transport Operations Procedure [HED-PCD-HSM-GEN-003] to reflect this. **Cranes and lifting** For the lifting operations sighted, the controls implemented were found to be appropriate. A sample of which are provided below • There was evidence of a permit and evidence that the controls identified as part of the permit were implemented; • The crane was certificated following statutory inspections • Pre-use crane inspections were done • An exclusion zone was set up and the area barricaded		

		• There was evidence of the crane operators' licence • There was evidence of the rigger's qualifications • The crane capacity in terms of safe work load was clear It was noted that for an example sampled that the risk assessment identified an electrical hazard, yet there were no electricity hazards close by. **HS08 SIGNIFICANT LAPSES** **Excavations** Generally, excavations were found to be barricaded and generally with hard barricading even though it was suggested that soft barricading would be appropriate for shallow excavations. There were however a couple of examples sighted at construction sites where there were deep excavations where the placement of the hard barricading was not suitable, and it left the risk of a significant fall. In addition to this, there were a couple of examples where barricading had been removed to allow work to be conducted, where they had not been replaced when the workers had gone for lunch leaving an un-manned unbarricaded excavation. **Confined Space** Confined space entry sampled found work to be controlled by permits which drove pre-work toolbox meetings to discuss the work, risk assessment and the use of the confined space procedure. Evidence was available of gas testing, and recue plans with personnel utilising harnesses to allow quick and easy extrication. It was noted on one job sampled that the spotter walked away from the worksite to communicate with another group at construction sites. **Hazardous substances** Hazardous material management was assessed, in particular at CS1 and MS3. Key findings were that generally controls were good and in accordance with good practice and the requirements of the MSDS /SDS. A summary of the findings are provided below: • New materials are allowed to be brought to and used on site only after the approval of the Quality Department following the provision and assessment of MSDSs / SDSs.		**HS08 Recommendations** TANAP need to take action to ensure that the standard of barricading is improved so as to prevent accidental falling into the excavation. TANAP to take action to ensure that Spotters are aware of and do not leave their sentry location WRT Hazardous Materials, TANAP to: • Take action to ensure that all MSDSs are available in the Turkish language • Take action to ensure the separation storage of non-compatible materials. Consideration may be given to improved training, procedural control and signage.

		• MSDSs were found to be available at the location where the material was stored and used. It was however noted that some materials were in English only. • Materials were found to be transferred into the hazardous materials warehouse only after a review by Warehouse staff. This review included an assessment of compatibility. There was no evidence of non-compatible materials being stored together at CS1 however storage of non-compatible materials was sighted that MS3 (i.e. storage of flammables in the same area as oxidising agents. Take action to ensure the separation storage of non-compatible materials. Consideration may be given to improved training, procedural control and signage. • Some materials in the hazardous materials storage area was found to be unlabelled and in water bottles. Take action to ensure that all material is suitably labelled. Consideration may be given to improved training, procedural control and signage. **Health monitoring** • There was no evidence of the conduct of drug testing • Alcohol checking at CS1 was found to be done weekly on a Friday with a sample size of 15-20. Considering the size of the workforce i.e. 1700-1900, it is questioned whether this is in fact a reflective sample size. In addition to this, always doing it on the same day allows worker to predict and take risks. • Fatigue checking at CS1 is done weekly on a Thursday with a sample size of 50. Considering the size of the workforce i.e. 1700-1900, it is questioned whether this is in fact a reflective sample size. • Health monitoring was found to be done by the clinics • Key areas of treatment suggested by the doctors was that colds, flus and stomach upsets were the majority of treatments required. Consideration could be given to analysing these and developing programs to reduce prevalence.		• Take action to ensure that all material is suitably labelled It is acknowledged that issues with hazardous material were raised by TANAP with the contractor prior to this monitoring visit and action was underway. TANAP to investigate the conduct of drug testing TANAP to investigate whether the sample size for alcohol and fatigue testing is suitable. TANAP to ensure that the scheduling of fatigue and alcohol testing is random so as not to be predicted. At CS1 clinic, the monitoring team were informed that alcohol testing was done weekly on Friday with a sample size of 15-20 and fatigue testing was done weekly on Thursday with a sample size of 50. The sample of records presented confirmed this.

HS09 Human Resource H&S Management

Training and induction

For the samples assessed, there was clear evidence that inductions were conducted. Inductions were found to occur at two level, a visitor level and a worker level. In addition to this, there was specific area inductions where appropriate in particular inductions specifically for entry into the red zones.

For the work sampled, evidence of particular job-based skills was available. For example, evidence of crane operator and rigger licences and qualifications.

H&S Resource

With a move from construction to construction and operations, the nature of the role of the HS Team has changed from being purely Governance and Assurance / Verification to being both governance and assurance / verification and operational H&S. It is suggested that consideration be given to assessing if the current resource for the operations governance and assurance / verification is in fact appropriate.

Area	**TANAP**			**Contractor**
	Head-Office	**Construction Site**	**Operations**	**Construction Sites**
HS Resources	Manager and a team of 6 reporting to QHSSE Director for construction A Manager for Operations	H&S personnel reporting to Site Project Manager	3 H&S Engineers reporting to Operations	1 H&S person for every 50 workers

Key function	Governance Assurance Verification	Governance Assurance Verification	Operational H&S	Operational H&S			
Comment	No operations specific HS Engineer in Head-office		Consistent with the construction ratio	Contractual requirement			

Communication
There was evidence of regular toolbox meetings. Records of these often include the topic title and the list of attendees. Consideration could be given to including greater detail on the discussion and outcomes.

It was noted that daily permit meetings are held. Minutes are not always maintained for these meetings.

HS10 Emergency Management

Design
Emergency management part of fundamental design. The design process for the key facilities eg MS1 ensured that no outside residences, businesses etc. were in the “Effect Zone” for potential events based on modelling. Processes are captured within the control system with isolations built in based on pressure drops and fire response equipment activated on sensing. Emergency stop devices were found to be strategically located around the operational sites.

Contingencies were found to be in place for safety critical aspects. Power to ensure continuous operation of the control system was assessed. Power was found to be from the national grid. This was backed up by diesel generators on site which was found to be backed up by UPS system to ensure that the control system was always operational

These facilities including the fire and gas systems were on a 6 monthly service contract with an external contractor.

Emergency management plan

		TANAP have two key documents that articulate their approach to the management of emergencies. These are listed below: • Emergency response procedure TNP-PCD-HSM-GEN-039 dated 090718 captures response procedures and structure and approach to managing emergencies • Incident management plan TNP-PLN-HSM-GEN-016 dated 130818 captures the plan for managing incidents These are read and applied concurrently. Localised plans with appropriate responses were also found to be available. At the last monitoring visit it was identified that the emergency management plans only captured workers and needed to incorporate communities and associated actions. It was noted that a project is underway with the scope currently being defined. In the interim the current plans apply. Timing of the completion of this is unclear. If this is going to be lengthy process, an interim amendment could be considered. The plans ensure access to immediate response, access to ambulances and access to hospitals. The plans ensure that key staff carry radios / phones when in the workplace. When in the red zones intrinsically safe radios were found to be utilised. The plans ensured that Doctors, nurses and paramedics were available 24 hours daily. The plans ensured that first aid kits and firefighting equipment was inspected monthly. Only minor anomalies were identified with the occasional inspection having been missed or the record not being clear. The plans ensured that wind socks were available to allow personnel to move to downstream of the wind during an event. **Medical facilities** Medical facilities were found to be available at key sites. These were found to be able to provide a suitable standard of service including:		

		• Medical staff including doctors, nurses and paramedics available 24 hours daily • Ambulances • Clinics with suitable equipment and medication to treat potential patients • Processes for operation including ensuring availability of medication with integrity i.e. stored as per specified conditions e.g. temperature, checking on use by dates etc. **First aid** Within Operational sites, all operators are qualified first aiders. For the construction site, the first aider to worker ratio is maintained at the statutory requirement of 1:10.		
Workers Engaged by Third Parties				
2.24	Take commercially reasonable efforts to ensure third party employers are reputable and legitimate and have an appropriate ESMS to allow them to operate in accordance with the requirements of this PS (except paragraphs 18-19 and 27-29).	TANAP have driven the use of HS management systems by the contractors. This fundamentally revolves around the setting of the standard and contractually requiring the contractors to be compliant with the standards. This was found in Appendix K on Health and Safety within the contractual documentation. TANAP have developed an HS team whose primary responsibility is to ensure that the standards are maintained. In essence the HS team have a governance / Assurance role. i.e. TANAP set the standard and then ensure that the standard is being complied with. All parties have access to the grievance mechanism It is noted that the significant incidents assessed and in particular, the fatality were contractor incidents.	**PC**	Refer to Recommendations HS03, HS04, HS05 and HS06 above.
2.25	Establish policies for managing and monitoring the performance of third party employers in accordance with PS2 and where commercially reasonable, incorporate these in contractual agreements.		**PC**	
2.26	Ensure that contracted workers have access to a grievance mechanism, either provided by the third party or by the company.		**PC**	

Supply Chain				
2.27	Monitor the primary supply chain to identify risks and incidents of child and forced labour and take steps to remedy them.	Monitoring for child/forced labour and unsafe work practices were identified and undertaken during the ESIA process for higher risk suppliers such as pipe suppliers.	**FC**	
2.28	Introduce procedures and measures to ensure primary suppliers are taking steps to prevent or correct life-threatening situations.			
2.29	Where child/forced labour and significant safety risks cannot be remedied, shift the primary chain to suppliers that can demonstrate compliance with this PS.			
PS3: Resource Efficiency and Pollution Prevention				
3.4	During project life-cycle: consider ambient conditions, apply technically and financially feasible resource efficiency and pollution prevention principles, tailor principles and techniques to hazards and risks associated with project's nature and consistent with GIIP including WBG EHS Guidelines.	The principles of resource efficiency were suitability identified during the ESIA process. The Compressor Stations (CSTs) are a major emitter of GHGs during operation of the pipeline, as identified in the ESIA. A Best Available Technology (BAT) assessment was conducted prior to construction and provided sufficient detail so as to verify that EBRD guidance requirements were met in relation to how the adoption of resource efficiency and waste reduction considerations helped to define the technology chosen in the CSTs. The BAT included detail on the realisation of the energy savings that are possible because of the adoption of BAT for the CSTs. During the time of the visit one compressor station was operational (Phase 0) and was constructed as designed to improve energy efficiency and ensure pollution prevention. The IESC notes that TANAP is engaging consultants to undertake verification of the implementation of GHG reduction technologies and energy efficiency measures and the results of this verification. GHG emitted by the Project, included during the operational phase will be analysed in detail and reported in a separate operational annual GHG report expected to be developed in 2018 for Phase 0 operations. During the next	**FC**	
3.5	Refer to the EHS Guidelines or other internationally recognised sources when evaluating and selecting resource efficiency and pollution prevention and			

	control techniques. Achieve whichever levels and measures is the more stringent of host country regulations and the EHS Guidelines.	monitoring visit the IESC will review the operational phase GHG report and undertake an assessment to compare the GHG emissions, particularly from the CSTs to the BAT assessment to determine the level of energy savings and pollution prevention.		
Resource Efficiency				
3.6	Implement technically and financially feasible and cost effective measures for improving efficiency in consumption (energy, water, and other resources and material inputs). If available, make comparison to establish relative level of efficiency.	The principles of resource efficiency were suitability identified during the ESIA process. See 3.7-3.9 for further information.	**FC**	
3.7	Consider alternatives and implement feasible options to reduce project-related GHG emissions during design and operation (including project locations, renewable or low carbon energy sources, agricultural, forestry and livestock management practices, reduction of fugitive emissions and gas flaring).	The primary source of emissions during the operations phase are the compressor stations (CS) and other AGIs such as BVS and MS. Project vehicles will generate further emissions during the remainder of construction work and beyond. CST-1 & CST-5 will be in Operation during Phase 1 (operations) and during Phase 2, CST3 and CST-7 will be utilised. Due to the combustion of natural gas used in the CSs, nitrogen oxides (NOx) and carbon monoxide (CO) are the primary pollutants emitted with sulphur dioxide (SO2) and particulate matter (PM) emitted in lesser volumes. As part of the Operational Pollution Prevention Plan (TNP-PLN-ENV-GEN-009), TANAP will implement mitigation measures related to GHG from CSs and AGIs including: • Ensuring efficient natural gas combustion within compressor stations • Preventive maintenance programmes on plant and equipment responsible for generating emissions • Monitoring emissions and air quality to ensure compliance with relevant standards and, as necessary, identify the need for corrective action	**FC**	

		• Procurement and uninterrupted delivery of optimum fuels (as feasible) for plant and equipment • Ensuring environmental emissions are appropriately considered as an integral part of any changes to Operations TANAP have employed mitigation measures to reduce GHG emissions from vehicles such as: • Use of low emission project vehicles • Regular vehicle maintenance including exhaust checks • Economic driving practices including excessive idling restriction • Exhaust emissions from construction and transportation vehicles will be monitored in six monthly periods, these vehicles will have the exhaust gas emission certificate from the Ministry of environment and Urbanisation		
3.8	If expected to produce more than 25,000 t CO2-equivalent annually, quantify direct emissions from facilities owned or controlled within physical project boundary and indirect emissions associated with off-site production of energy used. Conduct emissions' quantification annually in accordance with internationally recognised methodologies and good practice.	As a project which is anticipated to produce more than 25,000 tonnes CO_2 eq/yr, TANAP issued the first annual GHG Report (for 2017 GHG emissions) to Lenders in Q1 2018. The report was developed in accordance with the following methodologies: • IFI Framework for a Harmonised Approach to GHG Accounting (2012); • IFC Performance Standards – PS3 Resource Efficiency and Pollution Prevention (2012); • EBRD Greenhouse Gas Assessment Methodology (2010); and • Greenhouse Gas Protocol guidance notes & tools. The total emissions (scope 1 and 2) generated by TANAP during 2017 were calculated as 162,544.63 t CO_2 eq/yr. TANAP will continue to produce annual GHG reports for the construction phase and these shall be reported in the annual report to EBRD. Operations phase GHG emissions will be recorded and reported separately. TANAP is in the process of procuring consultant services to compile GHG emissions for the operations phase.	**FC**	

		TANAP intend to commence operational GHG records in 2018 with a 2018 Phase 0 operations GHG report developed.		
3.9	When a potential significant water consumer, adopt measures that avoid or reduce water usage to do not have significant adverse impacts on others (including use of additional technically feasible water conservation measures, alternative water supplies, consumption offsets to reduce total demand and alternative project locations).	The principles of resource efficiency were suitability identified during the ESIA process. A groundwater sustainability report was prepared for each well at MS1 which was approved by TANAP.	**FC**	
Pollution Prevention				
3.10	Avoid release of pollutants or, when not feasible, minimise and/or control intensity and mass flow of release. Applies to air, water and land due to routine, non-routine, accidental circumstances within local, regional and transboundary impacts.	A Pollution Prevention Management Plan has been developed by TANAP and its Construction Contractors for the construction phase to minimise and manage pollution risks and impacts. A pollution prevention plan for operations (TNP-PLN-ENV-GEN-009) has also been developed by TANAP. The operations Pollution Prevention Plan relates specifically to the following pollution prevention measures: • Eliminating and / or minimising noise impacts; • Eliminating and / or minimising air emissions; • Eliminating and / or minimising impacts from water discharges; and • Appropriate the use, transport and storage of hazardous goods. <u>Air</u> TANAP has developed and implemented key performance indicators (KPIs) which are reported on a monthly basis to monitor contractor air quality performance. KPIs include: • % of air quality test results compliant with legal standards; • # of tests carried out near sensitive receptors;	**FC**	<u>Air Quality</u> The IESC noted that dust control was of a very high standard at all sites visited. However, the third party monitoring discussed above indicates that there have been some incidents of dust measurements exceeding Project standards at or near active work sites. It is recommended that additional dust sampling be undertaken where dust issues have been identified so as to verify that dust mitigation measures have been effective.

		• # of complaints received related to dust, and/or odour; and • % of non-compliances raised by TANAP which are closed within agreed timeframe. According to the latest CINAR quarterly environmental and social monitoring report (CIN-PRQ-PRC-GEN-021 Rev-P3-C) issued in October 2018, Lots 1-3 were fully compliant with the KPIs throughout May-July 2018. However, CINAR have identified an ongoing non-compliance at Lot 4 which was initially identified in February 2018 due to the continual exceedance of IFC PM_{10} parameters and has continued to be exceeded throughout construction activities. CINAR stated: Measurement results at Yeşilçukurca Village and Körpeağaç Village exceeded the PM_{10} limit value of IFC (50 µg/m3) in February 2018. Moreover, according to the monthly register for March and April, although necessary mitigation actions were taken no additional measurement was performed at these locations. In addition, PM_{10} limit value of IFC (50 µg/m3) is also exceeded during the construction activities in April 2018 at Ilıcak Pipe Stockyard and Gerlengeç Village. In this reporting period, it was observed that no additional measurement was performed at Yeşilçukurca, Körpeağaç and Gerlengeç. Moreover, PM_{10} limit value of IFC (50 µg/m3) is also exceeded during the construction activities in July 2018 at Ilıcak Pipe Stockyard. The IESC noted that dust control was of a very high standard at all sites visited. However, the third party monitoring discussed above indicates that there have been some incidents of dust measurements exceeding Project standards at or near active work sites. It is recommended that additional dust sampling be undertaken where dust issues have been identified so as to verify that dust mitigation measures have been effective, **<u>Potable Water</u>** TANAP has developed and implemented key performance indicators (KPIs) which are reported on a monthly basis to monitor contractor % tests/samples compliant with legal standards for potable water. According to the latest CINAR quarterly environmental and social monitoring report (CIN-PRQ-		

PRC-GEN-021 Rev-P3-C) issued in October 2018, the following levels of compliance against the aforementioned KPI were observed:

Lot/Site	May	June	July
1	100%	75%	100%
2	100%	100%	100%
3	100%	100%	100%
4	100%	100%	100%
Offshore	50%	100%	100%

Despite the above KPIs not demonstrating full compliance, drinking water is supplied via bottles and the water sampled for KPI is not consumed.

MS1
Groundwater is abstracted from two wells and is treated in the prior to use by operational personnel and on camp facilities. A groundwater sustainability report was prepared for each well which was approved by TANAP.

Potable water undergoes microbiological and physicochemical analyses on a monthly basis and compared against compliance requirements in relevant Turkish Regulations. All results are provided to TANAP.

Lot 4
PLK undertake monthly potable water sampling at the camp sites with analysis undertaken by an accredited laboratory for comparison to Project drinking water standards as outlined in PLK's Camp Management Plan (PLK-PLN-ENV-PL4-004). In the previous monitoring period, a non-compliance against project requirements was raised by CINAR due to exceedances of the boron national Regulation parameter detected in potable water from the Karaorman Fly Camp Site. CINAR recommended that PLK and TANAP conduct increased sampling and analysis to be at the camp site to ensure potable water quality standards of the project are adhered to. In the latest CINAR report, it is noted that the boron concentrations detected in the potable water from Karaorman Fly Camp Site in May, June and July 2018 comply with the parameter values specified in the Turkish National

		Regulation. Thus, the non-compliance reported in the previous reporting period by CINAR (Non-Compliance-PE-39) is considered closed. **Surface Water** The construction of major river crossings has been completed in the first three Lots of the Project. Lot 3 The quarterly monitoring report produced by CINAR (13.09.2018) identified during a site visit that despite installation of river bank erosion controls at river crossing RVX3B_0130 at KP-1257+134 in LOT3, the reinstated river bed has been subject to erosion/scouring as a result of heavy rain and increased current. This location was visited by the IESC in June 2018 with similar observations reported. CINAR's monitoring identified this as a non-compliance against the Project requirement to ensure erosion and sediment control devices are maintained sufficiently to meet the requirements of "no accelerated" or "increased erosion". CINAR provided a recommendation for TEKFEN to undertake the necessary actions and repair the damaged river bed to prevent exacerbation of the erosion during further high flow. This item has not yet been re-visited by the IESC and further review of close out actions for this site will be completed through review of the close out actions from third party monitoring reports, TANAP PA Defect register and possible through further site inspection during IESC monitoring visits. Lot 4 The Gonen River was observed to be polluted form waste water discharged from the upstream town of Gonen. The impact to water quality was evident including strong odour and discolouration of the water. The contractor's ecologists have not observed any of the CH trigger species for the FCH since construction commenced. Discussed further in PS6. **Wastewater** The Project generates two main streams of wastewater from its construction activities; effluent water generated from Project camps/facilities and hydrotest wastewater. Hydrotesting is now complete in Lots 1-3, with limited hydrotesting remaining in Lot 4 and offshore sections where water is abstracted from and returned to the watercourse following. During hydrotest discharge events, measures		

		to minimise potential scour and reduce sediment load and control discharge velocities to prevent erosion formation are implemented at discharge points such as use of energy dissipaters, placement of geotextile mats or other physical erosion prevention measures. Prior to discharge, water is analytically tested for the following parameters: • Total Hydrocarbon content • pH • BOD5 • COD • TSS • Total Phenols • Sulfides • Heavy Metals (total) • Chlorides. Analytical results are submitted to TANAP via a monthly register document. According to Project KPIs all hydrotest water discharges back into the environment have been in compliance with Project requirements (100% of tests/samples compliant with Project hydrotest water discharge requirements). As per commitments made in the ESIA, wastewater from domestic facilities is mainly captured and treated in water treatment facilities prior to being discharged to the environment. Prior to discharge, water quality is tested to ensure compliance with Project Standards. For camps sites without operational wastewater treatment plants, such as MS1, generated wastewater is transported to the nearest operating wastewater treatment plants via licenced carrier. MS3 now has an established WWTP with an operating capacity of 70 m3/day designed to accommodate a camp population of 300. Treated wastewater is discharged to the Kayran creek post water quality testing. Prior to the attainment of a WWTP Operation		

		Permit, wastewater was transferred via vacuum tankers to the WWTP of Kavakköy Municipality. Treated wastewater in the camp sites are analysed monthly for the following parameters and compared to applicable discharge standards committed in the approved ESIA Report: • BOD_5 • COD • pH • TSS • Total Coliform • Total Phosphorus • Total Nitrogen • Oil and Grease According to the latest CINAR quarterly environmental and social monitoring report (CIN-PRQ-PRC-GEN-021 Rev-P3-C) issued in October 2018, all treated water discharged to environment was discharged in compliance with standards committed to in the approved ESIA. **Topsoil Management** Lot 4 The IESC observed that stripped topsoil had been mainly stored in stockpiles that appeared to be not more than 2m in height with side slopes <45^{O}, which were covered where the soil was exposed and were labelled as topsoil both in Turkish and English. The stockpiles were drained with open ditches which were 1m high in areas of critical habitat, Subsoil is stored on the opposite side of topsoil to prevent cross contamination, Soil experts are available on site to ensure that topsoil is preserved according the management plan and fully utilisable for reinstatement.		

		Sediment Control Lot 4 Appropriate sediment controls are in place in Lot 4, particularly at RVX 3B – KP- 1778+423 and KP 1614 FCH 24 where flume pipes are installed to enable controlled flow of water for construction equipment to pass through. Geotextile fabrics have been spread on the pipe to prevent commingling of riparian soil and material used for construction of the temporary river crossing. Sand bags have been used to prevent sediment flow into the stream whilst silt fences and straw bales have been utilised as a secondary form of sediment trap to ensure water quality is maintained. A slope Method Statement is required this site due to the degree of steepness. A Specific Area Reinstatement Method Statement (SARMS) is developed to accommodate the site specific reinstalment required for this location.		
3.11	Consider relevant factors to address potential adverse project impacts on existing ambient conditions: existing ambient conditions; finite assimilative capacity of the environment; project's proximity to areas of importance to biodiversity; potential for cumulative impacts with uncertain and/or irreversible consequences.	Adverse impacts and controls have suitably identified during the ESIA process.	**FC**	
3.12	Avoid generation of hazardous and non-hazardous waste materials. Where generation cannot be avoided, reduce, and recover and reuse in a manner safe for human health and environment. Where waste cannot be recovered and reused, treat, destroy or dispose thereof in an environmentally sound manner (including appropriate resulting	CCs have developed individual waste management plans that align to TANAP's which continue to be implemented during the remainder of the construction phase. IESC observed a reduction the volume of waste generated compared to previous site visits attributed to a reduction of construction activities, particularly in the first three Lots. TANAP have also developed a Waste Management Plan for Operations (TNP-PLN-ENV-GEN-007) which outlines waste management strategies including waste management hierarchy for the operations phase. The Operations Waste Management Plan applies to all Operational Staff, Contractors and Subcontractors with activities conducted at compressor and metering stations, block valve stations and other AGIs.	**PC**	All construction sites It is recommended that responsibilities for correct waste management be delegated to the individual work packages/streams that produce the wastes so that incidents of incorrect waste management can be corrected by the relevant supervisors and managers.

	emissions' control and residues). When hazardous waste disposal is conducted by third parties conduct disposal, use reputable, legitimate contractors that are licensed by relevant government agencies and obtain chain of custody documentation to the final destination. When hazardous waste disposal is conducted by third parties conduct disposal, use reputable, legitimate contractors that are licensed by relevant government agencies and obtain chain of custody documentation to the final destination.	Waste management at sites visited was observed to be generally good and aligned to TANAPs waste management plan, however, during the two previous monitoring visits (September 2017 and June 2018), the IESC observed commingling of waste in waste segregation bins on sites, such as oily rags in general waste bins and poor segregation of recyclable materials which has continued to be observed during the most recent visit. A refresher on recycling and waste segregation was recommended via tool box talks to ensure that waste is segregated as per commitments made in the ESIA and MPs. The IESC note that the site HSE teams are regularly reinforcing the need for correct waste management through tool box talks without an improvement in performance. Alternative measures to correct behaviour is recommended, including apportioning responsibility for waste management with the work streams that generate the waste. CS1 TEKFEN has constructed a Central Waste Accumulation Area (CWAA) for temporary collection and accumulation of segregated waste streams including: • Package waste; • Hazardous waste; • Scrap Metal; and • Wood. Site medical wastes are collected by licenced carrier Erhan Makina and transported to the municipality of Erzurum. Hazardous and contaminated wastes generated on site are transferred by ANKA and disposed of by licenced carrier and disposal facility EMG. Industrial Waste Management Plan approval has been obtained. IESC observed adequate evidence of training on waste management, management of chemicals and the spill prevention and response. MS3 TEKFEN has constructed a Central Waste Accumulation Area (CWAA) for temporary collection and accumulation of segregated waste streams including:		MS3 Additional inspections outside of the boundary at MS3 are required to ensure windblown waste is collected and managed in accordance with the waste management plans. Adequate separation of potentially incompatible chemicals from flammable waste oil storage is recommended. Ensure domestic waste area is covered in periods of rainfall to prevent risk of leachate migrating into road drainage system.

		• Package waste; • Hazardous waste; • Scrap Metal; and • Wood. An Industrial Waste Management Plan has been developed, prepared and approved by the Provincial Directorate of Environment. Windblown waste was observed outside of the construction site boundary at MS3 within the topsoil storage areas. Ongoing inspections and collection of windblown waste are therefore recommended. The chemical storage area is well managed and contains compatible waste although the entrance to the store includes a large step and narrow doorway that presents a hazard for manual handling. Flammable liquids (waste oils) within the hazardous storage area are co-located with hazardous chemicals such as stored thinners and corrosives that present a potential fire risk. Segregated storage of chemicals and bulk oils is therefore recommended. Domestic waste is stored in dedicated bins and bags on a plastic lined area adjacent to the boundary nearby the WWTP. The temporary facility is generally acceptable although there is potential for rainfall to cause waste leachate entering the nearby road drain. To prevent possible leaching into the drain, it is suggested to cover the waste area during periods of rainfall. Observed signed waste recycling and separation areas; concrete waste storage area. Recycling of waste oils, cooking oils, copper cable, packaging. The IESC notes that the Provincial Environment Authority has undertaken an inspection of the site and inspected the WWTP and waste areas within the last 4 months. No actions have arisen from that visit. <u>CS5/MS2</u> TEKFEN has constructed a Central Waste Accumulation Area (CWAA) for temporary collection and accumulation of segregated waste streams including:		

		• Package waste; • Hazardous waste including hospital waste; • Scrap Metal; and • Wood. An Industrial Waste Management Plan has been prepared and approved by the Provincial Directorate of Environment. As the total waste production on this site is greater than 1000kg/month, a temporary Hazardous Waste Storage permit was obtained from Provincial Directorate of Ministry of Environment. The IESC observed appropriate signage in waste recycling and segregation areas including concrete waste storage.		
3.13	Avoid or, when avoidance is not possible, minimise and control the release of hazardous materials; Assess production, transportation, handling, storage and use of hazardous materials; Consider using less hazardous substitutes in manufacturing processes or other operations; Avoid manufacture, trade and use of chemicals and hazardous materials subject to international bans or phase-outs due to high toxicity to living organisms, environmental persistence, potential for bioaccumulation or depletion of ozone layer.	The Waste Management Hierarchy (WMH) is central to waste management plans developed and implemented on each Lot and AGI site. The WMH as per example provided in TEKFEN's Waste Management Plan (TKN-PLN-ENV-GEN-007) adopts the following management approach: 1. Waste avoidance (most preferable option) 2. Minimisation of quantities and hazardous waste generated; 3. Reuse, recover and recycle; and 4. Disposal (last resort) In order to reduce waste at source, CC are encouraged to undertake waste minimisation studies or smart procurement processes to avoid ordering materials in excess of what is required including for hazardous waste. See PS3 (Para/ref 3.12) for further information and recommendations for hazardous waste storage.	**PC**	
3.14 -17	Pesticide use and management	Pesticide use is generally restricted on TANAP construction and operational work sites. Construction contractors control weeds on the ROW and other	**FC**	

		restored areas and on topsoil stockpiles using mechanical means only. TANAP has reviewed contractor construction Impact management Plans and other documentation and required that the use of chemical pesticides be removed as a method for invasive weed control as evidenced in the PLK Construction Impact Management Plan Rev4-4) applied for Lot 4 RoW. The IESC's discussions and site visits verified that invasive weed species on the Lot 4 RoW were being managed through physical cultivation and no chemical herbicides were in use. There were no pesticides being stored in the hazardous materials and chemicals stores observed at the construction sites visited by the IESC.		
PS4: Community Health, Safety and Security				
4.5	Evaluate risks and impacts to health and safety of affected communities during project life cycle; Establish preventive measures consistent with GIIP, such as the WBG EHS Guidelines; Identify risks and impacts and propose mitigation measures; and Measures will favour the avoidance of risks and impacts over minimisation.	The key identified health and safety risk to the community during the project life-cycle is road safety. Road safety is seen as one of the most significant risks at TANAP. It has a potential impact to both workers as well as the communities affected by the travel, and the potential consequence is a multiple fatality. Road safety was found to be one of TANAP's golden rules. The key risks identified were • speed which was found to be well controlled via the use of an In Vehicle Monitoring System (IVMS), rules and training; • lack of use of seat belts, which was found to be controlled by rules and training (training provided by a specialist road safety contractor); and • using mobile phones while driving which was found to be controlled by rules and training. The efficacy of these controls was observed in the high level of compliance observed during the audit. Other controls were also sighted including • Utilising vehicles for the functions for which they were designed • Controlling night driving by a permit • Reverse parking	**FC**	

		• Vehicles inspection and maintenance • Planning and taking rest breaks • Managing fatigue • No unauthorised passengers • No overloading of vehicles • No carrying of more passengers that the vehicle is designed to carry • Attending training • Drivers licenced and trained • Drivers medical fit and fit for work not suffering from fatigue or the effects of drugs and or alcohol • Driving to conditions • Pre-use inspections • Journey management plans • Night drive permits Keeping the community away from site-based risk was also seen as being important to TANAP. Security from a risk perspective is seen as being important from both an employee perspective as well as a community perspective. Security was found to be managed well on all sites via the use of fencing with razor wire on top, electronic access control, approval to gain access and security personnel, monitoring and controlling access. A key risk is the impact to drinking water via the release from the waste water treatment. Assessment of the waste water treatment processes indicated that monitoring was done by TANAP and validated by an external body. Records indicated that release did not occur if the set targets were not met. Where there was an issue with the treatment plant, waste water was taken off site to a licenced municipal treatment facility.		
4.6	Design, construct, operate, and decommission the	Knowledge of the integrity of the plant from a safety perspective was queried at the stages of transfer from construction to commissioning and then	**FC**	

	structural elements or components of the project in accordance with GIIP, taking into consideration safety risks to third parties or Affected Communities. Consider incremental risks of the public's potential exposure to operational accidents and/or natural hazards. Structural elements will be designed and constructed by competent professionals. When structural elements or components are located in high risk locations, external experts with relevant and recognised experience must be engaged. For projects that operate moving equipment on public roads avoid the occurrence of incidents and injuries to members of the public.	transfer from commissioning / construction to operations. This was found to be controlled via the issuing of a ready to gas certificate and a ready to operate certificate respectively following an engineering assessment.		
4.7	Avoid or minimise potential for public (workers and their families) exposure to hazardous materials and substances that may be released by the project. Where hazardous materials are part of existing project infrastructure or components, the client will exercise special care when conducting decommissioning activities in	Hazardous material management was assessed, in particular at CS1 and MS3. Key findings were that generally controls were good and in accordance with good practice and the requirements of the MSDS /SDS.A summary of the findings are provided below: • New materials are allowed to be brought to and used on site only after the approval of the Quality Department following the provision and assessment of MSDSs / SDSs. • MSDSs were found to be available at the location where the material was stored and used. It was however noted that some materials were in English only.	**PC**	• Take action to ensure that all MSDSs are available in the Turkish language • Take action to ensure the separation storage of non-compatible materials. Consideration may be given to improved training,

	order to avoid exposure to the community. Exercise commercially reasonable efforts to control the safety of deliveries, transportation and disposal of hazardous materials and wastes. Implement measures to avoid or control exposure to pesticides in accordance with PS3.	• Materials were found to be transferred into the hazardous materials warehouse only after a review by Warehouse staff. This review included an assessment of compatibility. There was no evidence of non-compatible materials being stored together at CS1 however storage of non-compatible materials were sighted that MS3 (ie storage of flammables in the same area as oxidising agents. Take action to ensure the separation storage of non-compatible materials. Consideration may be given to improved training, procedural control and signage. • Some materials in the hazardous materials storage area was found to be unlabelled and in water bottles. Take action to ensure that all material is suitably labelled. Consideration may be given to improved training, procedural control and signage. Pesticide use is generally restricted on TANAP construction and operational work sites. Construction contractors control weeds on the ROW and other restored areas and on topsoil stockpiles using mechanical means only. TANAP has reviewed contractor construction Impact management Plans and other documentation and required that the use of chemical pesticides be removed as a method for invasive weed control as evidenced in the PLK Construction Impact Management Plan Rev4-4) applied for Lot 4 RoW. The IESC's discussions and site visits verified that invasive weed species on the Lot 4 RoW were being managed through physical cultivation and no chemical herbicides were in use. There were no pesticides being stored in the hazardous materials and chemicals stores observed at the construction sites visited by the IESC.		procedural control and signage. • Take action to ensure that all material is suitably labelled.
4.8	Where appropriate and feasible, identify risks and potential impacts on priority ecosystem services that may be exacerbated by climate change. Avoid adverse impacts, and if these impacts are unavoidable, implement mitigation measures in	Ecosystem Services were not assessed during this monitoring visit.	Not Assessed	

	accordance with PS6, paragraphs 24 and 25. Implement mitigation measures with respect to use of and loss of access to provisioning services in accordance with PS5, paragraphs 25–29.			
4.9 - 10	Avoid or minimise potential for community exposure to water-borne, water-based, water-related, vector-borne diseases and communicable diseases that could result from project activities, taking into consideration differentiated exposure to and higher sensitivity of vulnerable groups.		**FC**	
4.11	In addition to PS1 emergency preparedness and response requirements, assist Affected Communities, local government agencies and other relevant parties in preparation to respond effectively to emergency situations especially when their participation and collaboration are necessary to respond to such emergency situations If local government agencies have little or no capacity to respond effectively, play an active role in preparing and responding to emergencies associated with the project.	**<u>Emergency Management</u>** **Design** Emergency management part of fundamental design. The design process for the key facilities e.g. MS1 ensured that no outside residences, businesses etc. were in the "Effect Zone" for potential events based on modelling. Processes are captured within the control system with isolations built in based on pressure drops and fire response equipment activated on sensing. Emergency stop devices were found to be strategically located around the operational sites. Contingencies were found to be in place for safety critical aspects. Power to ensure continuous operation of the control system was assessed. Power was found to be from the national grid. This was backed up by diesel generators on site which was found to be backed up by UPS system to ensure that the control system was always operational. These facilities including the fire and gas systems were on a 6 monthly service contract with an external contractor.	**PC**	See recommendations on Emergency Management in 1.2

	Document emergency preparedness, response activities, resources and responsibilities. Disclose appropriate information to affected communities, government agencies and relevant parties	**Emergency management plan** TANAP have two key documents that articulate their approach to the management of emergencies. These are listed below: • Emergency response procedure TNP-PCD-HSM-GEN-039 dated 090718 captures response procedures and structure and approach to managing emergencies • Incident management plan TNP-PLN-HSM-GEN-016 dated 130818 captures the plan for managing incidents These are read and applied concurrently. Localised plans with appropriate responses were also found to be available. At the last monitoring visit it was identified that the emergency management plans only captured workers and needed to incorporate communities and associated actions. It was noted that a project is underway with the scope currently being defined. In the interim the current plans apply. Timing of the completion of this is unclear. If this is going to be lengthy process, an interim amendment could be considered. IESC recommendation for emergency management have been provided in 1.2. The plans ensure access to immediate response, access to ambulances and access to hospitals. The plans ensure that key staff carry radios / phones when in the workplace. When in the red zones intrinsically safe radios were found to be utilised. The plans ensured that Doctors, nurses and paramedics were available 24 hours daily. The plans ensured that first aid kits and fire fighting equipment was inspected monthly. Only minor anomalies were identified with the occasional inspection having been missed or the record not being clear. The plans ensured that wind socks were available to allow personnel to move to downstream of the wind during an event. **Medical facilities** Medical facilities were found to be available at key sites. These were found to be able to provide a suitable standard of service including:		

		• Medical staff including doctors, nurses and paramedics available 24 hours daily • Ambulances • Clinics with suitable equipment and medication to treat potential patients • Processes for operation including ensuring availability of medication with integrity i.e. stored as per specified conditions e.g. temperature, checking on use by dates etc. **First aid** Within Operational sites, all operators are qualified first aiders. For the construction site, the first aider to worker ratio is maintained at the statutory requirement of 1:10.		
Security Personnel				
4.12	When direct or contracted workers are retained to provide security to safeguard personnel and property, assess risks posed by security arrangements to those within and outside the project site. Security arrangements should be guided by principles of proportionality and GIIP. Make reasonable inquiries to ensure those providing security are not implicated in past abuses. Train security personnel in the use of force. Sanction use of force only when used for preventive and defensive purposes. Provide a grievance mechanism.	Assessment was undertaken at the due diligence phase to assess compliance with security personnel requirements. At this audit, the project reported ongoing compliance with regular training into good international industry practice of security personnel. No reports were received of allegations of unlawful or abusive acts of security personnel.	**FC**	

4.13	Assess and document risks arising from use of government security personnel deployed to provide security services. Encourage public authorities to disclose security arrangements.		**FC**	
4.14	Investigate allegations of unlawful or abusive acts of security personnel. Take action to prevent recurrence.			
PS5: Land Acquisition and Involuntary Resettlement				
General				
5.8	Consider feasible alternative project designs to avoid or minimise physical/ economic displacement while balancing environmental, social and financial costs and benefits paying attention to impacts on the poor and vulnerable.	Principles of avoidance were assessed and carried out during the ESIA process and through the route change process during construction. Physical displacement has been avoided by the Project.	**FC**	
5.9	When displacement cannot be avoided, offer displaced communities and person's compensation for loss of assets at full replacement cost and other assistance. Transparent and consistent compensation standards to be offered to all communities and persons affected by the displacement. Where feasible offer those whose livelihoods are land	Permanent and temporary acquisition of land and easement rights are required by components of the TANAP project, across both public and private land. As such, key RAP documents prepared are: Document Name / Document Number Resettlement Action Plan for Pipeline — GLD-PLN-LAC-GEN-003 Addendum to RAP for TANAP Pipeline Route — TNP-PLN-SOC-GEN-006 Resettlement Action Plan for AGIs — TNP-PLN-SOC-GEN-008	**FC**	

	based and are displaced from land, land-based compensation. Possession of acquired land and related assets will take place only after compensation has been made available and where applicable resettlement sites and moving allowances have been provided in addition to compensation. Provide opportunities to displaced communities and persons to derive appropriate development benefits from the project.	<table><tr><td>Fisheries Livelihood Restoration Plan</td><td>CIN-PLN-SOC-GEN-002</td></tr><tr><td>Final Livelihood Restoration Plan (LRP) for AGIs</td><td>TNP-PLN-SOC-GEN-012</td></tr></table> As at October 2018, the LRP for AGIs was completed and has now been disclosed on the TANAP website. Additional guidance documents have been prepared and communicated to potentially affected households about compensation processes and standards (including: Further Entitlements on Land Acquisition and TANAP RAP Fund for Additional Economic Support, Information Brochure, 2017; and the TANAP Project Brochure on Small-scale Livelihood Restoration Assistance Packages under Livelihood Restoration Plan for Above Ground Installations (Stations), December 2017). Further, a series of internal guidance procedures have been developed, including most recently forms for the implementation of the LRP. Land acquisition and expropriation was undertaken by Botas, as the Land Rights Entity (LRE), undertaking these tasks in line with national requirements. TANAP has developed the above documentation and processes to fill gaps between national and lender requirements, which is administered through the RAP Fund. RAP Fund payments are made under the following categories: • Land Registration charges, • Support to Informal users on public lands, • Crops on unviable lands, • Transitional Allowance for those losing more than 20%, • Land Consolidation, • Transportation cost,		

		• Multiple Pipelines Impact. To date, 4,639 PAPs out of 5,066 are compensated with total 4,010,000TL. Crops on unviable land payments are made upon concerns raised by the land users during and after RAP Fund meetings and paid as per payment criteria of TANAP. RAP Fund Meetings in Lot 1 are still ongoing thus additional beneficiaries may yet be identified.		
5.10	Engage with affected communities, including host communities through stakeholder engagement as described in PS1. Decision-making processes should include options and alternatives to resettlement and livelihood restoration where applicable. Disclosure of relevant information and participation with communities will continue during planning, implementation, monitoring and evaluation of compensation payments, livelihood restoration and resettlement to achieve outcomes consistent with the objectives of PS5. Additional provisions apply to consultations with Indigenous Peoples, in accordance with PS7.	Engagement with affected communities has been ongoing throughout the life of the Project. RAP meetings in Lot 3 were completed in 132 settlements as of the end of September 2018, while RAP meetings in Lot 1 are ongoing. Restrictions on land use at the land exit process has been closely monitored by TANAP. The land exit consultation, complaints and permit requests continue from the Social Impact Department and Permit Department. Community meetings on land use awareness including restriction issues and permit requests are being held by the Operations phase site Social Impact staff. There is a policy which is being disclosed through an information booklet, delivered at the time of the land exit meetings, by CCs. Land use awareness meetings are being held by the operations team at site. See also PS1 regarding stakeholder engagement and the need to support vulnerable households through this process, as there was evidence of cases in stakeholder interviews where Land Exit forms were signed but to the landowners, the commitments and obligations contained therein were not clearly understood.	**FC**	

5.11	Establish a grievance mechanism consistent with PS1 as early as possible in the project development phase The grievance mechanism must be designed to receive and address specific concerns about compensation and relocation raised by displaced persons or members of host communities in a timely fashion, including a recourse mechanism to resolve disputes impartially.	The GRM established for the Project also applies to PS5 related issues and is described in Grievance Management Procedure TNP-PCD-SOC-GEN-001-P3-2, most recently updated in August 2018. At the previous audit, additional support was needed for the CLOs at AGIs, where there was evidence of a high average close out time. Through intervention of TANAP, there has been a decrease from 51 to 43 days as at the end of June, then decreased again to 6 days as at the end of September 2018. The IESC acknowledges these efforts in addressing grievances promptly.	**FC**	
5.12	Where involuntary resettlement is unavoidable, either as a result of a negotiated settlement or expropriation, carry out a census to collect appropriate socio-economic baseline data to identify persons who will be displaced and determine who will be eligible for compensation and assistance and discourage ineligible persons, such as opportunistic settlers. In the absence of host government procedures, establish a cut-off date for eligibility. Document and disseminate information about the cut-off date throughout the project area.	The ESIA considered resettlement and livelihood restoration planning, and resulted in the preparation of RAP and LRPs. The Land Acquisition Strategy (ILF-STR-LAC-GEN-001-P2-0) was also prepared with the ESIA. The current status of land acquisition is: Total number of parcels subject to land acquisition is 28,390 of which 20,830 are private. The approximate number of affected landowners is 112,618. In total, 17,774 private parcels and 7,026 public parcels have been registered in the name of LRE with the total registration for private and public parcels at 87.35%. The Environmental & Social Assessment of OHLs & Anode Bed Lines (CIN-REP-ENV-GEN-026- Rev-P3-0) prepared by TANAP in 2018 considers overhead and anode bed lines and their impact on land requirements. This assessment does not constitute a change from the ESIA or Land Acquisition Strategy, i.e. BOTAS acquired land as LRE for the Project for both 49 year permanent easement rights between poles, and permanent acquisition for poles, under the same framework for stakeholder engagement and land acquisition as for pipelines and AGIs. No physical displacement is required for OHLs or Anode bed lines. However, this detailed assessment was undertaken after construction had commenced.	**FC**	

Temporary easement rights were obtained for construction (approximately 2days of interruptions due to construction) across 821 private land parcels, with compensation payments as per Turkish Expropriation Law. Detailed information into permanent land acquisition for pole placement was assessed as negligible, is as follows:

- 627 privately owned parcels affected by permanent land acquisition, of which 609 parcels have less than 1% of their total land affected, and 18 parcels have from 1-10% of their land affected.
- Cumulative effects from other project components affect less than 1% of the land area of 601 parcels, and 1-10% of the land area of 26 parcels.

Number of parcels affected by permanent acquisition			**874**
Number of privately owned land among the parcels affected by permanent acquisition			Number of publicly owned land among the parcels affected by permanent acquisition
627			162
Number of private parcels affected by permanent acquisition *less than 1%*	Number of private parcels affected by permanent acquisition *between 1% and 10%*	Number of private parcels affected by permanent acquisition *over 10%*	
609	18	-	

Analysis of cumulative impact with other project components	
The number of private parcels affected by permanent acquisition *less than 1%* on the remaining area after the removal of the other project components (AGI, ROAD, ROW)	**601**
The number of private parcels affected by permanent acquisition *between 1% and 10%* on the remaining area after the removal of the other project components (AGI, ROAD, ROW)	**26**
The number of private parcels affected by permanent acquisition *over 10%* on the remaining area after the removal of the other project components (AGI, ROAD, ROW)	-

The cumulative effects of multiple project components have been studied and showed that 82 private land parcels are affected both by AGIs and OHLs but there is no need for additional compensation or livelihood assistance except for 1 parcel affected by AGI (CS1), RoW and third party OHLs. Compensation is provided for under the LRP for AGIs. At the time of the Assessment (May 2018), no grievances had been raised specific to OHLs in Lots 1, 2 and 3, where construction had been completed. Lot 4 construction was underway and due to larger land parcel sizes, grievances of livelihood

		effects were assessed as unlikely as pole placement would affect a lower percentage of land parcels. Any affected landowners would be eligible to apply for LRP where landowners/user are also affected by multiple project effects (i.e. AGIs and powerlines), whereupon assessment would be made of individual circumstances. The Project has prepared and circulated the LRAP brochure (December 2017) which details eligibility requirements.		
5.13	In cases where affected persons reject compensation offers that meet the requirements of this PS and, as a result, expropriation or other legal procedures are initiated, explore opportunities to collaborate with responsible government agencies and if permitted play an active role in resettlement action planning, implementation and monitoring (refer to 30 – 32).	In line with the ESIA, as the LRE, BOTAS is responsible for land acquisition and expropriation. The following table provides a detailed update on parcel numbers and court cases: (table below) Regular monitoring is being undertaken of the RAP and LRP work. The RAP Monitoring Plan (TNP-PLN-SOC-GEN-010-P3-2), last updated in March 2018, provides for internal and external monitoring, as well as a completion report. • Internal monitoring is undertaken with a focus on quantitative data analysis, including that which is presented to the IESC[6].	**FC**	
5.14	Establish procedures to monitor and evaluate the implementation of a RAP or livelihood restoration plan (LRP) (see paragraphs19-25) and take corrective action as necessary. Retain competent resettlement professionals to provide advice on PS compliance and to verify the client's monitoring information for projects with			

	Number of private parcels (1)	Number of public parcels (2)	Total number of parcels (1+2)	Registration cases in court - opened		Registration cases in court - completed (3)		Registration through consent agreement (4)		Total number of registered parcels (3+4)		Registration Status (%)
				Private	Public	Private	Public	Private	Public	Private	Public	
Pipeline	18,343	6,444	24,787	10,524	408	8,379	257	7,910	5,891	16,289	6,148	**90.52**
AGI & Access Roads	666	215	881	592	37	403	7	90	152	493	166	**74.80**
ETL	1,821	901	2,722	1,389	19	534	6	458	706	992	712	**62.60**
Total	20,830	7,560	28,390	12,505	464	9,316	270	8,458	6,749	17,774	7,026	**87.35**

[6] TANAP Presentation on updated LRP and RAP Fund, Ankara, Oct 2018

	significant involuntary resettlement. Persons will be consulted during the monitoring process.	• The External RAP Monitoring team completed its third monitoring report in June 2018; the next site visit was in September 2018 and the report can be expected imminently[7]. • The Completion Audit will be carried out by external consultants after all RAP activities have been completed.		
5.15	Implementation of RAP or LRP considered complete when adverse impacts have been addressed in a manner consistent with the relevant plan as well as the objectives of this PS. Commission an external completion audit of the RAP and LRP if necessary (depending on scale and complexity of physical and economic displacement). The completion audit should be undertaken once all mitigation measures have been substantially completed and once displaced persons are deemed to have been provided adequate opportunity and assistance to sustainably restore their livelihoods. Competent resettlement professionals will undertake · the completion audit once the agreed monitoring period is concluded. The completion audit will include, at a minimum, a review of the totality of mitigation measures	At the previous audit, a transition plan was recommended to reflect arrangements between Construction and Operations. The IESC notes that instead of preparing a separate Transition Plan, it was decided to update the existing SEP, as well as develop new Social Action and Monitoring Plans for operations phase. The most recent External RAP monitoring report (June 2018) found one area of partial non-compliance in relation to Benefit Sharing, where the Project should ensure that the 12 significantly AGI affected villages benefit from the project (prioritizing those that have not benefited from the SEIP projects). The External Monitors advised that an assessment is performed to understand the needs of the villages and a small-scale development project is developed for each. Data should be extracted to understand the scale of support provided to local communities by the CCs. At the time of this monitoring visit, TANAP has progressed in implementation of these recommendations; settlements that have benefitted from SEIP and affected by AGIs have been documented and analysed, and location-based details of good-will gestures for Q2 collated. Through its Implementation Team of Experts for LRP, TANAP is completing ongoing work in needs assessment and prioritisation for 7 settlements, anticipating that by the end of 2018, communal support to be agreed for a total of 10 AGI-affected settlements, for implementation from 2019. The 4th External RAP Monitoring visit was being carried out at the end of October 2018, so will additionally report on this progress.		

[7] TANAP Project Third Semi-Annual External Land Acquistion and Resettlement Monitoring and Evaluation Report (June 2018)

	implemented, a comparison of implementation outcomes against agreed objectives, and a conclusion as to whether the monitoring process can be ended.			
5.16	Develop a resettlement and/or livelihood restoration framework outlining principles compatible with this PS where the exact nature or magnitude is unknown due to the stage of project development.			
	Once the individual project components are defined and the necessary information becomes available, such a framework will be expanded into a specific RAP or LRP and procedures in accordance with paragraphs 19 and 25.			

Displacement				
5.17	Displaced persons may be classified as persons who: ◦ Have formal legal rights to the land or assets they occupy or use; ◦ Do not have formal legal rights to land or assets, but have a claim to land that is recognised or recognisable under national law; or ◦ Have no recognisable legal right or claim to the land or assets they occupy or use.	In accordance with the RAP and LRP framework for the Project, the Entitlements Matrix has been designed and is being implemented. This includes support to: • Multiple pipeline affected households (70% of all affected parcels have received payment, totalling 1.14 million TRL). • Unviable land parcel holders (at the time of the audit, 419 households have been supported) • Vulnerable groups have been supported (see PS1) • Livelihood restoration programs have commenced for those affected by AGIs (see §.25, below)	**FC**	

	• The census will establish the status of the displaced persons.	• Livelihood restoration through fuel support has been implemented for fishermen (see §.25, below) • Transitional support (see §.29, below).		
5.18	Project-related land acquisition and/or restrictions on land use may result in the physical displacement of people as well as their economic displacement. Consequently, requirements of this PS in respect of physical displacement and economic displacement may apply simultaneously.			
5.19	In the case of physical displacement develop a RAP that covers at minimum the applicable requirements of this PS regardless of number of people affected. The plan will be designed to mitigate the negative impacts of displacement; identify development opportunities; develop a resettlement budget and schedule; and establish the entitlements of all categories of affected persons (including host communities). Particular attention will be paid to the needs of the poor and the vulnerable. All transactions to acquire land rights, as well as compensation measures and relocation activities will be documented.	N/A	**NA**	

5.20	Offer those who have to move to another location feasible resettlement options, including adequate replacement housing or cash compensation where appropriate; and provide relocation assistance suited to the needs of each group of displaced persons. New resettlement sites built for displaced persons must offer improved living conditions. The displaced persons' preferences with respect to relocating in pre-existing communities and groups will be taken into consideration. Existing social and cultural institutions of the displaced persons and any host communities will be respected.			
5.21	In the case of physically displaced persons under paragraph 17, offer choice of replacement property of equal or higher value, security of tenure, equivalent or better characteristics and advantages of location or cash where appropriate. Compensation in kind should be considered in lieu of cash.			
5.22	In the case of physically displaced persons (paragraph 17), offer them a choice of options for adequate housing with security of tenure so that			

	they can resettle legally without facing the risk of forced eviction. Where displaced persons own and occupy structures, compensate them for the loss of assets other than land, such as dwellings and other improvements of the land at full replacement cost, provided these persons have been occupying the project area prior to the cut-off date for eligibility. Based on consultant with such displaced persons, provide relocation assistance sufficient for them to restore their standard of living at an adequate alternative site.			
5.23	Not required to compensate or assist those who encroach on the project area after the cut-off date for eligibility, provided the cut-off date has been clearly established and made public.			
5.24	Forced evictions will not be carried out except in accordance with the law and the requirements of the this PS.			
5.25	In the case of projects involving economic displacement only, develop a LRP to compensate affected persons and/or communities	Two LRPs have been developed for the Project. The LRP for AGIs (TNP-PLN-SOC-GEN-012-P3-0), and the LRP for Fisheries. Categories for potential economic displacement have been developed by TANAP with	**FC**	

	and offer other assistance that meets the objectives of this PS.	inputs from the independent monitors and Lenders commencing from due diligence and disclosed in Project documentation. With regards to Livelihood Restoration for Fishing Communities since the last audit, TANAP prepared and implemented a follow up study to determine if there were variations in outcomes upstream and downstream of the affected fishing communities. Under the FLRP, 67 payments to 44 vessel owners were provided towards fuel subsidy. Following the completion of implementation, two rounds of qualitative monitoring were undertaken. The second one also included 1-to-1 interviews with fishermen of upstream and downstream settlements to understand the difference btw this year's and last year's fishing season. There was found to be no difference due to TANAP. With regards to affects from AGIs: Numbers of eligible beneficiaries across all categories of Targeted PAPs for Livelihood Restoration Assistance Packages (LRAPs) (current as at October 2018) are as follows (i.e. those who are affected by AGIs, or cumulatively: AGIs plus other project effects): A / B / C CODE / Total / CODE / Total / CODE / Total A1 3 B1 0 C1 4 A2 10 B2 16 C2 3 A3 2 B3 0 C3 0 A4 21 B4 22 C4 19 A5 7 B5 7 A6 10 B6 0 TOTAL 53 45 26 124 All Potential LRAP Beneficiaries Categories are:		
	The LRP will establish the entitlements of affected persons and/or communities and will ensure that these are provided in a transparent, consistent, and equitable manner. The mitigation of economic displacement will be considered complete when affected persons or communities have received compensation and other assistance according to the requirements of the LRP and this PS, and are deemed to have been provided with adequate opportunity to re-establish their livelihoods.			
5.26	If land acquisition or restrictions on land use result in economic displacement defined as loss of assets and/or means of livelihood, regardless of whether or not the affected people are physically displaced, the client will meet the requirements in paragraphs 27–29, as applicable.			
5.27	Economically displaced persons who face loss of assets or access to assets will be compensated for such loss at full replacement cost.			

	In cases where land acquisition or restrictions on land use affect commercial structures, affected business owners will be compensated for the cost of re- establishing commercial activities elsewhere, for lost net income during the period of transition, and for the costs of the transfer and reinstallation of the plant, machinery, or other equipment. In cases affecting persons with legal rights or claims to land which are recognised or recognisable under national law (see paragraph 17 (i) and (ii)), replacement property (e.g., agricultural or commercial sites) of equal or greater value will be provided, or, where appropriate, cash compensation at full replacement cost. Economically displaced persons who are without legally recognisable claims to land (see paragraph 17 (iii)) will be compensated for lost assets other than land (such as crops, irrigation infrastructure and other improvements made to the land), at full replacement cost. The client is not required to compensate or assist	***A) PAPs with socio-economic & physical condition-based vulnerabilities*** A.1. Women Head of Households A.2. Poor (in-deed) A.3. Landless households after the Project's land acquisition A.4. Elderly Landowner or Landowner with disabilities who are sharecropper, not active user because of their incapability A.5. Elderly (65+) A.6. Head of Households having a family member with disabilities (more than 40%) ***B) PAPs with Project-induced additional vulnerabilities*** B.1. Informal Land users of Public Lands B.2. Formal/Informal Land users of Private Lands B.3. Community Using Common Lands for Grazing B.4. Shareholder Land Users B.5. Unviable (Remaining) Land Users B.6. Female Land Users ***C) PAPs with Project-induced Potential Vulnerabilities*** C.1. Single-Headed Households with multiple vulnerabilities C.2. PAPs employed by the project as temporary workers C.3. Disputed Lands' Owner Users C.4. PAPs affected by cumulative impact of TANAP Project components		

	opportunistic settlers who encroach on the project area after the cut-off date for eligibility.	Implementation of Livelihood restoration for eligible AGI-affected households (LRAPs) is progressing, with 115 agreements signed with beneficiaries. 44 of 115 have received LRAPs: 25 PAPs received cash compensation in September, with a further 19 due to receive a cash payment in October. The maximum value is 20,000TRL. Additionally, all potential beneficiaries who applied for the LRAP are being assessed for their eligibility for Transitional Allowances. Two new entitled PAPs for transitional allowance were identified.		
5.28	In addition to compensation for lost assets, if any, as required under paragraph 27, economically displaced persons whose livelihoods or income levels are adversely affected will also be provided opportunities to improve, or at least restore, their means of income- earning capacity, production levels, and standards of living: For persons whose livelihoods are land-based, replacement land that has a combination of productive potential, locational advantages, and other factors at least equivalent to that being lost should be offered as a matter of priority. For persons whose livelihoods are natural resource-based and where project-related restrictions on access envisaged in paragraph 5 apply, implementation of measures will be made to either allow continued access to affected resources or provide access to alternative resources with equivalent livelihood-earning potential and accessibility. Where			

	appropriate, benefits and compensation associated with natural resource usage may be collective in nature rather than directly oriented towards individuals or households. If circumstances prevent the client from providing land or similar resources as described above, alternative income earning opportunities may be provided, such as credit facilities, training, cash, or employment opportunities. Cash compensation alone, however, is frequently insufficient to restore livelihoods.			
5.29	Transitional support should be provided as necessary to all economically displaced persons, based on a reasonable estimate of the time required to restore their income-earning capacity, production levels, and standards of living.			
Private sector responsibilities under government managed resettlement				
5.30	Where land acquisition and resettlement are the responsibility of the government, collaborate with responsible government agency to the extent permitted by the agency, to achieve outcomes that are consistent with this PS. In addition, where	Physical displacement not applicable.	**FC**	

	government capacity is limited, play an active role during resettlement planning, implementation, and monitoring, as described below.			
5.31	In the case of acquisition of land rights or access to land through compulsory means or negotiated settlements involving physical displacement, identify and describe government resettlement measures. If these measures do not meet the relevant requirements of this Performance Standard prepare a supplemental resettlement plan that together with the documents prepared by the responsible government agency, will address the relevant requirements of this PS (see General Requirements and requirements for Physical Displacement and Economic Displacement). Supplemental Resettlement Plan, must include at a minimum (i) identification of affected people and impacts;(ii) a description of regulated activities, including the entitlements of displaced persons provided under applicable national laws and		**FC**	

	regulations;(iii) the supplemental measures to achieve the requirements of this Performance Standard as described in paragraphs 19–29 in a way that is permitted by the responsible agency and implementation time schedule; and (iv) the financial and implementation responsibilities of the client in the execution of its Supplemental Resettlement Plan.			
5.32	In the case of projects involving economic displacement only, identify and describe the measures that the responsible government agency plans to use to compensate affected communities and persons. If these measures do not meet the relevant requirements of this PS develop an Environmental and Social Action Plan to complement government action. This may include additional compensation for lost assets, and additional efforts to restore lost livelihoods where applicable.	Botas is providing land acquisition and expropriation as the LRE for the Project. The Turkish national framework for land acquisition and expropriation continues to be supplemented by additional livelihood restoration measures, as described in the key RAP/LRP documents (see also S 12, above)		

PS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources
General

6.6	In the risks and impacts identification process (PS1) consider direct and indirect project-related impacts on biodiversity and ecosystem services and identify significant residual impacts.	The Project has identified risks and impacts on biodiversity and ecosystem services through its ESIA documentation, which is supported by a detailed Biodiversity Action Plan (BAP), and Ecological Management Plans in place for both operations and construction phase. A priority throughout the Project's ESIA process and construction phase was the avoidance of potentially adverse ecological impacts. This has resulted in numerous design modifications and the development of a suite of mitigation measures to prevent many negative impacts, which were implemented during the construction phase. Bio-restoration of temporary disturbance of the pipeline RoW is the key mitigation measure implemented where avoidance of disturbance is not achieved. The reinstatement and bio-restoration of the RoW is prescribed using site specific method statements including detailed bio remediation plans for identified freshwater and terrestrial critical habitat. The Project's biodiversity assessment studies and mitigation plans were reviewed during the initial Environmental and Social Due Diligence (ESDD) in 2016. The ESDD found that the initial assessments and management planning for biodiversity did not adequately demonstrate a net gain in critical habitat and no net loss of priority biodiversity features due to the assumption of no residual impacts to these habitats and features in the initial planning and assessment documents. Gaps identified in habitat assessments from the ESDD resulted in specific requirements within the Project's Environmental and Social Action Plan (ESAP). The Project adjusted its BAP to better define and consider residual impacts to critical habitat and priority biodiversity features and the need for offsetting where bio-restoration of the RoW could not fully mitigate disturbance impacts. A Biodiversity Offset Strategy (BOS) was developed in 2017. The strategy does not identify specific biodiversity management actions, which are addressed through the BAP, but rather identifies potential offsets and additional conservation actions in accordance with good international practice to achieve No Net Loss or Net Gain outcomes relative to the residual affects identified for Natural Habitats, Priority Biodiversity Features and Critical Habitats. The strategy defines the approach to stakeholder engagement, monitoring and adaptive management, including mechanisms that allow re-calculation of net loss and gains and facilitate adjustments to the offset strategy to achieve the stated objectives. The BOS provides a conceptual framework	**FC**	

6.7	Avoid impacts on biodiversity and ecosystem services. When not possible, implement measures to minimise impacts and restore biodiversity and ecosystem services.	that will guide TANAP towards the development and implementation of a detailed Biodiversity Offset Management Plan (BOMP) as a part of TANAP's Environmental and Social Management System. TANAP has engaged consultants, Golder, to collect further biodiversity data including degradation levels on the natural habitats found along the pipeline. Work has continued to progress on the development and implementation planning for the BOMP s described in Golder's BOMP Quarterly Report of August 2018. The most recent report has focussed on analysis of field and desktop studies to better define degradation values of natural freshwater and terrestrial habitats within the Project Local Study Area (LSA) assessed in the initial ESIA and to better define likely rehabilitation success for project disturbed areas including assessment of other pipelines in Turkey (BTC). Golder's fieldwork program was planned through to the end of September 2018, which will be followed, by data analysis and interpretation of the desktop and field data using a coherent framework to ensure the various data are all contributing to the definition of the rehabilitation status of all the habitats in the various ecoregions. The second phase of work being undertaken for the BOMP is the review of the legal and institutional framework relevant to the implementation of biodiversity offsets in Turkey and includes a review of the legal provisions and institutional roles and responsibilities on how protected areas, forestry and pasture land are managed and to find the opportunities for implementation of biodiversity offsets for the Project. Both BOMP work streams are expected to continue through to the end of 2019. The Project has established plans that require, prior to conducting land clearance activities, TANAP or its contractors to carry out ecological surveys to identify the existing ecological conditions at the site. Dependent on the location & activities to be conducted these surveys may require assistance from or to be conducted by expert, third party consultants. The ecological surveys are required to be conducted in advance of construction activities and will consider the locations level of sensitivity as identified within the Project's Biodiversity Action Plan (BAP) such as critical habitats, freshwater critical habitats and seasonal constraints. Ecological surveys will identify existing ecological conditions, if land clearance activities are suitable to be conducted within the identified areas and required mitigation measures etc., which require to be implemented during construction activities.	PC	See PS1 action in regards to biodiversity assessments of OHL and anode bedlines.

As stated in the discussion in PS1 regarding the Management of Change for overhead powerlines and anode bedlines: The IESC find that the assessment of the OHL and anode bedlines is insufficient to demonstrate the application of the mitigation hierarchy. The powerlines and anode bedlines were planned, designed and largely installed prior to the environmental and social risks and mitigation measures being identified. There is no evidence of the environmental and social assessment informing route selection, powerline design or construction method and timing. Furthermore, the IESC is concerned that the environmental and social risk assessment and baseline data collection completed are insufficient to allow a comprehensive identification of risk or appropriate mitigations, especially in regards to impacts on bird species from OHL and the avoidance of potentially significant species and habitats.

Reinstatement of RoW

The following reinstatement progress is noted:

Reinstatement Progress	LOT 1	LOT 2	LOT 3	LOT 4
Clean up	100%	100%	100%	59%
Recontouring	100%	100%	100%	20%
Topsoil repositioning	98%	100%	100%	0%
Bio restoration	98%	100%	100%	0%

The IESC visit included observations of RoW reinstatement including re-contouring, topsoil placement, erosion control and bio restoration in Lots 1 and the clean-up and re-contouring of the RoW in Lot 4. TANAP oversight of performance of the construction contractor's reinstatement has identified key issues that require response actions, including:

- Aligning aftercare and monitoring plans between all Lots;
- Reinstatement of overspill areas was identified from IESC and third party environmental and social monitoring consultants and a process for identifying overspills has been commenced – especially in Lot 3;

		• Site drainage reinstatement following completion of construction is a key focus; • Topsoil losses due to erosion following heavy rainfall; and • Excess materials, sub soil and topsoil, from permanent installations require either reuse and/or disposal. Permanent facilities at CS5 included a large excess materials storage area and final reuse and disposal options are yet to be confirmed. The reinstatement and bio-restoration works of Kumlukoz pipe stockyard area was observed by the IESC. The area has been successfully reinstated to agricultural land and the land exit process with the landowner, FERNAS as the Lot 1 contractor and local government. The Lot 1 RoW reinstatement applied the Method Statement for Reinstatement of RoW, FERNAS. The reinstatement at Lot 1 is largely complete with minor works being completed for placement of topsoil and bio-restoration of the 36m wide pipeline disturbance corridor. CINAR's third party monitoring of the RoW reinstatement identified the presence of compacted subsoil in the reinstated RoW in Spread 1 and Spread 2 which is likely to impact bio restoration success in these areas. Since topsoil spreading was already completed in LOT1, CINAR continues to recommend that the contractors use a subsoiler to loosen the compacted subsoil. The RoW reinstatement in the vicinity of CS1 was visited by the IESC. Comparisons with adjacent non-Project pipeline RoW reinstatement could be observed on agricultural land and it was evident that the methods being used for reinstatement of the TANAP RoW were an improvement on past pipeline methods in regards to topsoil placement and re-contouring. An area of RoW nearby to the CS1 construction site, downhill from the emergency venting yard, included an area of reinstated and remediated RoW where there was a higher presence of surface rock than what was evident on the agricultural land adjacent to the RoW. The area affected by surface rock was in a limited area. TEKFEN and TANAP personnel advised that the rock would be removed from the reinstated RoW at the completion of CS1 construction.		

		The RoW passes over a hilly area land on the approach road to CS1 where it is evident that reinstatement and bio-restoration has not yet achieved the 70% vegetation cover target. Discussions with TANAP and the construction contractor advised that his area is very rocky with shallow topsoil. Third party monitoring has identified the section of reinstated RoW and corrective actions are proposed for the next growing season to improve re-vegetation and manage soil loss from erosion.  Figure 6.7 Lot 1 RoW passing over shallow soils on entrance road to CS1.		
6.8	Where the project may cause risks or impacts to natural habitats, retain competent professionals to assist with conducting the risk and impact identification process in natural habitats. Where the project may cause risks or impacts to critical	TANAP has engaged competent national and international expertise, through CINAR and Golder, for the identification of impacts and development of mitigations to meet legislative requirements and the Project's biodiversity standards as outlined in the BAP. CINAR is engaged for the third party construction environmental and social monitoring. TANAP is in the bidding stage for the appointment of an operations phase environmental monitoring	**FC**	

	habitat, retain external experts with appropriate regional experience to assist in the development of a mitigation hierarchy that complies with PS6 and to verify the implementation of those measures.	consultant who have ongoing responsibilities for monitoring the reinstatement and bio-restoration performance of the RoW.		
Protection and Conservation of Biodiversity				
6.9	Habitat is defined as a terrestrial, freshwater, or marine geographical unit or airway that supports assemblages of living organisms and their interactions with the non-living environment. PS6 divides these into modified, natural, and critical habitats – which are a subset of modified or natural habitats.	The Biodiversity Action Plan (BAP) includes a critical habitat assessment. The Project 's BAP and Biodiversity Offset Strategy (BOS) provides a framework for TANAP to achieving a net gain in Critical Habitat as defined by IFC PS6 and no net loss of priority biodiversity featured as defined in EBRD PR6. **Lot 1 Critical Habitat** FERNAS, using the Method Statement for Reinstatement and Bio-restoration of Critical Habitats, completed the Lot 1 critical habitats restoration works. The method statement applies to the 23 terrestrial and 8 freshwater critical habitat sites. The IESC observed advanced reinstatement of CH1 and CH2 terrestrial critical habitat sites along the reinstated RoW in Lot 1 with initial results demonstrating reinstatement methods were being successfully applied to manage slope design, drainage and vegetation reinstatement within the critical habitat sites. The triggering species for Critical Habitat at CH1 and CH2 include Reseda *armena var*. *armena*, a small flowering plant, a butterfly – *Zygaena armena*, and; the salamander species – *Martensiella caucasica*. The method statements for CH1 and CH2 included specific reinstatement and restoration works specific to the habitats that support these species. The IESC observed an irrigation channel that was constructed through the CH2 site on the slope of a hill. The farmer was given permission by TANAP to complete the drainage works, which will reinstate an older irrigation line whih had been blocked prior to the construction of the TANAP RoW in that area. The land disturbance from the irrigation channel will require additional reinstatement works to complete the Critical Habitat restoration in accordance with prescribed method statement.	**FC**	
6.10	Consider biodiversity offsets only after appropriate measures to avoid, minimise and restore biodiversity have been applied. Design and implement biodiversity offsets to achieve measurable conservation outcomes, resulting in no let loss and preferably a net gain of biodiversity (and net gain is required in critical habitats). Ensure biodiversity offsets are designed to conserve the same biodiversity values (or better) that are being impacted.		**FC**	
6.11	Modified habitats may contain a large proportion of plant and/or animal species of non- native origin, and/or where human activity has substantially modified an area's		**FC**	

	primary ecological functions and species composition.	CINAR, in its capacity as the third party environmental and social monitoring contractor for TANAP's construction phase, has previously raised a non-compliance actions against FERNAS related with invasive species monitoring and control although actions that should be implemented in line with the contractor's Construction Impact Management Plan. CINAR's report of August 2018 advises that FERNAS has now included reporting of invasive species observed at the critical habitats, including the presence of the invasive species *Onopordum acanthium* observed in CH2. FERNAS had identified this and other invasive species within restored Critical habitat sites in Lot 1. However, the reports provided to CINAR from FERNAS did not include invasive species control measures to be used at Critical habitat sites in Lot 1 and therefore, CINAR has maintained the non-compliance, Non-Compliance BIO-1, until such time that the construction contractor includes details of the control measures. CINAR's monitoring of terrestrial and freshwater Critical Habitat appears to be effective in identifying required improvement actions where restoration works do not comply with the agreed method statements. CINAR has noted the restoration of the freshwater critical habitat FCH 1 as not compliant with the method statement due to incorrect placement of rocks in the riverbed. This item has been raised a non-compliance against FERNAS and agreed actions to rectify the reinstatement of the riverbed are formally documented and registered for follow up. **Lot 4 Critical Habitat** The IESC also visited the RoW crossing at the Gonen River at KP1661 +511, which is also a freshwater critical habitat, FCH 26. Construction of the river crossing and reinstatement works including re-contouring and to soil spreading was yet to be complete the time of the visit. The erosion and sedimentation protection measures in place included placement of straw bales, rock armouring and geo-fabric along the exposed riverbank at the shore crossing locations and the reinstated river diversion. The erosion and sediment protection measures protection measures were well constructed and appeared to be effective in stabilising exposed river bank areas at risk from rising stream levels and stormwater run-off. The Lot 4 construction		
6.12	When modified habitat areas include significant biodiversity value, minimise impacts on areas of modified habitat that include significant biodiversity value and implement mitigation measures as appropriate.			
6.13	Natural habitats are areas composed of viable assemblages of plant and/or animal species of largely native origin, and/or where human activity has not essentially modified an area's primary ecological functions and species composition.		**FC**	
6.14	Ensure no significant conversion or degradation of natural habitats, unless the following conditions are met: • there are no viable alternatives within the region; • the views of stakeholders with respect to the extent of conversion and degradation have been established; and • any conversion or degradation is mitigated according to the mitigation hierarchy.		**FC**	
6.15	Design mitigation measures to achieve no net loss of biodiversity (where feasible) by:		**FC**	

	• Avoiding impacts on biodiversity through the identification and protection of set-asides; • Implementing measures to minimise habitat fragmentation, such as biological corridors; • Restoring habitats during operations and/or after operations; • Implementing biodiversity offsets.	contractor ecologist and soils specialist personnel were monitoring the location on a daily basis. Water quality analysis from sampling undertaken by the construction contractor at FCH26 shows the turbidity of water downstream of the crossing site to be a higher NTU value before the construction works commenced (10.1.18) than during construction (24.5.18). It was noted that the Gonen River at FCH26 was heavily polluted, apparently from wastewater discharge from the upstream municipality treatment plant. The impact to water quality was evident including strong odour and discolouration of the water. The contractor's ecologists have not observed any the Critical Habitat trigger species for the FCH since the construction commenced.		
6.16	Critical habitats are areas with high biodiversity value, including: habitat of significant importance to Critically Endangered and/or Endangered species; habitat of significant importance to endemic and/or restricted-range species; habitat supporting globally significant concentrations of migratory species and/or congregatory species; highly threatened and/or unique ecosystems; and/or areas associated with key evolutionary processes.		**FC**	
6.17	Ensure project activities are not implemented in areas of critical habitat unless the following conditions are met: • there are no viable alternative locations within the region; there will be no measurable adverse impacts on the biodiversity			

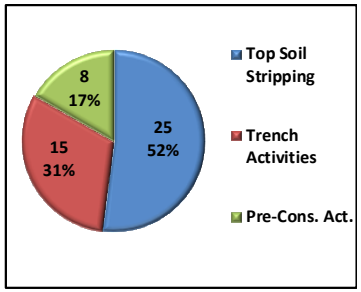
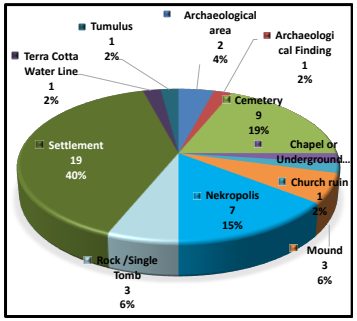
	values for which the critical habitat was designated or the ecological process supporting those biodiversity values; • there will be no net reduction in the global and/or national/regional population of critically endangered or endangered species over a reasonable period of time; • a long-term biodiversity monitoring and evaluation program is designed and integrated into the overall management programme.	Figure 6.8 Lot 4 FCH26 reinstated river crossing showing erosion and sediment controls in place.		
6.18	If the requirements above are met, describe mitigation strategies within a Biodiversity Action Plan that is designed to achieve net gains of the biodiversity values for which the critical habitat was designated.			
6.19	Where offsets are proposed, demonstrate that the significant residual impacts on biodiversity will be adequately mitigated to meet the requirements of paragraph 17.			
6.20	Where project falls in legally protected and internationally recognised areas – comply with the requirements for natural and critical habitats and in addition: • demonstrate that the proposed development is legally permitted in such areas;	BAP and ESIA include the framework for compliance with regard to protected areas and internationally recognised areas.	**FC**	

	• comply with any government recognised management plans for such areas; • consult protected area sponsors and managers, Affected Communities, Indigenous Peoples and other stakeholders, as appropriate; and • implement additional programmes to promote and enhance the conservation aims and effective management of the area.			
6.21	Intentional or accidental introduction of alien, or non-native, species of flora and fauna into areas where they are not normally found can be a significant threat to biodiversity, since some alien species can become invasive, spreading rapidly and out-competing native species.	The management of invasive species in the Project RoW has been identified in the BAP as a significant threat to achieving bio-restoration throughout the Project. Contractor reinstatement plans include monitoring for and control of invasive species. Third party environmental and social monitoring reports (CINAR, August 2018) of the Lot 4 RoW reinstatement identifies the possible need for manual cultivation to control wild mustard at the MS3 and MS4 locations as well as adjacent areas along the RoW. The construction contractor has maintained an invasive species inspection checklist for Lot 4 including specific inspections of Critical Habitat areas but also includes identification of weed outbreaks along the RoW and Project related disturbance areas. The May 2018 checklist identifies three areas of RoW where weed control was undertaken using manual cultivation. The checklist also identifies contractor workforce awareness training through toolbox talks about awareness of invasive weed species and the need to report observations to the relevant contactor HSE personnel.	**FC**	

6.22	Ensure there is no intentional introduction of alien species, unless this is carried out in accordance with the existing regulatory framework for such introduction or is subject to a risk assessment. Implement measures to avoid accidental or unintended introductions.	 Figure 6.22 Signs at FCH26 advising of invasive species risk awareness.	**FC**	
Management of Ecosystem Services				
6.24	Conduct a systematic review to identify priority ecosystem services which are: • those which project operations are most likely to impact and which result in adverse impacts to Affected Communities; • Affected Communities must be consulted to determine priority ecosystem services.	Compliance with Ecosystem services was assessed during the ESDD phase and not further assessed during monitoring.	**NA**	

6.25	Avoid adverse impacts on priority ecosystem services of relevance to Affected Communities, where there is direct management control or significant influence over these services. Where unavoidable, minimise impacts and implement measures to maintain the value and functionality of priority ecosystem services. With respect to impacts on priority ecosystem services on which the project depends, minimise impacts on ecosystem services and implement measures that increase resource efficiency of project operations (PS3). Additional provisions for ecosystem services are included in PS4, paragraph 8; PS5, paragraphs 5 and 25–29; PS 7, paragraphs 13–17 and 20; and PS8, paragraph 11.			

PS 8: Cultural Heritage				
Protection of cultural heritage in project design and execution				
8.6	Comply with applicable national laws. Identify and protect cultural heritage by ensuring that internationally recognised practices are implemented for the protection, field-based study, and documentation of cultural heritage.	TANAP and the Ministry of Culture and Tourism are working closely to ensure identification, protection, mitigation and management of cultural heritage sites associated with the Project, and in line with both national and lender requirements.	**FC**	
8.7	Retain competent professionals to assist in identification and protection of cultural heritage. See also paragraphs 10 and 13 to 15.	The Museum Directorate is the competent authority with responsibility for guiding identification and protection of cultural heritage works, in line with national requirements.	**FC**	
8.8	Siting and design to avoid significant adverse impacts to cultural heritage. Determine whether the proposed location of a project is in areas where cultural heritage is expected to be found, either during construction or operations as part of the environmental and social risks and impacts identification process. Develop provisions in the ESMS for managing chance finds through a chance find procedure. Do not disturb any chance find until an assessment by competent professionals is made and actions consistent	During the ESIA and engineering design, 106 new archaeological sites that were not previously recorded in the inventory of the Ministry of Culture and Tourism of Turkey were discovered and registered as archaeological and cultural immovable assets. Aside from these sites, 55 sites previously registered by the Ministry are located along the pipeline route. The Chance Find Procedure has been implemented throughout the construction phase. During construction: • 48 Archaeological areas were discovered during the construction activities (Chance Finds) • Around 1,000 artefacts were revealed during salvage excavations and registered by the relevant Cultural Assets Preservation Regional Boards and protected accordingly. 25 salvage excavations have been conducted at different locations on the pipeline route, from which finds were transferred to local museums (artefacts include, inter alia: oil-lamps, coins, statuettes).	**FC**	See PS1 actions.

	with the requirements PS8 are identified.	• 100% of Chance Finds have been closed out. Most were found during topsoil stripping, were predominantly found in Lots 3 and 4, and most were settlements (40%), as shown in the following figures:   Contract archaeologists are currently in the field in Lot 4, salvaging and processing finds. From PS1 fining regarding OHL and Anode Bedlines Environmental and Social Assessment The IESC find that the assessment of the OHL and anode bedlines is included consideration of cultural heritage issues through pre construction surveys and consultation eith relevant archaeological institutions and museums. The information on cultural heritage assessments was not included in the initial Management of Change assessment report provided to the IESC.		

8.9	Consult with Affected Communities who use, or have used within living memory, the cultural heritage for long-standing cultural purposes to identify cultural heritage of importance. Incorporate into the decision-making process the views of the Affected Communities on such cultural heritage. Consult with relevant national or local regulatory agencies that are entrusted with the protection of cultural heritage.	The Museum Directorate is responsible for all consultation and engagement associated with cultural heritage and affected communities. The Alaybeyi Archaeological site was discovered as a chance find during the construction works carried out at KP 335 of the pipeline route. The oldest settlement in the Site dates back from 4720 B.C. to 4553 B.C. (i.e. the oldest settlement discovered to date in Northeast Anatolia).	**FC**	Recommendation: Consider / investigate opportunities for partnership to support further work on the Alaybeyi Archaeological site
8.10	Allow continued access by Affected Communities to cultural sites or provide alternative access subject to overriding health, safety and security considerations.	TANAP has focused on ensuring cultural heritage finds are accessible through means of presentations at national and international heritage symposia, and through publication of literature associated with the excavations. Publications include a book, a doctoral thesis (on the Alaybeyi Archaeological site) and five articles in progress. All activities are supported by and/or carried out in conjunction with the Ministry of Culture and Tourism and relevant Museum Directorate. Additionally, TANAP has worked with the Ministry of Culture and Tourism to seek approval to create a replica find, a funerary object that was found in the Balikesir province. The find (pictured below) was originally excavated under the supervision of the local Museum Directorate. The replica provides for a form of community access outside the museum environment.	**FC**	

				
8.11	Apply mitigation measures that favour avoidance. Where avoidance is not feasible, apply a mitigation hierarchy as follows: • Minimise adverse impacts and implement restoration measures, in situ, that ensure maintenance of the value and functionality of the cultural heritage, including maintaining or restoring any ecosystem processes needed to support it; • Where restoration in situ is not possible, restore the functionality of the cultural heritage, in a different location, including the ecosystem processes needed to support it;	Removal has been undertaken only where there has been the support of the Ministry of Culture and Tourism and the relevant Museum Directorate, to move salvaged finds to local museums for their protection and documentation. The most significant find, the Alaybeyi archaeological site, was documented and replaced, under the supervision of the Erzurum Museum Directorate. The Directorate required that after salvage, all stones numbered, digitised, and replaced, including reconstruction of the ancient walls around the settlement.	**FC**	

	• The permanent removal of historical and archaeological artefacts and structures is carried out according to the principles of paragraphs 6 and 7; • Compensate for loss of that tangible cultural heritage, only where minimisation of adverse impacts and restoration to ensure maintenance of the value and functionality of the cultural heritage are demonstrably not feasible, and where the Affected Communities are using the tangible cultural heritage for long-standing cultural purposes.			
8.12	Do not remove any non-replicable cultural heritage unless all of the following conditions are met:	Not applicable	**NA**	
	There are no technically or financially feasible alternatives to removal;			
	The overall benefits of the project conclusively outweigh the anticipated cultural heritage loss from removal;			
	Any removal of cultural heritage is conducted using the best available technique.			

8.13	Critical cultural heritage consists of one or both of the following:	Not applicable	**NA**	
	the internationally recognised heritage of communities who use, or have used within living memory the cultural heritage for long-standing cultural purposes; or			
	legally protected cultural heritage areas, including those proposed by host governments for such designation.			
8.14	Do not remove, significantly alter, or damage critical cultural heritage.			
	When impacts are unavoidable, use a process of Informed Consultation and			
	Participation (ICP) of the Affected Communities (as per PS1) and which uses a good faith negotiation process that results in a documented outcome.			
	Retain external experts to assist in the assessment and protection of critical cultural heritage.			
8.15	Meet the following requirements where a project is located within a legally protected area or legally defined buffer zone:			
	Comply with national/local regulations or protected area management plans;			

	Consult the areas' sponsors and managers, local communities and other key stakeholders;			
	Implement additional programs to promote and enhance conservation aims of the area.			
Project's Use of Cultural Heritage				
16	Where a project proposes to use the cultural heritage, including knowledge, innovations, or practices of local communities for commercial purposes, the Inform communities of:	Not applicable	**NA**	
	their rights under national law;			
	the scope and nature of the proposed commercial development;			
	the potential consequences of such development.			
17	Do not proceed with commercialisation unless:		**NA**	
	a process of ICP (see PS1) and which uses a good faith negotiation process that results in a documented outcome is undertaken;			
	fair and equitable sharing of benefits from commercialisation of such knowledge, innovation, or practice, consistent with their customs and traditions is provided.			

Appendix 2: Assessment Table – Equator Principles

Audit Criterion		Detail	Findings / Comments	Compliance Category	Actions Required/Recommendations
EP1	Principle 1: Review & Categorisation	When a project is proposed for financing, the EPFI will, as part of its internal social and environmental review and due diligence, categorise such project based on the magnitude of its potential impacts and risks in accordance with the environmental and social screening criteria of the International Finance Corporation (IFC).	Category A project	**FC**	
EP2	Principle 2: Social & Environmental Assessment	An assessment has been prepared by borrower, consultant or external expert, and includes mitigation and management measures.	The environmental and social impacts have been assessed through a systematic process applied for all Project components as identified through the ESIA scoping and through engagement with key Government stakeholders in Turkey. The ESIAs have been developed to meet national standards, TANAP policy and guidance provided by international institutions such as the IFC, EBRD and EU. The ESIA was publicly disclosed on the TANAP website (22 June 2015). Turkey's Ministry of Environment and Urbanisation (MoEU) approved the ESIA in June 2014.	**FC**	
EP3	Principle 3: Applicable Social & Environmental Standards	Non-OECD countries and OECD not High-Income: The project complies with, or established a justified deviation from, applicable IFC Performance Standards and EHS	The following Host Government Agreements and Inter-Government Agreements have been signed by TANAP in order to meet legal compliance with Turkish requirements	**FC**	

Audit Criterion		Detail	Findings / Comments	Compliance Category	Actions Required/Recommendations
		Guidelines (refer to Appendix B below) The Assessment process in both cases should address compliance with relevant host country laws, regulations and permits that pertain to social and environmental matters.	and set the basis for the Projects implementation. “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, which was approved by Law no 6342 dated 29 June 2012 and was published in the Official Gazette on 12 July 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 this Memorandum of Understanding, Trans Anatolian Gas Pipeline Company B.V was established.” “The Host 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.		

Audit Criterion		Detail	Findings / Comments	Compliance Category	Actions Required/Recommendations
			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 January 2013, which was published in the Official Gazette on 17 January 2013. Following approval by Council of Ministers, the Agreements were published in the Official Gazette on 19 March 2013 and entered into force." 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.		
EP4	Principle 4: Action Plan & Management System	EPFIs require the development and maintenance of an Action Plan (AP) to address findings, prioritise mitigation measures, and take corrective actions and monitoring measures. An Environmental and Social Management Systems (ESMS) has been established.	TANAP has developed and implemented a detailed Environmental and Social Management System (ESMS) with which to manage the Project's environmental and social aspects. TANAP has documented the ESMS in line with ISO 14001 requirements. The ESMS was observed to be appropriate to the size and scale of the Project, documenting E&S policy, management plans, procedures and guidance. The TANAP ESMS was communicated to the Project	**FC**	

Audit Criterion		Detail	Findings / Comments	Compliance Category	Actions Required/Recommendations
			subcontractors to ensure that their respective ESMS' reflected the requirements of the TANAP ESMS. ESMPs within the ESMS appear to favour impact and risk avoidance, include measurable targets and indicators and assign roles and responsibilities for timebound implementation. TANAP have amended key ESMPs to reflect the transition from construction and commissioning to operations.		
EP5	Principle 5: Consultation & Disclosure	EPFI will require the client to demonstrate effective Stakeholder Engagement as an ongoing process in a structured and culturally appropriate manner with Affected Communities and, where relevant, Other Stakeholders. For Projects with potentially significant adverse impacts on Affected Communities, the client will conduct an Informed Consultation and Participation process.	TANAP has developed and is implementing a SEP, which describes responsibilities for TANAP, CCs and LRE, and is updated in accordance with the ESMS requirements.	**FC**	
		In order to accomplish this, the appropriate assessment documentation, or non-technical summaries thereof, will be made available to the public by the borrower for a reasonable minimum period in the relevant local language and in a culturally appropriate manner. The borrower will take account of and document the process and results of the consultation, including any actions	TANAP has been implementing ongoing stakeholder engagement and consultation meetings appropriately targeted to the village level. As the intensity of BOTAS role declines, the IESC recommends that TANAP, CC CLOs and BOTAS undertake a joint review to cross-check engagement and information disclosure activities.	**PC**	TANAP is recommended to undertake a review with BOTAS of potentially vulnerable or otherwise hard to reach (e.g. absentee, semi-permanent resident) stakeholders

Audit Criterion		Detail	Findings / Comments	Compliance Category	Actions Required/Recommendations
		agreed resulting from the consultation.			
		For projects with adverse social or environmental impacts, disclosure should occur early in the Assessment process and in any event before the project construction commences, and on an ongoing basis.	Periodic village level meetings have been held and construction progress disclosed to affected communities. The primary mechanism for information disclosure is through CC CLOs to the Muhtars, as the elected officials for each affected settlement, while RAP or LRP specific information is delivered through TANAP to the Muhtars and affected households.	**FC**	
EP6	Principle 6: Grievance Mechanism	The borrower will inform the affected communities about the mechanism in the course of its community engagement process and ensure that the mechanism addresses concerns promptly and transparently, in a culturally appropriate manner, and is readily accessible to all segments of the affected communities.	TANAP's Grievance Mechanism and Online Stakeholder Information Database (OSID) provides for both complaints management and their responses, as well as enquiries / general feedback.	**FC**	
EP7	Principle 7: Independent Review	For all Category A projects and, as appropriate, for Category B projects, an independent social or environmental expert not directly associated with the borrower will review the Assessment, AP and consultation process documentation in order to assist EPFI's due diligence and assess Equator Principles compliance.	Underway	**FC**	
EP8	Principle 8: Covenants	An important strength of the Principles is the incorporation of covenants linked to compliance. For Category A and B projects, the	To be determined	Not Assessed	

Audit Criterion		Detail	Findings / Comments	Compliance Category	Actions Required/Recommendations
		borrower will covenant in financing documentation.			
EP9	Principle 9: Independent Monitoring & Reporting	To ensure ongoing monitoring and reporting over the life of the loan, EPFIs will, for all Category A projects, and as appropriate, for Category B projects, require appointment of an independent environmental and/or social expert, or require that the borrower retain qualified and experienced external experts to verify its monitoring information which would be shared with EPFIs.	Underway	FC	

Appendix 3: Assessment Table – EBRD Performance Requirements

Note, assessment is detailed where materially different to IFC Performance Standards.

Requirement	EBRD Performance Measure	Findings / Comments	Compliance Category	Actions Required/Recommendations
Review and Categorisation	**The project is categorised under Category A, B or C.**			
PR1: Social and Environmental Assessment				
PR1 requires the client conduct a process of Social and Environmental Assessment that will consider in an integrated manner the potential social and environmental (including labour, health, and safety) risks and impacts of the project.	Social and Environmental Assessment	See IFC PS1	**PC**	See IFC PS1
	Organisational Capacity and Commitment	See IFC PS1	**PC**	See IFC PS1
	Managing Contractors			
	Training	See IFC PS2	**PC**	See IFC PS2
	Community Environmental and Social Action Plan	See IFC PS1	**FC**	
	Performance Monitoring and Review	See IFC PS1	**FC**	
PR2: Labour and Working Conditions				
PR2 requires compliance, at a minimum, with national labour, social security and occupational health and safety laws, and the principles and standards embodied in the International Labour Organisation (ILO) conventions.	Human Resource Policies	See IFC PS2	**FC**	
	Working Relationships	See IFC PS2	**FC**	
	Working Conditions and Terms of Employment	See IFC PS2	**FC**	
	Child Labour	See IFC PS2	**FC**	
	Forced Labour	See IFC PS2	**FC**	
	Non-Discrimination and Equal Opportunity	See IFC PS2	**FC**	
	Worker's Organisations	See IFC PS2	**FC**	
	Retrenchment	See IFC PS2	**FC**	

Requirement	EBRD Performance Measure	Findings / Comments	Compliance Category	Actions Required/Recommendations
	Grievance Mechanism	See IFC PS2	**FC**	
	Occupational Health and Safety	See IFC PS2	**PC**	
	Non-Employee Workers	See IFC PS2	**FC**	
	Supply Chain	See IFC PS2	**FC**	
	Wages, Benefits and Conditions of Work	See IFC PS2	**FC**	
PR3: Pollution Prevention and Abatement				
PR3 requires projects compliance and operation with relevant EU environmental requirements as well as with applicable national law. Where EU environmental requirements do not exist, the client will apply other good international practice such as the World Bank Group Environmental Health and Safety Guidelines.	Pollution Prevention, Resource Conservation and Energy Efficiency	See IFC PS3	**FC**	
	Wastes	See IFC PS3	**PC**	
	Safe Use and Management of Hazardous Substances and Materials	See IFC PS3	**PC**	
	Emergency Preparedness and Response	See IFC PS1	**PC**	
	Industrial Production	NA	**N/A**	
	Ambient Considerations	See IFC PS3	**FC**	
	Greenhouse Gas Emissions	See IFC PS3	**FC**	
	Pesticide Use and Management	See IFC PS3	**FC**	
PR4: Community Health and Safety and Security				
PR4 requires the client to identify and evaluate the risks and potential impacts to the health and safety of the affected community during the design, construction, operation, and decommissioning of the project and establish preventive measures and plans to address them	Infrastructure and Equipment Safety	See IFC PS4	**FC**	
	Hazardous Material Safety	See IFC PS4	**PC**	
	Environmental and Natural Resource Issues	See IFC PS4	**FC**	

Requirement	EBRD Performance Measure	Findings / Comments	Compliance Category	Actions Required/Recommendations
in a manner commensurate with the identified risks and impacts.	Community Exposure to Disease	See IFC PS4	**FC**	
	Emergency Preparedness and Response	See IFC PS4	**PC**	
	Security Personnel Requirements	See IFC PS4	**FC**	
PR5: Land Acquisition, Involuntary Resettlement and Economic Displacement				
PR5 requires that the client avoid or minimise, involuntary resettlement, mitigate adverse social and economic impacts from land acquisition or restrictions on affected persons' use of and access to land, improve or, at a minimum, restore the livelihoods and standards of living of displaced persons to pre-project levels, to improve living conditions among displaced persons through provision of adequate housing with security of tenure at resettlement sites.	Project Design	See IFC PS5 and IFC PS1	**PC**	
	Consultation	See IFC PS5 and IFC PS1	**FC**	
	Grievance Mechanism	See IFC PS5	**FC**	
	Compensation and Benefits for Displaced Persons	See IFC PS5	**FC**	
	Resettlement Planning and Implementation	See IFC PS5	**FC**	
	Resettlement Action Plan	See IFC PS5	**FC**	
	Livelihood Restoration Framework	See IFC PS5	**FC**	
	Physical Displacement	N/A	**N/A**	
	Economic Displacement	See IFC PS5	**FC**	
	Private Sector Responsibilities Under Government Managed Resettlement	See IFC PS5	**FC**	
	Loss of Amenities	See IFC PS5	**FC**	
PR6: Biodiversity Conservation and Sustainable Natural Resource Management				
PR6 require the client to identify the potential impacts on biodiversity in the projects area of influence likely to be caused by the project through the environmental and social	Appraisal of Issues and Impacts	See IFC PS6	**FC**	
	Habitat Protection and Conservation	See IFC PS6	**PC**	

Requirement	EBRD Performance Measure	Findings / Comments	Compliance Category	Actions Required/Recommendations
assessment process. The extent of due diligence should be sufficient to fully characterise the environmental risks and impacts, consistent with a precautionary approach and reflecting the concerns of relevant stakeholders.	Invasive Species	See IFC PS6	**FC**	
	Sustainable Management and Use of Living Resources	N/A	**N/A**	
	Fisheries			
	Genetically Modified Organisms (EBRD)	N/A	**N/A**	
	Supply Chain (EBRD)	N/A	**N/A**	
	Biodiversity and Tourism (EBRD)	N/A	**N/A**	
PR7: Indigenous Peoples				
PR7 requires an assessment of impacts on Indigenous Peoples. The client is expected to first avoid adverse effects and where this is not feasible, to prepare an Indigenous Peoples' Development Plan so as to minimise and/or mitigate any potential adverse impacts and identify benefits.	Assessment Avoidance of Adverse Impacts Information Disclosure, Consultation and Informed Participation Preparation of an Indigenous Peoples Development Plan Compensation and Benefit Sharing Impacts on Traditional or Customary Lands Under Use Relocation of Indigenous Peoples from Traditional or Customary Lands Cultural Resources Grievance Mechanism and Prevention of Ethnically Based Discrimination	N/A	**N/A**	
PR8: Cultural Heritage				
PR8 require the client to identify if any cultural heritage is likely to be adversely affected by the project, and assess the likelihood of any chance finds. The client is responsible for locating and designing a project so as to avoid significant damage to cultural heritage.	Protection of Cultural Heritage in Project Design and Execution (MIGA)	See IFC PS8	**FC**	
	Screening for Risks or Impacts on Cultural Heritage (EBRD)	See IFC PS1	**FC**	
	Impacts on Intangible Heritage (EBRD)			
	Avoiding Impacts	See IFC PS8 and PS1	**FC**	
	Assessing Impacts that Cannot be Avoided (EBRD)	See IFC PS8 and PS1	**FC**	

Requirement	EBRD Performance Measure	Findings / Comments	Compliance Category	Actions Required/Recommendations
	Managing Impacts on Cultural Heritage (EBRD)	See IFC PS8 and PS1	**FC**	
	Chance Find Procedures (EBRD)	See IFC PS8	**FC**	
	Consultation with Affected Communities (EBRD)	See IFC PS8	**FC**	
	Project's Use of Cultural Heritage	N/A	**N/A**	
PR10: Information Disclosure and Stakeholder Engagement				
PR10 requires that the EBRD agree with the client how the relevant requirements of this PR will be addressed as part of the client's overall environmental and social appraisal process, ESAP and/or Management System. PR10 is to be read in conjunction with PR1.	Stakeholder Engagement and Analysis	See IFC PS1	**FC**	
	Stakeholder Engagement Plan	See IFC PS1	**FC**	
	Information Disclosure	See IFC PS1	**FC**	
	Meaningful Consultation	See IFC PS1	**PC**	See 1.33
	Disclosure and Consultation on Category A Projects	See IFC PS1	**FC**	
	Engagement During Project Implementation and External Reporting	See IFC PS1	**FC**	
	Corporate Finance	N/A	**N/A**	
	Grievance Mechanism	See IFC PS1	**PC**	See 1.35

Appendix 4: Assessment Table - IFC EHS General Guidelines (2007)

General IFC EHS Guidelines Requirements	Compliance Category
Environmental Protection	
1. Air Emissions and Ambient Air Quality	
Ambient Air Quality	
1.1. Emissions do not result in pollutant concentrations that reach or exceed relevant ambient quality guidelines and standards by applying national legislated standards, or in their absence, the current WHO Air Quality Guidelines.	**PC**
1.2. Projects with significant sources of air emissions, and potential for significant impacts to ambient air quality, should prevent or minimize impacts by ensuring that: emissions do not contribute a significant portion to the attainment of relevant ambient air quality guidelines or standards. As a general rule, this Guideline suggests 25 percent of the applicable air quality standards to allow additional, future sustainable development in the same airshed.	**FC**
1.3. At facility level, impacts should be estimated through qualitative or quantitative assessments by the use of baseline air quality assessments and atmospheric dispersion models to assess potential ground level concentrations. Local atmospheric, climatic, and air quality data should be applied when modeling dispersion, protection against atmospheric downwash, wakes, or eddy effects of the source, nearby structures, and terrain features. The dispersion model applied should be internationally recognised, or comparable.	**FC**
1.4. Facilities or projects located within poor quality airsheds, and within or next to areas established as ecologically sensitive (e.g. national parks), should ensure that any increase in pollution levels is as small as feasible, and amounts to a fraction of the applicable short-term and annual average air quality guidelines or standards as established in the project-specific environmental assessment. Suitable mitigation measures should also include the relocation of significant sources of emissions outside the airshed in question, use of cleaner fuels or technologies, application of comprehensive pollution control measures, offset activities at installations controlled by the project sponsor or other facilities within the same airshed, and buy-down of emissions within the same airshed.	**FC**
Point Sources	
1.5. The stack height for all point sources of emissions should be designed according to good international industry practice (GIIP).	**Not assessed**
1.6. Emissions from small combustion process installations (3 MWth - 50 MWth), operated more than 500 hours per year, and those with an annual capacity utilisation of more than 30 percent should be in compliance with standards, recommended by General EHS guidelines of IFC.	**Not assessed**
Fugitive Sources	
1.7. Volatile Organic Compounds (VOC) emissions associated with equipment leaks should be prevented and controlled by techniques including: • Equipment modifications; • Implementation a leak detection and repair (LDAR) program that controls fugitive emissions by regularly monitoring to detect leaks, and implementing repairs within a predefined time period;	**FC**

• Substitution of less volatile substances; • Collection of vapours through air extractors and subsequent; • Treatment with destructive control devices; • Use of floating roofs on storage tanks.	
1.8. Dust control methods should be implemented to prevent particulate matter (dust) emissions including the following: • Covers, water suppression, or increased moisture content for open materials storage piles; • Use of water suppression for control of loose materials on paved or unpaved road surfaces.	**FC**
1.9. Open burning of solid wastes, whether hazardous or nonhazardous, is not considered good practice and should be avoided.	**FC**
1.10. No new systems or processes should be installed using CFCs, halons, 1,1,1- trichloroethane, carbon tetrachloride, methyl bromide or HBFCs.	**FC**
<u>Mobile Sources – Land-based</u>	
1.11 Emissions from on-road and off-road vehicles should comply with national or regional programs. In the absence of these, the following approach should be considered: • Implementation of the manufacturer recommended engine maintenance programs; • Drivers should be instructed on the benefits of driving practices that reduce both the risk of accidents and fuel consumption, including measured acceleration and driving within safe speed limits; • Operators with fleets of 120 or more units of heavy duty vehicles, or 540 or more light duty vehicles within an airshed should consider additional ways to reduce potential impacts including replacing older vehicles with newer, more fuel efficient alternatives; Converting high-use vehicles to cleaner fuels, where feasible; • Installing and maintaining emissions control devices, such as catalytic converters; Implementing a regular vehicle maintenance and repair program.	**FC**
<u>Greenhouse Gases (GHGs)</u>	
1.12. The following measures should be implemented to reduce and control of greenhouse gases: • Carbon financing; • Protection and enhancement of sinks and reservoirs of greenhouse gases; • Carbon capture and storage technologies; • Limitation and / or reduction of methane emissions; • Enhancement of energy efficiency.	**FC**
<u>Air quality monitoring</u>	

1.13. Air quality monitoring program should be developed. The monitoring parameters selected should reflect the pollutants of concern associated with project processes. The air quality monitoring program should consider the following elements: • baseline calculations; • monitoring type and frequency (data on emissions and ambient air quality generated through the monitoring program should be representative of the emissions discharged by the project over time); • monitoring locations; • sampling and analysis methods (monitoring programs should apply national or international methods for sample collection and analysis).	**FC**
1.14. Annual Stack Emission Testing of boilers with capacities between =3 MWth and < 20 MWth should be carried out to control SO2, NOx and PM (for gaseous fuel- fired boilers, only NOx). SO2 can be calculated based on fuel quality certification if no SO2 control equipment is used. If Annual Stack Emission Testing demonstrates results consistently and significantly better than the required levels, frequency of Annual Stack Emission Testing can be reduced from annual to every two or three years. Annual Stack Emission Testing of boilers with capacities between =20 MWth and < 50 MWth should be carried out to control SO2, NOx and PM (for gaseous fuel-fired boilers, only NOx). Emission Monitoring: • SO2. Plants with SO2 control equipment: Continuous. • NOx: Continuous monitoring of either NOx emissions or indicative NOx emissions using combustion parameters. • PM: Continuous monitoring of either PM emissions, opacity, or indicative PM emissions using combustion parameters / visual monitoring.	**Not assessed**
1.15. Air quality monitoring for turbines should include: Annual Stack Emission Testing: NOx and SO2 (NOx only for gaseous fuel-fired turbines). If Annual Stack Emission Testing results show constantly (3 consecutive years) and significantly (e.g. less than 75 percent) better than the required levels, frequency of Annual Stack Emission Testing can be reduced from annual to every two or three years. Emission Monitoring: NOx: Continuous monitoring of either NOx emissions or indicative NOx emissions using combustion parameters.SO2: Continuous monitoring if SO2 control equipment is used.	**Not assessed**
1.16. Air quality monitoring for turbines should include: • Annual Stack Emission Testing: Nox, SO2 and PM (NOx only for gaseous fuel-fired diesel engines). • If Annual Stack Emission Testing results show constantly (3 consecutive years) and significantly (e.g. less than 75 percent) better than the required levels, frequency of Annual Stack Emission Testing can be reduced from annual to every two or three years.	**Not assessed**

• Emission Monitoring: NOx: Continuous monitoring of either NOx emissions or indicative NOx emissions using combustion parameters. SO2: Continuous monitoring if SO2 control equipment is used. PM: Continuous monitoring of either PM emissions or indicative PM emissions using operating parameters.	
2. Energy Conservation	
Energy Management Programs	
2.1. Energy management programs should include the following elements: • Identification, and regular measurement and reporting of principal energy flows within a facility at unit process level; • Preparation of mass and energy balance; • Definition and regular review of energy performance targets, which are adjusted to account for changes in major influencing factors on energy use; • Regular comparison and monitoring of energy flows with performance targets to identify where action should be taken to reduce energy use; • Regular review of targets, which may include comparison with benchmark data, to confirm that targets are set at appropriate levels.	**Compliance Anticipated**
Energy Efficiency	
2.2. For any energy-using system, a systematic analysis of energy efficiency improvements and cost reduction opportunities should include a hierarchical examination of opportunities to: • Demand/Load Side Management by reducing loads on the energy system; • Supply Side Management by reduce losses in energy distribution; improve energy conversion efficiency; exploit energy purchasing opportunities; use lower- carbon fuels.	**Compliance Anticipated**
2.3. In process heating systems, a system heat and mass balance should be developed for examination of savings opportunities.	**Compliance Anticipated**
2.4. Special measures for heating load reduction should be used including the following: • Ensure adequate insulation to reduce heat losses through furnace/oven etc. structure; • Recover heat from hot process or exhaust streams to reduce system loads; • In intermittently-heated systems, consider use of low thermal mass insulation to reduce energy required to heat the system structure to operating temperature; • Control process temperature and other parameters accurately to avoid, for example, overheating or overdrying; • Examine opportunities to use low weight and/or low thermal mass product carriers, such as heated shapers, kiln cars etc.;	**Compliance Anticipated**

• Review opportunities to schedule work flow to limit the need for process reheating between stages; • Operate furnaces/ovens at slight positive pressure, and maintain air seals to reduce air in-leakage into the heated system, thereby reducing the energy required to heat unnecessary air to system operating temperature; • Robust Scheduled maintenance programs.	
2.5. Losses in heat distribution systems should be reduced through the following actions: • Promptly repair distribution system leaks; • Regularly verify correct operation of steam traps in steam systems, and ensure that traps are not bypassed; • Insulate distribution system vessels, such as hot wells and de-aerators, in steam systems and thermal fluid or hot water storage tanks; • In steam systems, return condensate to the boiler house for re-use, since condensate is expensive boiler-quality water and valuable beyond its heat content alone.	**Compliance Anticipated**
2.6. The following efficiency opportunities should be examined for process furnaces or ovens, and utility systems, such as boilers and fluid heaters: • Regularly monitor CO, oxygen or CO2 content of flue gases to verify that combustion systems are using the minimum practical excess air volumes; • Consider combustion automation using oxygen-trim controls; • Minimise the number of boilers or heaters used to meet loads; • Use flue dampers to eliminate ventilation losses from hot boilers held at standby; • Maintain clean heat transfer surfaces; • In steam boiler systems, use economisers to recover heat from flue gases to pre-heat boiler feed water or combustion air; • Adopt automatic (continuous) boiler blowdown; • Recover heat from blowdown systems through flash steam recovery or feed- water preheat; • With fired heaters, consider opportunities to recover heat to combustion air through the use of recuperative or regenerative burner systems; • Oxy Fuel burners; • Fuel quality control/fuel blending and etc.	**Compliance Anticipated**
2.7. Special measures to improve process cooling efficiency should be used including the following: Ensure adequate insulation; • Control process temperature;	**Compliance Anticipated**

• Operate cooling tunnels at slight positive pressure and maintain air seals to reduce air in-leakage into the cooled system; • Examine opportunities to pre-cool using heat recovery to a process stream requiring heating, or by using a higher temperature cooling utility; • In cold and chill stores, minimise heat gains to the cooled space by use of air curtains, entrance vestibules, or rapidly opening/closing doors; • Do not use refrigeration for auxiliary cooling duties, such as compressor cylinder head or oil cooling; • Use energy efficiency techniques in air conditioning applications.	
2.8. The efficiency of cooling systems should be improved by effective refrigeration system design and increased refrigerant compression efficiency, as well as minimisation of the temperature difference through which the system works and of auxiliary loads used to operate the refrigeration system.	**Compliance Anticipated**
2.9. Refrigerant compression efficiency should be improved by avoiding operation of multiple compressors at part-load conditions; considering turndown efficiency when specifying chillers.	**Compliance Anticipated**
2.10. Energy use of refrigeration system auxiliaries (e.g. evaporator fans and chilled water pumps) should be reduced.	**Compliance Anticipated**
Compressed Air Systems	
2.11. Special energy conservation measures should be used including : examination of each true user of compressed air to identify the air volume needed and the pressure at which this should be delivered; air use reduction opportunities review.	**Compliance Anticipated**
2.12. Monitoring of pressure losses in filters should be provided. Adequately sized distribution pipework designed to minimise pressure losses should be used.	**Compliance Anticipated**
3. Wastewater and Ambient Water Quality	
General applicability and approach	
3.1. In the context of their overall ESHS management system, facilities should understand the quality, quantity, frequency and sources of liquid effluents in its installations.	**FC**
3.2. Segregation of liquid effluents principally along industrial, utility, sanitary, and rainwater categories should be planed and implemented, in order to limit the volume of water requiring specialised treatment.	**FC**
3.3. Opportunities should be identified to prevent or reduce wastewater pollution through such measures as recycle/reuse within their facility, input substitution, or process modification.	**FC**
3.4. Wastewater discharges should be compliant with the applicable: (i) discharge standard (if the wastewater is discharged to a surface water or sewer), and (ii) water quality standard for a specific reuse.	**FC**
3.5. Water use efficiency should be provided to reduce the amount of wastewater generation.	**FC**
3.6. Process modification should be implemented, including waste minimisation, and reducing the use of hazardous materials to reduce the load of pollutants requiring treatment.	**FC**
3.7. When wastewater treatment is required prior to discharge, the level of treatment should be based on:	**FC**

• National and local standards as reflected in permit requirements and sewer system capacity to convey and treat wastewater if discharge is to sanitary sewer; • Assimilative capacity of the receiving water for the load of contaminant being discharged wastewater if discharge is to surface water; • Intended use of the receiving water body; • Presence of sensitive receptors; • GIIP for the relevant industry sector.	
Liquid Effluent Quality	
3.8. Discharges of process wastewater, sewage, wastewater from utility operations or rainwater to surface water should not result in contaminant concentrations in excess of local ambient water quality criteria or, in the absence of local criteria, other sources of ambient water quality. Receiving water use and assimilative capacity, taking other sources of discharges to the receiving water into consideration, should also influence the acceptable pollution loadings and effluent discharge quality. Temperature of wastewater prior to discharge should not result in an increase greater than 3°C of ambient temperature at the edge of a scientifically established mixing zone which takes into account ambient water quality, receiving water use and assimilative capacity among other considerations.	**FC**
3.9. Discharges of industrial wastewater, sewage, wastewater from utility operations or rainwater into public or private wastewater treatment systems should: • Meet the pre-treatment and monitoring requirements of the sewer treatment system into which it discharges; • Not interfere, directly or indirectly, with the operation and maintenance of the collection and treatment systems, or pose a risk to worker health and safety, or adversely impact characteristics of residuals from wastewater treatment operations; • Be discharged into municipal or centralised wastewater treatment systems that have adequate capacity to meet local regulatory requirements for treatment of wastewater • Generated from the project. Pre-treatment of wastewater to meet regulatory requirements before discharge from the project site is required if the municipal or centralised wastewater treatment system receiving wastewater from the project does not have adequate capacity to maintain regulatory compliance.	**FC**
3.10. The quality of treated process wastewater, wastewater from utility operations or rainwater discharged on land, including wetlands, should be established based on local regulatory requirements. Where land is used as part of the treatment system and the ultimate receptor is surface water, water quality guidelines for surface water discharges specific to the industry sector process should apply. Potential impact on soil, groundwater, and surface water, in the context of protection, conservation and long term sustainability of water and land resources should be assessed when land is used as part of any wastewater treatment system.	**FC**
3.11. Septic systems should be used for treatment and disposal of domestic sanitary sewage in areas with no sewerage collection networks. When septic systems are the selected form of wastewater disposal and treatment, they should be:	**NA**

• Properly designed and installed in accordance with local regulations and guidance to prevent any hazard to public health or contamination of land, surface or groundwater. • Well maintained to allow effective operation. • Installed in areas with sufficient soil percolation for the design wastewater loading rate. • Installed in areas of stable soils that are nearly level, well drained, and permeable, with enough separation between the drain field and the groundwater table or other receiving waters.	
3.12. Treatment technologies should be used to achieve the desired discharge quality for process wastewater and to maintain consistent compliance with regulatory requirements. The design and operation of the selected wastewater treatment technologies should avoid uncontrolled air emissions of volatile chemicals from wastewaters. Residuals from industrial wastewater treatment operations should be disposed in compliance with local regulatory requirements. Recommended water management strategies for utility operations include: • Adoption of water conservation opportunities for facility cooling systems; • Use of heat recovery methods or other cooling methods to reduce the temperature of heated water prior to discharge to ensure the discharge water temperature does not result in an increase greater than 3°C of ambient temperature; • Minimising use of antifouling and corrosion inhibiting chemicals by ensuring appropriate depth of water intake and use of screens; • Testing for residual biocides and other pollutants of concern should be conducted to determine the need for dose adjustments or treatment of cooling water prior to discharge. Rainwater should be separated from process and sewage streams. Surface runoff from process areas or potential sources of contamination should be prevented. Runoff from process and storage areas should be segregated from potentially less contaminated runoff. Runoff from areas without potential sources of contamination should be minimised. Sludge from rainwater catchments or collection and treatment systems should be disposed in compliance with local regulatory requirements, in the absence of which disposal has to be consistent with protection of public health and safety, and conservation and long term sustainability of water and land resources.	**FC**
3.13. Recommended sewage management strategies include: • Segregation of wastewater streams to ensure compatibility with selected treatment option; • Segregation and pre-treatment of oil and grease containing effluents prior to discharge into sewer systems; • If sewage from the industrial facility is to be discharged to surface water, treatment to meet national or local standards for sewage discharges; • If sewage from the industrial facility is to be discharged to either a septic system, or where land is used as part of the treatment system, treatment to meet applicable national or local standards for sewage discharges is required; • Sludge from sewage treatment systems should be disposed in compliance with local regulatory requirements.	**FC**

3.14. A wastewater and water quality monitoring program with adequate resources and management oversight should be developed and implemented. The wastewater and water quality monitoring program should consider monitoring parameters, monitoring type and frequency, monitoring locations, data quality.	**FC**
4. Water Conservation	
Water conservation program	
4.1. Water conservation programs should be implemented commensurate with the magnitude and cost of water use. These programs should promote the continuous reduction in water consumption and achieve savings in the water pumping, treatment and disposal costs.	**FC**
4.2. The essential elements of a water management program should involve: • Identification, regular measurement, and recording of principal flows within a facility. • Definition and regular review of performance targets, which are adjusted to account for changes in major factors affecting water use. • Regular comparison of water flows with performance targets to identify where action should be taken to reduce water use. • 4.3. Water should be reused in multi-stage washing and rinsing processes or from one process for another with less exacting water quality requirements.	**FC**
4.4. Measures for water saving should be implemented to reduce consumption of building and sanitary water, including: • Regularly maintain plumbing, and identify and repair leaks; • Install self-closing taps, automatic shut-off valves, spray nozzles, pressure reducing valves, and water conserving fixtures; • Operate dishwashers and laundries on full loads, and only when needed; • Install water-saving equipment in lavatories, such as lowflow toilets.	**FC**
4.5. Water conservation opportunities in cooling systems should include: • Use of closed circuit cooling systems with cooling towers rather than once-through cooling systems; • Limiting condenser or cooling tower blowdown to the minimum required to prevent unacceptable accumulation of dissolved solids; • Use of air cooling rather than evaporative cooling; • Use of treated waste water for cooling towers; • Reusing/recycling cooling tower blowdown.	**FC**
4.6. Large quantities of water may be used by steam systems, and this should be reduced by the following measures: • Repair of steam and condensate leaks, and repair of all failed steam traps; • Return of condensate to the boilerhouse, and use of heat exchangers (with condensate return) rather than direct steam injection where process permits;	**FC**

• Flash steam recovery; • Minimising boiler blowdown consistent with maintaining acceptably low dissolved solids in boiler water; • Minimising deaerator heating.	
5. Hazardous Materials Management	
General Hazardous Materials Management	
5.1. The level of risk should be established through an on-going assessment process based on: • The types and amounts of hazardous materials present in the project. • Analysis of potential spill and release scenarios using available industry statistics on spills and accidents where available. • Analysis of the potential for uncontrolled reactions such as fire and explosions. • Analysis of potential consequences based on the physical geographical characteristics of the project site, including aspects such as its distance to settlements, water resources, and other environmentally sensitive areas.	**FC**
5.2. The management actions to be included in a Hazardous Materials Management Plan should be commensurate with the level of potential risks associated with the production, handling, storage, and use of hazardous materials.	**FC**
5.3. Where there is risk of a spill of uncontrolled hazardous materials, facilities should prepare a spill control, prevention, and countermeasure plan as a specific component of their Emergency Preparedness and Response Plan.	**FC**
5.4. The plan should be tailored to the hazards associated with the project, and include: • Training of Operators on release prevention, including drills specific to hazardous materials as part of emergency preparedness response training; • Implementation of inspection programs to maintain the mechanical integrity and operability of pressure vessels, tanks, piping systems, relief and vent valve systems, containment infrastructure, emergency shutdown systems, controls and pumps, and associated process equipment; • Preparation of written Standard Operating Procedures (SOPs) for filling USTs, ASTs or other containers or equipment as well as for transfer operations by personnel trained in the safe transfer and filling of the hazardous material, and in spill prevention and response; • SOPs for the management of secondary containment structures; • Identification of locations of hazardous materials and associated activities on an emergency plan site map; • Documentation of availability of specific personal protective equipment and training needed to respond to an emergency; • Documentation of availability of spill response equipment; • Description of response activities in the event of a spill, release, or other chemical emergency.	**FC**
5.5. Recommended practices to prevent hazardous material releases from transfer processes include:	**FC**

• Use of transfer equipment that is compatible and suitable for the characteristics of the materials transferred and designed to ensure safe transfer; • Regular inspection, maintenance and repair of fittings, pipes and hoses; • Provision of secondary containment, drip trays or other overflow and drip containment measures, for hazardous materials containers at connection points or other possible overflow points.	
5.6. Special measures should be implemented to prevent overfills of vessels and tanks, including: • Prepare written procedures for transfer operations; • Installation of gauges on tanks to measure volume inside; • Use of dripless hose connections for vehicle tank and fixed connections with storage tanks; • Provision of automatic fill shutoff valves on storage tanks to prevent overfilling; • Use of a catch basin around the fill pipe to collect spills; • Use of piping connections with automatic overfill protection; • Pumping less volume than available capacity into the tank or vessel by ordering less material than its available capacity; • Provision of overfill or over pressure vents that allow controlled release to a capture point.	**FC**
5.7. Special measures should be implemented to avoid uncontrolled reactions or conditions resulting in fire or explosion, including: • Storage of incompatible materials (acids, bases, flammables, oxidisers, reactive chemicals) in separate areas, and with containment facilities separating material storage areas; • Provision of material-specific storage for extremely hazardous or reactive materials; • Use of flame arresting devices on vents from flammable storage containers; • Provision of grounding and lightning protection for tank farms, transfer stations, and other equipment that handles flammable materials; • Selection of materials of construction compatible with products stored for all parts of storage and delivery systems, and avoiding reuse of tanks for different products without checking material compatibility; • Storage of hazardous materials in an area of the facility separated from the main production works. Where proximity is unavoidable, physical separation should be provided using structures designed to prevent fire, explosion, spill, and other emergency situations from affecting facility operations; • Prohibition of all sources of ignition from areas near flammable storage tanks.	**PC**
<u>Control Measures</u>	
5.8. Secondary containment should be used to control accidental releases of liquid hazardous materials during storage and transfer. Secondary containment design and construction should hold released materials effectively until they can be detected and safely	**FC**

recovered. Appropriate secondary containment structures consist of berms, dikes, or walls capable of containing the larger of 110 percent of the largest tank or 25 percent of the combined tank volumes in areas with above-ground tanks with a total storage volume equal or greater than 1,000 liters.	
5.9. Transfer of hazardous materials from vehicle tanks to storage should be affected in areas with surfaces sufficiently impervious to avoid loss to the environment and sloped to a collection or a containment structure not connected to municipal wastewater / rainwater collection system.	**FC**
5.10. Where it is not practical to provide permanent, dedicated containment structures for transfer operations, one or more alternative forms of spill containment should be provided, such as portable drain covers, automatic shut-off valves on storm water basins, or shut off valves in drainage or sewer facilities, combined with oil-water separators.	**FC**
5.11. Storage of drummed hazardous materials with a total volume equal or greater than 1,000 liters should be affected in areas with impervious surfaces that are sloped or bermed to contain a minimum of 25 percent of the total storage volume.	**FC**
5.12. Double-walled, composite, or specially coated storage and piping systems should be used particularly for underground storage tanks (USTs) and underground piping. If double walled systems are used, they should provide a means of detecting leaks between the two walls.	**FC**
5.13. Leak detection may be used in conjunction with secondary containment, particularly in high-risk locations. Leak detection is especially important in situations where secondary containment is not feasible or practicable, such as in long pipe runs. Acceptable leak detection methods include: • Use of automatic pressure loss detectors on pressurised or long distance piping; • Use of approved or certified integrity testing methods on piping or tank systems, at regular intervals; • Considering the use of SCADA if financially feasible.	**FC**
5.14. Special measures should be implemented for underground storage of hazardous materials to manage the risks of fire or explosion, vapor losses into the atmosphere, leaks of hazardous materials, including: • Avoiding use of USTs for storage of highly soluble organic materials; • Assessing local soil corrosion potential, and installing and maintaining cathodic protection (or equivalent rust protection) for steel tanks; • For new installations, installing impermeable liners or structures under and around tanks and lines that direct any leaked product to monitoring ports at the lowest point of the liner or structure; • Monitoring the surface above any tank for indications of soil movement; • Reconciling tank contents by measuring the volume in store with the expected volume, given the stored quantity at last stocking, and deliveries to and withdrawals from the store; • Testing integrity by volumetric, vacuum, acoustic, tracers, or other means on all tanks at regular intervals; • Evaluating the risk of existing UST in newly acquired facilities to determine if upgrades are required for USTs that will be continued to be used, including replacement with new systems or permanent closure of abandoned USTs.	**FC**

5.15. Hazardous Materials Risk Management Plan should be prepared to prevent and control of catastrophic releases of toxic, reactive, flammable, or explosive chemicals that may result in toxic, fire, or explosion hazards.	**FC**
5.16. An Emergency Preparedness and Response Plan incorporated into and consistent with, the facility's overall ES/OHS MS, should be prepared to cover the following: • Planning Coordination: Procedures should be prepared for informing the public and emergency response agencies; documenting first aid and emergency medical treatment; taking emergency response actions; reviewing and updating the emergency response plan to reflect changes, and ensuring that employees are informed of such changes; • Procedures should be prepared for using, inspecting, testing, and maintaining the emergency response equipment; • Employees and contractors should be trained on emergency response procedures.	**FC**
5.17. When hazardous materials are in use above threshold quantities, the management plan should include a system for community awareness, notification and involvement that should be commensurate with the potential risks identified for the project during the hazard assessment studies (availability of general information to the potentially affected community on the nature and extent of project operations, and the prevention and control measures in place to ensure no effects to human health; the potential for off-site effects to human health or the environment following an accident at planned or existing hazardous installations; specific and timely information on appropriate behavior and safety measures to be adopted in the event of an accident including practice drills in locations with higher risks).	**FC**
6. Waste Management	
General Waste Management	
6.1. Facilities that generate and store wastes should practice the following: • Establishing waste management priorities at the outset of activities based on an understanding of potential Environmental, Health, and Safety (EHS) risks and impacts and considering waste generation and its consequences; • Establishing a waste management hierarchy that considers prevention, reduction, reuse, recovery, recycling, removal and finally disposal of wastes; • Avoiding or minimising the generation waste materials, as far as practicable; • Where waste generation cannot be avoided but has been minimised, recovering and reusing waste; • Where waste cannot be recovered or reused, treating, destroying, and disposing of it in an environmentally sound manner.	**FC**
6.2. Effective planning and implementation of waste management strategies should include: • Review of new waste sources during planning, siting, and design activities, including during equipment modifications and process alterations, to identify expected waste generation, pollution prevention opportunities, and necessary treatment, storage, and disposal infrastructure; • Definition of opportunities for source reduction, as well as reuse and recycling; • Definition of procedures and operational controls for onsite storage;	**FC**

• Definition of options / procedures / operational controls for treatment and final disposal.	
6.3. Potential impacts and risks associated with the management of any generated hazardous waste should be assessed during its complete life cycle.	**FC**
6.4. It should be ensured that contractors handling, treating, and disposing of hazardous waste are reputable and legitimate enterprises, licensed by the relevant regulatory agencies and following good international industry practice for the waste being handled.	**FC**
6.5. Processes should be designed and operated to prevent, or minimise, the quantities of wastes generated and hazards associated with the wastes generated in accordance with the following strategy: • Substituting raw materials or inputs with less hazardous or toxic materials, or with those where processing generates lower waste volumes; • Applying manufacturing process that convert materials efficiently; • Instituting good housekeeping and operating practices, including inventory control to reduce the amount of waste resulting from materials that are out-of- date, off-specification, contaminated, damaged, or excess to plant needs; • Instituting procurement measures that recognise opportunities to return usable materials such as containers and which prevents the over ordering of materials; • Minimising hazardous waste generation by implementing stringent waste segregation to prevent the commingling of non-hazardous and hazardous waste to be managed.	**FC**
6.6. Total amount of waste may be significantly reduced through the implementation of recycling plans, which should consider the following elements: • Identification and recycling of products that can be reintroduced into the manufacturing process or industry activity at the site; • Investigation of external markets for recycling by other industrial processing operations located in the neighbourhood or region of the facility; • Providing training and incentives to employees in order to meet objectives.	**FC**
6.7. If waste materials are still generated after the implementation of feasible waste prevention, reduction, reuse, recovery and recycling measures, waste materials should be treated and disposed of and all measures should be taken to avoid potential impacts to human health and the environment. Such measures should include the following: • On-site or off-site biological, chemical, or physical treatment of the waste material to render it nonhazardous prior to final disposal; • Treatment or disposal at permitted facilities specially designed to receive the waste.	**FC**
6.8. In the absence of qualified commercial or government-owned waste vendors and disposal Operators (taking into consideration proximity and transportation requirements), facilities generating waste should consider using: • Have the technical capability to manage the waste in a manner that reduces immediate and future impact to the environment;	**FC**

• Installing on-site waste treatment or recycling processes; • As a final option, constructing facilities that will provide for the environmental sound long-term storage of wastes on-site or at an alternative appropriate location up until external commercial options become available.	
Waste storage	
6.9. Wastes should be stored in a manner that prevents the commingling or contact between incompatible wastes.	**PC**
6.10. Different type of wastes should be stored in different closed containers away from direct sunlight, wind and rain.	**PC**
6.11. Periodic inspections of waste storage areas should be conducted with documenting the findings.	**FC**
6.12. Secondary containment should be included wherever liquid wastes are stored in volumes greater than 220 liters. The available volume of secondary containment should be at least 110 percent of the largest storage container, or 25 percent of the total storage capacity (whichever is greater), in that specific location.	**FC**
6.13. Adequate ventilation should be provided where volatile wastes are stored.	**FC**
6.14. Hazardous waste storage activities should also be subject to special management actions, conducted by employees who have received specific training in handling and storage of hazardous wastes: • Provision of readily available information on chemical compatibility to employees, including labelling each container to identify its contents; • Clearly identifying (label) and demarcating the area, including documentation of its location on a facility map or site plan; • Conducting periodic inspections of waste storage areas and documenting the findings; • Preparing and implementing spill response and emergency plans to address their accidental release; • Avoiding underground storage tanks and underground piping of hazardous waste.	**FC**
Transportation	
6.15. On-site and Off-site transportation of waste should be conducted so as to prevent or minimise spills, releases, and exposures to employees and the public. All waste containers designated for off-site shipment should be secured and labeled with the contents and associated hazards, be properly loaded on the transport vehicles before leaving the site, and be accompanied by a shipping paper that describes the load and its associated hazards.	**FC**
Monitoring	
6.16. Monitoring activities associated with the management of hazardous and non- hazardous waste should include: • Regular visual inspection of all waste storage collection and storage areas for evidence of accidental releases and to verify that wastes are properly labelled and stored. • Regular audits of waste segregation and collection practices; • Periodic auditing of third party treatment, and disposal services including re-use and recycling facilities when significant quantities of hazardous wastes are managed by third parties; • Regular monitoring of groundwater quality in cases of Hazardous Waste on site storage and/or pre-treatment and disposal.	**PC**

7. Noise	
Prevention and Control	
7.1. Noise impacts should not exceed the following levels: • 55 One Hour LAeq (dBA) at daytime for residential; institutional; educational receptors; • 45 One Hour LAeq (dBA) at night time for residential; institutional; educational receptors; • 70 One Hour LAeq (dBA) at daytime and night time for industrial; commercial receptors.	**FC**
7.2. Noise prevention and mitigation measures should be applied where predicted or measured noise impacts from a project facility or operations exceed the applicable noise level guideline at the most sensitive point of reception. Noise reduction options that should be considered include: • Selecting equipment with lower sound power levels; • Installing silencers for fans; • Installing suitable mufflers on engine exhausts and compressor components; • Installing acoustic enclosures for equipment casing radiating noise; • Improving the acoustic performance of constructed buildings, apply sound insulation; • Limiting the hours of operation for specific pieces of equipment or operations, especially mobile sources operating through community areas; • Reducing project traffic routing through community areas wherever possible • Developing a mechanism to record and respond to complaints.	**Compliance anticipated**
Monitoring	
7.3. Noise monitoring programs should be designed and conducted by trained specialists. Typical monitoring periods should be sufficient for statistical analysis.	**FC**
8. Contaminated Land	
Prevention of land contamination	
8.1. Contamination of land should be avoided by preventing or controlling the release of hazardous materials, hazardous wastes, or oil to the environment.	**FC**
8.2. When contamination of land is suspected or confirmed during any project phase, the cause of the uncontrolled release should be identified and corrected to avoid further releases and associated adverse impacts.	**FC**
8.3. Contaminated lands should be managed to avoid the risk to human health and ecological receptors.	**NA**
8.4. The preferred strategy for land decontamination is to reduce the level of contamination at the site while preventing the human exposure to contamination.	**NA**
Risk assessment	
8.5. Where there is potential evidence of contamination at a site, the following steps should be provided:	**NA**

• Identification of the location of suspected highest level of contamination through a combination of visual and historical operational information; • Sampling and testing of the contaminated media (soils or water); • Evaluation of the analytical results against the local and national contaminated sites regulations; • Verification of the potential human and/or ecological receptors and exposure pathways relevant to the site in question.	
8.6. Interim risk management actions should be implemented at any phase of the project life cycle if the presence of land contamination poses an “imminent hazard”, i.e., representing an immediate risk to human health and the environment if contamination were allowed to continue, even a short period of time. Appropriate risk reduction should be implemented as soon as practicable to remove the condition posing the imminent hazard.	**NA**
8.7. If the presence of land contamination poses an “imminent hazard”, a detailed site- specific, environmental risk assessment should be used to develop strategies that yield acceptable health risks, while achieving low level contamination on-site.	**NA**
8.8. The risk factors and conceptual site model within the contaminant risk approach described should also provide a basis to manage and mitigate environmental contaminant health risks.	**NA**
9. Occupational Health and Safety	
9. General Facility Design and Operation	
Integrity of Workplace Structures	
9.1. Permanent and recurrent places of work should be designed and equipped to protect OHS: • Surfaces, structures and installations should be easy to clean and maintain, and not allow for accumulation of hazardous compounds; • Buildings should be structurally safe, provide appropriate protection against the climate, and have acceptable light and noise conditions; • Fire resistant, noise-absorbing materials should, to the extent feasible, be used for cladding on ceilings and walls; • Floors should be level, even, and non- skid; • Heavy oscillating, rotating or alternating equipment should be located in dedicated buildings or structurally isolated sections.	**FC**
Severe Weather and Facility Shutdown	
9.2. Work place structures should be designed and constructed to withstand the expected elements for the region and have an area designated for safe refuge, if appropriate.	**Not Assessed**
9.3. Standard Operating Procedures (SOPs) should be developed for project or process shut-down, including an evacuation plan. Drills to practice the procedure and plan should also be undertaken annually.	**Not Assessed**
Workspace and Exit	
9.4. The space provided for each worker, and in total, should be adequate for safe execution of all activities, including transport and interim storage of materials and products. Passages to emergency exits should be unobstructed at all times. Exits should be clearly marked to be visible in total darkness. The number and capacity of emergency exits should be sufficient for safe and orderly evacuation of the greatest number of people	**FC**

present at any time, and there should be a minimum two exits from any work area. Facilities also should be designed and built taking into account the needs of disabled persons.	
Fire Precautions	
9.5. The workplace should be designed to prevent the start of fires through the implementation of fire codes applicable to industrial settings.	**FC**
9.6. Facilities should be equipped with fire detectors, alarm systems, and fire-fighting equipment. The equipment should be maintained in good working order and be readily accessible. It should be adequate for the dimensions and use of the premises, equipment installed, physical and chemical properties of substances present, and the maximum number of people present.	**FC**
9.7. Fire and emergency alarm systems that are both audible and visible.	**FC**
Lavatories and Showers	
9.8. Adequate lavatory facilities (toilets and washing areas) should be provided for the number of people expected to work in the facility and allowances made for segregated facilities, or for indicating whether the toilet facility is “In Use” or “Vacant”. Toilet facilities should also be provided with adequate supplies of hot and cold running water, soap, and hand drying devices. Where workers may be exposed to substances poisonous by ingestion and skin contamination may occur, facilities for showering and changing into and out of street and work clothes should be provided.	**FC**
9.9. Adequate supplies of potable drinking water should be provided from a fountain with an upward jet or with a sanitary means of collecting the water for the purposes of drinking. Water supplied to areas of food preparation or for the purpose of personal hygiene (washing or bathing) should meet drinking water quality standards.	**FC**
9.10. Where there is potential for exposure to substances poisonous by ingestion, suitable arrangements are to be made for provision of clean eating areas where workers are not exposed to the hazardous or noxious substances.	**FC**
Safe Access	
9.11. Passageways for pedestrians and vehicles within and outside buildings should be segregated and provide for easy, safe, and appropriate access.	**FC**
9.12. Equipment and installations requiring servicing, inspection, and/or cleaning should have unobstructed, unrestricted, and ready access.	**FC**
9.13. Hand, knee and foot railings should be installed on stairs, fixed ladders, platforms, permanent and interim floor openings, loading bays, ramps, etc.	**PC**
9.14. Openings should be sealed by gates or removable chains.	**PC**
9.15. Covers should, if feasible, be installed to protect against falling items.	**PC**
9.16. Measures to prevent unauthorised access to dangerous areas should be in place.	**FC**
First Aid	

9.17. The employer should ensure that qualified first-aid can be provided at all times. Appropriately equipped first-aid stations should be easily accessible throughout the place of work.	**FC**
9.18. Eye-wash stations and/or emergency showers should be provided close to all workstations where immediate flushing with water is the recommended first-aid response.	**FC**
9.19. Remote sites should have written emergency procedures in place for dealing with cases of trauma or serious illness up to the point at which patient care can be transferred to an appropriate medical facility.	**FC**
Air Supply	
9.20. Sufficient fresh air should be supplied for indoor and confined work spaces. Factors to be considered in ventilation design include physical activity, substances in use, and process related emissions. Air distribution systems should be designed so as not to expose workers to draughts.	**FC**
9.21. Mechanical ventilation systems should be maintained in good working order. Point- source exhaust systems required for maintaining a safe ambient environment should have local indicators of correct functioning.	**Not assessed**
9.22. Re-circulation of contaminated air is not acceptable. Air inlet filters should be kept clean and free of dust and microorganisms. Heating, ventilation and air conditioning (HVAC) and industrial evaporative cooling systems should be equipped, maintained and operated so as to prevent growth and spreading of disease agents or breeding of vectors of public health concern.	**Not assessed**
10. Communication and Training	
OHS Training	
10.1. Provisions should be made to provide OHS orientation training to all new employees.	**FC**
10.2. Training should consist of basic hazard awareness, sites specific hazards, safe work practices, and emergency procedures for fire, evacuation, and natural disaster, as appropriate. Any site-specific hazard or color coding in use should be thoroughly reviewed as part of orientation training.	**FC**
10.3. If visitors to the site can gain access to areas where hazardous conditions or substances may be present, a visitor orientation and control program should be established to ensure visitors do not enter hazard areas unescorted.	**FC**
10.4. The employer should ensure that workers and contractors, prior to commencement of new assignments, have received adequate training and information enabling them to understand work hazards and to protect their health from hazardous ambient factors that may be present.	**FC**
10.5. A basic occupational training program and specialty courses should be provided, as needed, to ensure that workers are oriented. Workers with rescue and first-aid duties should receive dedicated training so as not to inadvertently aggravate exposures and health hazards to themselves or their coworkers. Training would include the risks of becoming infected with blood–borne pathogens through contact with bodily fluids and tissue. Through appropriate contract specifications and monitoring, the employer should ensure that service providers, as well as contracted and subcontracted labor, are trained adequately before assignments begin.	**FC**
Area Signage, Labeling of Equipment, Communicate Hazard Codes	
10.6. Hazardous areas (electrical rooms, compressor rooms, etc.), installations, materials, safety measures, and emergency exits, etc. should be marked appropriately. Signage should be in accordance with international standards and be well known to, and easily understood by workers, visitors and the general public as appropriate.	**FC**

10.7. All vessels that may contain substances that are hazardous as a result of chemical or toxicological properties, or temperature or pressure, should be labeled as to the contents and hazard, or appropriately color coded. Similarly, piping systems that contain hazardous substances should be labeled with the direction of flow and contents of the pipe, or color coded whenever the pipe passing through a wall or floor is interrupted by a valve or junction device.	**PC**
10.8. Copies of the hazard coding system should be posted outside the facility at emergency entrance doors and fire emergency connection systems.	**PC**
10.9. Information regarding the types of hazardous materials stored, handled or used at the facility, including typical maximum inventories and storage locations, should be shared proactively with emergency services and security personnel to expedite emergency response when needed.	**Not assessed**
10.10. Representatives of local emergency and security services should be invited to participate in periodic (annual) orientation tours and site inspections to ensure familiarity with potential hazards present.	**Not assessed**
11. Physical Hazards	
Rotating and Moving Equipment	
11.1. Machines design should eliminate trap hazards and ensuring that extremities are kept out of harm's way under normal operating conditions. Where a machine or equipment has an exposed moving part or exposed pinch point that may endanger the safety of any worker, the machine or equipment should be equipped with, and protected by, a guard or other device that prevents access to the moving part or pinch point. Guards should be designed and installed in conformance with appropriate machine safety standards.	**FC**
11.2. Turning off, disconnecting, isolating, and de-energising machinery with exposed or guarded moving parts, or in which energy can be stored (e.g. compressed air, electrical components) during servicing or maintenance, in conformance with a standard such as c.	**FC**
11.3. Designing and installing equipment, where feasible, to enable routine service, such as lubrication, without removal of the guarding devices or mechanisms.	**Not assessed**
Noise	
11.4. No employee should be exposed to a noise level greater than 85 dB(A) for a duration of more than 8 hours per day without hearing protection. In addition, no unprotected ear should be exposed to a peak sound pressure level (instantaneous) of more than 140 dB(C).	**FC Noise control procedure TNP-PCD-HSM-GEN-041**
11.5. The use of hearing protection should be enforced actively when the equivalent sound level over 8 hours reaches 85 dB(A), the peak sound levels reach 140 dB(C), or the average maximum sound level reaches 110dB(A). Hearing protective devices provided should be capable of reducing sound levels at the ear to at least 85 dB(A).	**FC Noise control procedure TNP-PCD-HSM-GEN-041**
11.6. For every 3 dB(A) increase in sound levels, the 'allowed' exposure period or duration should be reduced by 50 percent.	**FC Noise control procedure TNP-PCD-HSM-GEN-041**
11.7. Prior to the issuance of hearing protective devices as the final control mechanism, use of acoustic insulating materials, isolation of the noise source, and other engineering controls should be investigated and implemented.	**FC Noise control procedure TNP-PCD-HSM-GEN-041**
11.8. Periodic medical hearing checks should be performed on workers exposed to high noise levels.	**Not assessed**
Vibration	

11.9. Exposure to hand-arm vibration from equipment such as hand and power tools, or whole-body vibrations from surfaces on which the worker stands or sits, should be controlled through choice of equipment, installation of vibration dampening pads or devices, and limiting the duration of exposure. Exposure levels should be checked on the basis of daily exposure time and data provided by equipment manufacturers.	**Not assessed**
Electrical	
11.10. All energised electrical devices and lines should be marked with warning signs.	**FC Electrical Safety Procedure TNP-PCD-HSM-GEN-051**
11.11. Devices should be locked out (de- charging and leaving open with a controlled locking device) and tagged-out (warning sign placed on the lock) during service or maintenance.	**FC Energy isolation Procedure TNP-PCD-HSM-GEN-087**
11.12. All electrical cords, cables, and hand power tools should be checked for frayed or exposed cords. Manufacturer recommendations for maximum permitted operating voltage of the portable hand tools should be followed.	**FC Electrical Safety Procedure TNP-PCD-HSM-GEN-051**
11.13. Double insulating / grounding should be applied for all electrical equipment used in environments that are, or may become, wet; using equipment with ground fault interrupter (GFI) protected circuits.	**FC Electrical Safety Procedure TNP-PCD-HSM-GEN-051**
11.14. Power cords and extension cords should be protected against damage from traffic by shielding or suspending above traffic areas.	**FC Electrical Safety Procedure TNP-PCD-HSM-GEN-051**
11.15. Use of appropriate labeling of service rooms housing high voltage equipment (‘electrical hazard’) and where entry is controlled or prohibited.	**FC Electrical Safety Procedure TNP-PCD-HSM-GEN-051**
11.16. “No Approach” zones should be established around or under high voltage power lines.	**FC Electrical Safety Procedure TNP-PCD-HSM-GEN-051**
11.17. Rubber tired construction or other vehicles that come into direct contact with, or arcing between, high voltage wires may need to be taken out of service for periods of 48 hours and have the tires replaced to prevent catastrophic tire and wheel assembly failure, potentially causing serious injury or death.	**FC Electrical Safety Procedure TNP-PCD-HSM-GEN-051**
11.18. Conduct detailed identification and marking of all buried electrical wiring prior to any excavation work.	**FC**

	Electrical Safety Procedure TNP-PCD-HSM-GEN-051
Eye Hazards	
11.19. Use of machine guards or splash shields and/or face and eye protection devices, such as safety glasses with side shields, goggles, and/or a full face shield. Machine and equipment guarding should conform to standards published by organisations such as CSA, ANSI and ISO.	**FC**
11.20. Moving areas where the discharge of solid fragments, liquid, or gaseous emissions can reasonably be predicted away from places expected to be occupied or transited by workers or visitors. Where machine or work fragments could present a hazard to transient workers or passers-by, extra area guarding or proximity restricting systems should be implemented, or PPE required for transients and visitors.	**FC**
11.21. Provisions should be made for persons who have to wear prescription glasses either through the use over glasses or prescription hardened glasses.	**FC**
Welding / Hot Work	
11.22. Provision of proper eye protection such as welder goggles and/or a full-face eye shield for all personnel involved in, or assisting, welding operations. Additional methods may include the use of welding barrier screens around the specific work station (a solid piece of light metal, canvas, or plywood designed to block welding light from others). Devices to extract and remove noxious fumes at the source may also be required.	**FC**
11.23. Special hot work and fire prevention precautions and Standard Operating Procedures (SOPs) should be implemented if welding or hot cutting is undertaken outside established welding work stations, including 'Hot Work Permits, stand-by fire extinguishers, stand-by fire watch, and maintaining the fire watch for up to one hour after welding or hot cutting has terminated. Special procedures are required for hot work on tanks or vessels that have contained flammable materials.	**FC**
Industrial Vehicle Driving and Site Traffic	
11.24. Provide training and licensing industrial vehicle Operators in the safe operation of specialised vehicles such as forklifts, including safe loading/unloading, load limits.	**FC**
11.25. Ensure moving equipment with restricted rear visibility is outfitted with audible back-up alarms.	**FC**
11.26. Establish rights-of-way, site speed limits, vehicle inspection requirements, operating rules and procedures, and control of traffic patterns or direction. Restrict the circulation of delivery and private vehicles to defined routes and areas, giving preference to 'one-way' circulation, where appropriate.	**FC**
Working Environment Temperature	
11.27. Extreme temperatures in permanent work environments should be avoided through implementation of engineering controls and ventilation.	**Not assessed**
11.28. Monitor weather forecasts for outdoor work to provide advance warning of extreme weather and scheduling work accordingly. Provide temporary shelters to protect against the elements during working activities or for use as rest areas.	**Not assessed**
11.29. Adjustment of work and rest periods should be regulated according to temperature stress management procedures provided by ACGIH67, depending on the temperature and workloads.	**Not assessed**

11.30. Personnel should be provided with protective clothing and access to adequate hydration such as drinking water or electrolyte drinks. Consumption of alcoholic beverages should be avoided.	**FC**
Ergonomics, Repetitive Motion, Manual Handling	
11.31. Use of mechanical assists to eliminate or reduce exertions required to lift materials, hold tools and work objects, and requiring multi-person lifts if weights exceed thresholds.	**FC**
11.32. Selecting and designing tools that reduce force requirements and holding times, and improve postures.	**FC**
11.33. Provide user with adjustable work stations.	**FC**
11.34. Incorporating rest and stretch breaks into work processes, and conducting job rotation.	**FC**
11.35. Implement quality control and maintenance programs that reduce unnecessary forces and exertions.	**FC**
11.36. Take into consideration additional special conditions such as left handed persons.	**Not assessed**
Working at Heights	
11.37. Provide installation of guardrails with mid-rails and toe boards at the edge of any fall hazard area.	**PC**
11.38. Ladders and scaffolds should be properly used by trained employees.	**PC**
11.39. Use of fall prevention devices, including safety belt and lanyard travel limiting devices to prevent access to fall hazard area, or fall protection devices such as full body harnesses used in conjunction with shock absorbing lanyards or self-retracting inertial fall arrest devices attached to fixed anchor point or horizontal life-lines.	**PC**
11.40. Provide personnel with appropriate training in use, serviceability, and integrity of the necessary PPE.	**FC**
11.41. Inclusion of rescue and/or recovery plans, and equipment to respond to workers after an arrested fall.	**FC**
Illumination	
11.42. Work area light intensity should be adequate for the general purpose of the location and type of activity, and should be supplemented with dedicated work station illumination, as needed.	**FC**
11.43. Emergency lightening should be provided in case of tripping the main light source.	**FC**
12. Chemical Hazards	
Air Quality	
12.1. Maintain levels of contaminant dusts, vapors and gases in the work environment at concentrations below those recommended by the ACGIH as TWA-TLV's (threshold limit value)—concentrations to which most workers can be exposed repeatedly (8 hours/day, 40 hrs/week, week-after week), without sustaining adverse health effects.	**FC**
12.2. Developing and implementing work practices to minimise release of contaminants into the work environment.	**FC**

12.3. Where ambient air contains several materials that have similar effects on the same body organs (additive effects), taking into account combined exposures using calculations recommended by the ACGIH. Where work shifts extend beyond eight (8) hours, calculating adjusted workplace exposure criteria recommended by the ACGIH.	**FC**
Fire and Explosions	
12.4. Flammables should be stored away from ignition sources and oxidising materials. Further, flammables storage area should be: • Remote from entry and exit points into buildings; • Away from facility ventilation intakes or vents; • Have natural or passive floor and ceiling level ventilation and explosion venting; • Use spark-proof fixtures; • Be equipped with fire extinguishing devices and self-closing doors.	**PC**
12.5. Provide bonding and grounding of, and between, containers and additional mechanical floor level ventilation if materials are being, or could be, dispensed in the storage area.	**FC**
12.6. Where the flammable material is mainly comprised of dust, provide electrical grounding, spark detection, and, if needed, quenching systems.	**Not applicable**
12.7. Define and label fire hazards areas to warn of special rules (e.g. prohibition in use of smoking materials, cellular phones, or other potential spark generating equipment).	**FC**
12.8. Provide specific worker training in handling of flammable materials, and in fire prevention or suppression.	**FC**
Corrosive, oxidising, and reactive chemicals	
12.9. Corrosive, oxidising and reactive chemicals should be segregated from flammable materials and from other chemicals of incompatible class (acids vs. bases, oxidisers vs. reducers, water sensitive vs. water based, etc.), stored in ventilated areas and in containers with appropriate secondary containment to minimise intermixing during spills. Workers who are required to handle corrosive, oxidising, or reactive chemicals should be provided with specialised training and provided with, and wear, appropriate PPE (gloves, apron, splash suits, face shield or goggles, etc.).	**PC**
Asbestos Containing Materials (ACM)	
12.10. The use of asbestos containing materials (ACM) should be avoided in new buildings or as a new material in remodeling or renovation activities. Existing facilities with ACM should develop an asbestos management plan which clearly identifies the locations where the ACM is present, its condition, procedures for monitoring its condition, procedures to access the locations where ACM is present to avoid damage, and training of staff who can potentially come into contact with the material. The plan should be made available to all persons involved in operations and maintenance activities. Repair or removal and disposal of existing ACM in buildings should only be performed by specially trained personnel following host country requirements, or in their absence, internationally recognised procedures.	**FC**
13. Biological Hazards	
Measures to prevent biological hazards	

13.1. If the nature of the activity permits, use of any harmful biological agents should be avoided and replaced with an agent that, under normal conditions of use, is not dangerous or less dangerous to workers. If use of harmful agents cannot be avoided, precautions should be taken to keep the risk of exposure as low as possible and maintained below internationally established and recognised exposure limits.	**Not Assessed**
13.2. Work processes, engineering, and administrative controls should be designed, maintained, and operated to avoid or minimise release of biological agents into the working environment. The number of employees exposed or likely to become exposed should be kept at a minimum.	**Not Assessed**
13.3. The employer should review and assess known and suspected presence of biological agents at the place of work and implement appropriate safety measures, monitoring, training, and training verification programs.	**Not Assessed**
13.4. Measures to eliminate and control hazards from known and suspected biological agents at the place of work should be designed, implemented and maintained in close co-operation with the local health authorities and according to recognised international standards.	**Not Assessed**
13.5. Work involving agents in Groups 3 and 4 should be restricted only to those persons who have received specific verifiable training in working with and controlling such materials. Areas used for the handling of Groups 3 and 4 biological agents should be designed to enable their full segregation and isolation in emergency circumstances, include independent ventilation systems, and be subject to SOPs requiring routine disinfection and sterilisation of the work surfaces.	**Not Assessed**
14. Radiological Hazards	
Acceptable effective dose limits for workplace radiological hazards	**Not Assessed**
14.1. Places of work involving occupational and/or natural exposure to ionising radiation should be established and operated in accordance with recognised international safety standards and guidelines. The acceptable effective dose limits appear: • Five consecutive year average – effective dose– 20 mSv/year for workers (min. 19 years of age); • Single year exposure– effective dose– 50 mSv/year for workers (min. 19 years of age); 6 mSv/year for apprentices and students (16-18 years of age); • Equivalent dose to the lens of the eye –150 mSv/year for workers (min. 19 years of age); 50 mSv/year for apprentices and students (16-18 years of age); • Equivalent dose to the extremities (hands, feet) or the skin – 500 mSv/year for workers (min. 19 years of age); 150 mSv/year for apprentices and students (16-18 years of age).	**Not Assessed**
14.2. Exposure to non-ionising radiation (including static magnetic fields; sub-radio frequency magnetic fields; static electric fields; radio frequency and microwave radiation; light and near-infrared radiation; and ultraviolet radiation) should be controlled to internationally recommended limits.	**Not Assessed**
14.3. In the case of both ionising and non- ionising radiation, the preferred method for controlling exposure is shielding and limiting the radiation source. Personal protective equipment is supplemental only or for emergency use. Personal protective equipment for near-infrared, visible and ultraviolet range radiation can include appropriate sun block creams, with or without appropriate screening clothing.	**Not Assessed**
15. Personal Protective Equipment (PPE)	
Providing Personal Protective Equipment (PPE) for workers additional protection	

15.1. Worker, co-workers, and occasional visitors should be provided with appropriate PPE that offers adequate protection.	**FC**
15.2. Proper maintenance of PPE should include cleaning when dirty and replacement when damaged or worn out. Proper use of PPE should be part of the recurrent training programs for employees.	**FC**
15.3. Selection of PPE should be based on the hazard and risk ranking and selected according to criteria on performance and testing established.	**FC**
16. Special Hazard Environments	
Confined Space	
16.1. Engineering measures should be implemented to eliminate, to the degree feasible, the existence and adverse character of confined spaces.	**FC**
16.2. Permit-required confined spaces should be provided with permanent safety measures for venting, monitoring, and rescue operations, to the extent possible. The area adjoining an access to a confined space should provide ample room for emergency and rescue operations. 16.3. Access hatches should accommodate 90% of the worker population with adjustments for tools and protective clothing.	**FC**
16.4. Prior to entry into a permit-required confined space: • Process or feed lines into the space should be disconnected or drained, and blanked and locked-out; • Mechanical equipment in the space should be disconnected, de-energised, locked-out, and braced, as appropriate; • The atmosphere within the confined space should be tested to assure the oxygen content is between 19.5 percent and 23 percent, and that the presence of any flammable gas or vapour does not exceed 25 percent of its respective Lower Explosive Limit (LEL); • If the atmospheric conditions are not met, the confined space should be ventilated until the target safe atmosphere is achieved, or entry is only to be undertaken with appropriate and additional PPE.	**FC**
16.5. Safety precautions should include Self Contained Breathing Apparatus (SCBA), life lines, and safety watch workers stationed outside the confined space, with rescue and first aid equipment readily available.	**FC**
16.6. Before workers are required to enter a permit-required confined space, adequate and appropriate training in confined space hazard control, atmospheric testing, use of the necessary PPE, as well as the serviceability and integrity of the PPE should be verified. Further, adequate and appropriate rescue and / or recovery plans and equipment should be in place before the worker enters the confined space.	**FC**
Lone and Isolated Workers	
16.7. Where workers may be required to perform work under lone or isolated circumstances, Standard Operating Procedures (SOPs) should be developed and implemented to ensure all PPE and safety measures are in place before the worker starts work. SOPs should establish, at a minimum, verbal contact with the worker at least once every hour, and ensure the worker has a capability for summoning emergency aid.	**Not assessed**
16.8. If the worker is potentially exposed to highly toxic or corrosive chemicals, emergency eye-wash and shower facilities should be equipped with audible and visible alarms to summon aid whenever the eye- wash or shower is activated by the worker and without intervention by the worker.	**Not assessed**

17. Monitoring	
Occupational health and safety monitoring program	
17.1. The occupational health and safety monitoring program should be developed. It should include the following: • regular inspection and testing of all safety features and hazard control measures; • surveillance of the working environment: Employers should document compliance using an appropriate combination of portable and stationary sampling and monitoring instruments; • surveillance of workers health; • training activities for employees and visitors should be adequately monitored and documented.	**PC**
Accidents and Diseases monitoring	
17.2. The employer should establish procedures and systems for reporting and recording: • Occupational accidents and diseases; • Dangerous occurrences and incidents. • These systems should enable workers to report immediately to their immediate supervisor any situation they believe presents a serious danger to life or health. The systems and the employer should further enable and encourage workers to report to management all: • Occupational injuries and near misses; • Suspected cases of occupational disease; • Dangerous occurrences and incidents.	**FC**
17.3. All reported occupational accidents, occupational diseases, dangerous occurrences, and incidents together with near misses should be investigated with the assistance of a person knowledgeable/competent in occupational safety.	**PC**
Community Health and Safety	
18. Water Quality and Availability	
18.1. Project activities involving wastewater discharges, water extraction, diversion or impoundment should prevent adverse impacts to the quality and availability of groundwater and surface water resources.	**FC**
18.2. Drinking water sources, whether public or private, should at all times be protected so that they meet or exceed applicable national acceptability standards or in their absence the current edition of WHO Guidelines for Drinking-Water Quality.	**FC**
18.3. The potential effect of groundwater or surface water abstraction for project activities should be properly assessed through a combination of field testing and modeling techniques, accounting for seasonal variability and projected changes in demand in the project area.	**Not assessed**
18.4. Project activities should not compromise the availability of water for personal hygiene needs and should take account of potential future increases in demand.	**FC**
19. Structural Safety of Project Infrastructure	

19.1. The following issues should be considered and incorporated as appropriate into the planning, siting, and design phases of a project: • Inclusion of buffer strips or other methods of physical separation around project sites to protect the public from major hazards associated with hazardous materials incidents or process failure, as well as nuisance issues related to noise, odours, or other emissions; • Incorporation of siting and safety engineering criteria to prevent failures due to natural risks posed by earthquakes, tsunamis, wind, flooding, landslides and fire. To this end, all project structures should be designed in accordance with engineering and design criteria mandated by site-specific risks, including but not limited to seismic activity, slope stability, wind loading, and other dynamic loads.	**FC**
20. Life and Fire Safety	
20.1. All new buildings should be designed, constructed, and operated in full compliance with local building codes, local fire department regulations, local legal/insurance requirements.	**FC**
21. Traffic Safety	
21.1. Traffic safety should be promoted by all project personnel during displacement to and from the workplace, and during operation of project equipment on private or public roads.	**FC**
21.2. Road safety initiatives proportional to the scope and nature of project activities should include: • Adoption of best transport safety practices across all aspects of project operations with the goal of preventing traffic accidents and minimising injuries suffered by project personnel and the public; • Regular maintenance of vehicles and use of manufacturer approved parts to minimise potentially serious accidents caused by equipment malfunction or premature failure. • Where the project may contribute to a significant increase in traffic along existing roads, or where road transport is a significant component of a project, recommended measures include: • Minimising pedestrian interaction with construction vehicles; • Collaboration with local communities and responsible authorities to improve signage, visibility and overall safety of roads; • Coordination with emergency responders to ensure that appropriate first aid is provided in the event of accidents; • Using locally sourced materials, whenever possible, to minimise transport distances; • Employing safe traffic control measures.	**FC**
22. Transport of Hazardous Materials	
22.1. The procedures for transportation of hazardous materials (Hazmats) should include: • Proper labelling of containers, including the identify and quantity of the contents, hazards, and shipper contact information; • Ensuring that the volume, nature, integrity and protection of packaging and containers used for transport are appropriate for the type and quantity of hazardous material and modes of transport involved;	**PC**

• Ensuring adequate transport vehicle specifications; • Training employees involved in the transportation of hazardous materials regarding proper shipping procedures and emergency procedures; • Providing the necessary means for emergency response on call 24 hours/day.	
22.2. Guidance related to major transportation hazards should be implemented in addition to measures presented in the preceding section for preventing or minimising the consequences of catastrophic releases of hazardous materials, which may result in toxic, fire, explosion, or other hazards during transportation. Projects which transport hazardous materials at or above the threshold quantities should prepare a Hazardous Materials Transportation Plan.	**Not assessed**
22.3. Procedures and practices for the handling of hazardous materials and Emergency Preparedness and Response Plan should be developed for quick and efficient responses to accidents that may result in injury or environmental damage.	**FC**
23. Disease Prevention	
Communicable Diseases	
23.1. Recommended interventions at the project level include: • Providing surveillance and active screening and treatment of workers; • Undertaking health awareness and education initiatives, for example, by implementing an information strategy to reinforce person-to-person counselling addressing systemic factors that can influence individual behaviour as well as promoting individual protection, and protecting others from infection, by encouraging condom use; • Training health workers in disease treatment; • Conducting immunisation programs for workers in local communities to improve health and guard against infection; • Providing treatment through standard case management in on-site or community health care facilities; • Promoting collaboration with local authorities to enhance access of workers families and the community to public health services and promote immunisation.	**Not assessed**
Vector-Borne Diseases	
23.2. Client in close collaboration with community health authorities, can implement an integrated control strategy for mosquito and other arthropod-borne diseases that might involve: • Prevention of larval and adult propagation through sanitary improvements and elimination of breeding habitats close to human settlements; • Elimination of unusable impounded water; • Increase in water velocity in natural and artificial channels; • Considering the application of residual insecticide to dormitory walls;	**FC**

• Promoting use of repellents, clothing, netting, and other barriers to prevent insect bites, and other measures.	
24. Emergency Preparedness and Response	
Communication Systems	
24.1. Alarm bells, visual alarms, or other forms of communication should be used to reliably alert workers to an emergency.	**FC**
24.2. Testing warning systems at least annually (fire alarms monthly), and more frequently if required by local regulations, equipment, or other considerations.	**FC**
24.3. Installing a back-up system for communications on-site with off-site resources, in the event that normal communication methods may be inoperable during an emergency.	**FC**
24.4. If a local community may be at risk from a potential emergency arising at the facility, the company should implement communication measures to alert the community.	**PC**
24.5. Emergency information should be communicated to the media through: • A trained, local spokesperson able to interact with relevant stakeholders, and offer guidance to the company for speaking to the media, government, and other agencies; • Written press releases with accurate information, appropriate level of detail for the emergency, and for which accuracy can be guaranteed.	**Not Assessed**
Emergency Resources	
24.6. A mechanism should be provided for funding emergency activities.	**Not assessed**
24.7. The company should consider the level of local fire fighting capacity and whether equipment is available for use at the facility in the event of a major emergency or natural disaster. If insufficient capacity is available, firefighting capacity should be acquired that may include pumps, water supplies, trucks, and training for personnel.	**Not assessed**
24.8. The company should provide first aid attendants for the facility as well as medical equipment suitable for the personnel, type of operation, and the degree of treatment likely to be required prior to transportation to hospital.	**FC**
24.9. Appropriate measures for managing the availability of resources in case of an emergency should include: • Maintaining a list of external equipment, personnel, facilities, funding, expert knowledge, and materials that may be required to respond to emergencies; • Providing personnel who can readily call up resources, as required; • Tracking and managing the costs associated with emergency resources; • Considering the quantity, response time, capability, limitations, and cost of these resources, for both site-specific emergencies, and community or regional emergencies; • Considering if external resources are unable to provide sufficient capacity during a regional emergency and whether additional resources may need to be maintained on-site.	**FC**
24.10. Where appropriate, mutual aid agreements should be maintained with other organisations to allow for sharing of personnel and specialised equipment.	**Not assessed**

24.11. The company should develop a list of contact information for all internal and external resources and personnel. The list should be maintained annually.	**FC**
25. Training and Updating	
25.1. Training programs and practice exercises should be provided for testing systems to ensure an adequate level of emergency preparedness.	**FC**
25.2. Training should be conducted annually and perhaps more frequently, when the response includes specialised equipment, procedures, or hazards, or when otherwise mandated.	**FC**
25.3. Provide training exercises to allow personnel the opportunity to test emergency preparedness.	**FC**
26. Business Continuity and Contingency	
26.1. Measures to address business continuity and contingency should include the following: • Identifying replacement supplies or facilities to allow business continuity following an emergency; • Using redundant or duplicate supply systems as part of facility operations to increase the likelihood of business continuity; • Maintaining back-ups of critical information in a secure location to expedite the return to normal operations following an emergency.	**FC**

Appendix 5: Assessment Tables - World Bank Safeguard Policies

OP 4.01 Environmental Assessment

Reference / Paragraph No.	Compliance Requirement	Assessment Methodology for IESC	Compliance Category
OP401.01/1	1. The Bank requires environmental assessment (EA) of projects proposed for Bank financing to help ensure that they are environmentally sound and sustainable, and thus to improve decision making.	Not Assessed during IESC monitoring. It is assumed that the Project ESIA compliance with OP4.01 was completed during the due diligence phase.	**Not assessed**
OP401.01/2	2. EA is a process whose breadth, depth, and type of analysis depend on the nature, scale, and potential environmental impact of the proposed project. EA evaluates a project's potential environmental risks and impacts in its area of influence; examines project alternatives; identifies ways of improving project selection, siting, planning, design, and implementation by preventing, minimizing, mitigating, or compensating for adverse environmental impacts and enhancing positive impacts; and includes the process of mitigating and managing adverse environmental impacts throughout project implementation. The Bank favours preventive measures over mitigatory or compensatory measures, whenever feasible.	Assess compliance to requirement for any new EA undertaken; i.e. Project changes or supplementary assessments.	**Not assessed**
OP401.01/3	3. EA takes into account the natural environment (air, water, and land); human health and safety; social aspects (involuntary resettlement, indigenous peoples, and physical cultural resources); and transboundary and global environmental aspects. EA considers natural and social aspects in an integrated way. It also takes into account the variations in project and country conditions; the findings of country environmental studies; national environmental action plans; the country's overall policy framework, national legislation, and institutional capabilities related to the environment and social aspects; and obligations of the country, pertaining to project activities, under relevant international environmental treaties and agreements. The Bank does not finance project activities that would contravene such country obligations, as identified during the EA. EA is initiated as early as possible in project processing and is integrated closely with the economic, financial, institutional, social, and technical analyses of a proposed project.	Assess compliance to requirement for any new EA undertaken; i.e. Project changes or supplementary assessments.	**Not assessed**
OP401.01/4	4. The borrower is responsible for carrying out the EA. For Category A projects, the borrower retains independent EA experts not affiliated with the project to carry out the EA. For Category A projects that are highly risky or contentious or that involve serious and multidimensional environmental concerns, the borrower should normally also engage an advisory panel of independent, internationally recognized environmental specialists to	Not Assessed during IESC monitoring. It is assumed that the Project ESIA compliance with OP4.01 was completed during the due diligence phase.	**Not assessed**

Reference / Paragraph No.	Compliance Requirement	Assessment Methodology for IESC	Compliance Category
	advise on all aspects of the project relevant to the EA. The role of the advisory panel depends on the degree to which project preparation has progressed, and on the extent and quality of any EA work completed, at the time the Bank begins to consider the project.		
OP401.01/5	5. The Bank advises the borrower on the Bank's EA requirements. The Bank reviews the findings and recommendations of the EA to determine whether they provide an adequate basis for processing the project for Bank financing. When the borrower has completed or partially completed EA work prior to the Bank's involvement in a project, the Bank reviews the EA to ensure its consistency with this policy. The Bank may, if appropriate, require additional EA work, including public consultation and disclosure.	Not Assessed during IESC monitoring. It is assumed that the Project ESIA compliance with OP4.01 was completed during the due diligence phase.	**Not assessed**
OP401.01/6	6. The Pollution Prevention and Abatement Handbook describes pollution prevention and abatement measures and emission levels that are normally acceptable to the Bank. However, taking into account borrower country legislation and local conditions, the EA may recommend alternative emission levels and approaches to pollution prevention and abatement for the project. The EA report must provide full and detailed justification for the levels and approaches chosen for the particular project or site.	Assess compliance to requirement for any new EA undertaken; i.e. Project changes or supplementary assessments.	**Not assessed as no additional assessments undertaken requiring changes to emissions or pollution prevention.**
	EA Instruments		
OP401.01/7	7. Depending on the project, a range of instruments can be used to satisfy the Bank's EA requirement: environmental impact assessment (EIA), regional or sectoral EA, strategic environmental and social assessment (SESA), environmental audit, hazard or risk assessment, environmental management plan Operational Manual - OP 4.01 - Environmental Assessment. EA applies one or more of these instruments, or elements of them, as appropriate. When the project is likely to have sectoral or regional impacts, sectoral or regional EA is required.	Assess compliance to requirement for any new EA undertaken; i.e. Project changes or supplementary assessments.	**Not assessed**
	Environmental Screening		
OP401.01/8	8. The Bank undertakes environmental screening of each proposed project to determine the appropriate extent and type of EA. The Bank classifies the proposed project into one of four categories, depending on the type, location, sensitivity, and scale of the project and the nature and magnitude of its potential environmental impacts. (a) Category A: A proposed project is classified as Category A if it is likely to have significant adverse environmental impacts that are sensitive, diverse, or unprecedented. These impacts may affect an area broader than the sites or facilities subject to physical	Not Assessed during IESC monitoring. It is assumed that the Project ESIA compliance with OP4.01 was completed during the due diligence phase.	**Not assessed**

Reference / Paragraph No.	Compliance Requirement	Assessment Methodology for IESC	Compliance Category
	works. EA for a Category A project examines the project's potential negative and positive environmental impacts, compares them with those of feasible alternatives (including the "without project" situation), and recommends any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental performance. For a Category A project, the borrower is responsible for preparing a report, normally an EIA (or a suitably comprehensive regional or sectoral EA) that includes, as necessary, elements of the other instruments referred to in para. 7. (b) Category B: A proposed project is classified as Category B if its potential adverse environmental impacts on human populations or environmentally important areas--including wetlands, forests, grasslands, and other natural habitats--are less adverse than those of Category A projects. These impacts are site-specific; few if any of them are irreversible; and in most cases mitigatory measures can be designed more readily than for Category A projects. The scope of EA for a Category B project may vary from project to project, but it is narrower than that of Category A EA. Like Category A EA, it examines the project's potential negative and positive environmental impacts and recommends any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental performance. The findings and results of Category B EA are described in the project documentation (Project Appraisal Document and Project Information Document). (c) Category C: A proposed project is classified as Category C if it is likely to have minimal or no adverse environmental impacts. Beyond screening, no further EA action is required for a Category C project. (d) Category FI: A proposed project is classified as Category FI if it involves investment of Bank funds through a financial intermediary, in subprojects that may result in adverse environmental impacts		
	EA for Special Project Types		
OP401.01/9	<u>Projects Involving Subprojects</u> 9. For projects involving the preparation and implementation of annual investment plans or subprojects, identified and developed over the course of the project period during the preparation of each proposed subproject, the project coordinating entity or implementing institution carries out appropriate EA according to country requirements and the requirements of this policy. The Bank appraises and, if necessary, includes in the SIL components to strengthen, the capabilities of the coordinating entity or the implementing institution to (a) screen subprojects, (b) obtain the necessary expertise to carry out EA, (c) review all findings and results of EA for individual subprojects, (d) ensure implementation of mitigation measures (including, where applicable, an EMP), and (e) monitor environmental	Not Assessed during IESC monitoring. It is assumed that the Project ESIA compliance with OP4.01 was completed during the due diligence phase.	**Not assessed**

Reference / Paragraph No.	Compliance Requirement	Assessment Methodology for IESC	Compliance Category
	conditions during project implementation. If the Bank is not satisfied that adequate capacity exists for carrying out EA, all Category A subprojects and, as appropriate, Category B subprojects--including any EA reports--are subject to prior review and approval by the Bank.		
OP401.01/10	Projects Involving Financial Intermediaries 10. For a project involving a financial intermediary (FI), the Bank requires that each FI screen proposed subprojects and ensure that subborrowers carry out appropriate EA for each subproject. Before approving a subproject, the FI verifies (through its own staff, outside experts, or existing environmental institutions) that the subproject meets the environmental requirements of appropriate national and local authorities and is consistent with this OP and other applicable environmental policies of the Bank.	Not Assessed during IESC monitoring. It is assumed that the Project ESIA compliance with OP4.01 was completed during the due diligence phase.	**Not assessed**
OP401.01/11	11. In appraising a proposed FI operation, the Bank reviews the adequacy of country environmental requirements relevant to the project and the proposed EA arrangements for subprojects, including the mechanisms and responsibilities for environmental screening and review of EA results. When necessary, the Bank ensures that the project includes components to strengthen such EA arrangements. For FI operations expected to have Category A subprojects, prior to the Bank's appraisal each identified participating FI provides to the Bank a written assessment of the institutional mechanisms (including, as necessary, identification of measures to strengthen capacity) for its subproject EA work.17 If the Bank is not satisfied that adequate capacity exists for carrying out EA, all Category A subprojects and, as appropriate, Category B subprojects--including EA reports--are subject to prior review and approval by the Bank.18	Not Assessed during IESC monitoring. It is assumed that the Project ESIA compliance with OP4.01 was completed during the due diligence phase.	**Not assessed**
OP401.01/12	Projects in Situations of Urgent Need of Assistance or Capacity Constraints under OP 10.00 12. The policy set out in OP 4.01 normally applies to projects processed under paragraph 11 of OP/BP 10.00, Investment Project Financing. However, when compliance with any requirement of this policy would prevent the effective and timely achievement of the objectives of such a project, the Bank may (subject to the limitations set forth in paragraph 11 of OP 10.00) exempt the project from such a requirement. The justification for any such exemption is recorded in the project documents. In all cases, however, the Bank requires at a minimum that (a) the extent to which the situation of urgent need of assistance or the capacity constraints were precipitated or exacerbated by inappropriate environmental practices be determined as part of the preparation of such projects, and (b) any necessary corrective measures be built into either the project or a future lending operation.	Not Assessed during IESC monitoring. It is assumed that the Project ESIA compliance with OP4.01 was completed during the due diligence phase.	**Not assessed**
Institutional Capacity			

Reference / Paragraph No.	Compliance Requirement	Assessment Methodology for IESC	Compliance Category
OP401.01/13	13. When the borrower has inadequate legal or technical capacity to carry out key EA-related functions (such as review of EA, environmental monitoring, inspections, or management of mitigatory measures) for a proposed project, the project includes components to strengthen that capacity.	Not Assessed during IESC monitoring. It is assumed that the Project ESIA compliance with OP4.01 was completed during the due diligence phase.	**Not assessed**
OP401.01/14	Public Consultation 14. For all Category A and B projects proposed for IBRD or IDA financing, during the EA process, the borrower consults project-affected groups and local nongovernmental organizations (NGOs) about the project's environmental aspects and takes their views into account. The borrower initiates such consultations as early as possible. For Category A projects, the borrower consults these groups at least twice: (a) shortly after environmental screening and before the terms of reference for the EA are finalized; and (b) once a draft EA report is prepared. In addition, the borrower consults with such groups throughout project implementation as necessary to address EA-related issues that affect them.	Assess compliance to requirement for any new EA undertaken; i.e. Project changes or supplementary assessments.	**FC**
Disclosure			
OP401.01/15	15. For meaningful consultations between the borrower and project-affected groups and local NGOs on all Category A and B projects proposed for IBRD or IDA financing, the borrower provides relevant material in a timely manner prior to consultation and in a form and language that are understandable and accessible to the groups being consulted.	Assess compliance to requirement for any new EA undertaken; i.e. Project changes or supplementary assessments.	**PC** **See PS1 finding**
OP401.01/16	16. For a Category A project, the borrower provides for the initial consultation a summary of the proposed project's objectives, description, and potential impacts; for consultation after the draft EA report is prepared, the borrower provides a summary of the EA's conclusions. In addition, for a Category A project, the borrower makes the draft EA report available at a public place accessible to project-affected groups and local NGOs. For projects described in paragraph 9 above, the borrower/FI ensures that EA reports for Category A subprojects are made available in a public place accessible to affected groups and local NGOs.	Assess compliance to requirement for any new EA undertaken; i.e. Project changes or supplementary assessments.	**FC**
OP401.01/17	17. Any separate Category B report for a project proposed for IDA financing is made available to project-affected groups and local NGOs. Public availability in the borrowing country and official receipt by the Bank of Category A reports for projects proposed for IBRD or IDA financing, and of any Category B EA report for projects proposed for IDA funding, are prerequisites to Bank appraisal of these projects.	Assess compliance to requirement for any new EA undertaken; i.e. Project changes or supplementary assessments.	**NA**
OP401.01/18	18. Once the borrower officially transmits the Category A EA report to the Bank, the Bank distributes the summary (in English) to the executive directors (EDs) and makes the report available through its InfoShop. Once the borrower officially transmits any separate Category B EA report to the Bank, the Bank makes it available through its InfoShop. If the borrower	Not Assessed during IESC monitoring. It is assumed that the Project ESIA compliance with	**Not assessed**

Reference / Paragraph No.	Compliance Requirement	Assessment Methodology for IESC	Compliance Category
	objects to the Bank's releasing an EA report through the World Bank InfoShop, Bank staff (a) do not continue processing an IDA project, or (b) for an IBRD project, submit the issue of further processing to the EDs.	OP4.01 was completed during the due diligence phase.	
Implementation			
OP401.01/19	19. During project implementation, the borrower reports on (a) compliance with measures agreed with the Bank on the basis of the findings and results of the EA, including implementation of any EMP, as set out in the project documents; (b) the status of mitigatory measures; and (c) the findings of monitoring programs. The Bank bases supervision of the project's environmental aspects on the findings and recommendations of the EA, including measures set out in the legal agreements, any EMP, and other project documents.	IESC to review compliance with reporting obligations as stated in ESAP and compliance with ESIA and other internal obligations as outline in Section 4 of assessment report.	**FC**

OP 4.04 Natural Habitats

Reference / Paragraph No.	Compliance Requirement	Assessment Methodology for IESC	Compliance Category
OP4.04/1	1. The conservation of natural habitats, like other measures that protect and enhance the environment, is essential for long-term sustainable development. The Bank therefore supports the protection, maintenance, and rehabilitation of natural habitats and their functions in its economic and sector work, project financing, and policy dialogue. The Bank supports, and expects borrowers to apply, a precautionary approach to natural resource management to ensure opportunities for environmentally sustainable development.	Assess Project implementation of the BAP as per Section 4.	**FC**
	Economic and Sector Work		
OP4.04/2	2. The Bank's economic and sector work includes identification of (a) natural habitat issues and special needs for natural habitat conservation, including the degree of threat to identified natural habitats (particularly critical natural habitats), and (b) measures for protecting such areas in the context of the country's development strategy. As appropriate, Country Assistance Strategies and projects incorporate findings from such economic and sector work.	Assess Project implementation of the BAP as per Section 4.	**FC**
	Project Design and Implementation		
OP4.04/3	3. The Bank promotes and supports natural habitat conservation and improved land use by financing projects designed to integrate into national and regional development the conservation of natural habitats and the maintenance of ecological functions. Furthermore, the Bank promotes the rehabilitation of degraded natural habitats.	Assess Project implementation of the BAP as per Section 4.	**FC**
OP4.04/4	4. The Bank does not support projects that, in the Bank's opinion, involve the significant conversion or degradation of critical natural habitats.		**FC**
OP4.04/5	5. Wherever feasible, Bank-financed projects are sited on lands already converted (excluding any lands that in the Bank's opinion were converted in anticipation of the project). The Bank does not support projects involving the significant conversion of natural habitats unless there are no feasible alternatives for the project and its siting, and comprehensive analysis demonstrates that overall benefits from the project substantially outweigh the environmental costs. If the environmental assessment indicates that a project would significantly convert or degrade natural habitats, the project includes mitigation measures acceptable to the Bank. Such mitigation measures include, as appropriate, minimizing habitat loss (e.g., strategic habitat retention and post-development restoration) and establishing and maintaining an ecologically similar protected area. The Bank accepts other forms of mitigation measures only when they are technically justified.		**FC**
OP4.04/6	6. In deciding whether to support a project with potential adverse impacts on a natural habitat, the Bank takes into account the borrower's ability to implement the appropriate conservation and		**FC**

Reference / Paragraph No.	Compliance Requirement	Assessment Methodology for IESC	Compliance Category
	mitigation measures. If there are potential institutional capacity problems, the project includes components that develop the capacity of national and local institutions for effective environmental planning and management. The mitigation measures specified for the project may be used to FCenhance the practical field capacity of national and local institutions.		
OP4.04/7	7. In projects with natural habitat components, project preparation, appraisal, and supervision arrangements include appropriate environmental expertise to ensure adequate design and implementation of mitigation measures.		**FC**
OP4.04/8	8. This policy applies to subprojects under sectoral loans or loans to financial intermediaries. Regional environmental sector units oversee compliance with this requirement.		**FC**
	Policy Dialogue		
OP4.04/9	9. The Bank encourages borrowers to incorporate into their development and environmental strategies analyses of any major natural habitat issues, including identification of important natural habitat sites, the ecological functions they perform, the degree of threat to the sites, priorities for conservation, and associated recurrent-funding and capacity-building needs.	Assess Project implementation of the BAP as per Section 4.	**FC**
OP4.04/10	10. The Bank expects the borrower to take into account the views, roles, and rights of groups, including local nongovernmental organizations and local communities,6 affected by Bank-financed projects involving natural habitats, and to involve such people in planning, designing, implementing, monitoring, and evaluating such projects. Involvement may include identifying appropriate conservation measures, managing protected areas and other natural habitats, and monitoring and evaluating specific projects. The Bank encourages governments to provide such people with appropriate information and incentives to protect natural habitats.		**FC**

OP 4.09 Pest Management

Reference / Paragraph No.	Compliance Requirement	Assessment Methodology for IESC	Compliance Category
OP4.09/1	1. In assisting borrowers to manage pests that affect either agriculture or public health, the Bank supports a strategy that promotes the use of biological or environmental control methods and reduces reliance on synthetic chemical pesticides. In Bank-financed projects, the borrower addresses pest management issues in the context of the project's environmental assessment.	Assessed through reviews of compliance with ESIA commitments relevant to pest management including the BAP, Health and Safety Management Plans and other specific ESMP's.	**FC See Appendix 1 PS3.17**
OP4.09/2	2. In appraising a project that will involve pest management, the Bank assesses the capacity of the country's regulatory framework and institutions to promote and support safe, effective, and environmentally sound pest management. As necessary, the Bank and the borrower incorporate in the project components to strengthen such capacity.		
	Agricultural Pest Management		
OP4.09/3	3. The Bank uses various means to assess pest management in the country and support integrated pest management (IPM) and the safe use of agricultural pesticides: economic and sector work, sectoral or project-specific environmental assessments, participatory IPM assessments, and investment projects and components aimed specifically at supporting the adoption and use of IPM.	Assessed through reviews of compliance with ESIA commitments relevant to pest management including the BAP, Health and Safety Management Plans and other specific ESMP's.	**FC See Appendix 1 PS3.17**
OP4.09/4	4. In Bank-financed agriculture operations, pest populations are normally controlled through IPM approaches, such as biological control, cultural practices, and the development and use of crop varieties that are resistant or tolerant to the pest. The Bank may finance the purchase of pesticides when their use is justified under an IPM approach.		
	Pest Management in Public Health		
OP4.09/5	5. In Bank-financed public health projects, the Bank supports controlling pests primarily through environmental methods. Where environmental methods alone are not effective, the Bank may finance the use of pesticides for control of disease vectors.	Assessed through reviews of compliance with ESIA commitments relevant to pest management including the BAP, Health and Safety Management Plans and other specific ESMP's.	**FC See Appendix 1 PS3.17**
	Criteria for Pesticide Selection and Use		
OP4.09/6	6. The procurement of any pesticide in a Bank-financed project is contingent on an assessment of the nature and degree of associated risks, taking into account the proposed use and the intended users. With respect to the classification of pesticides and their specific formulations, the Bank refers	Assessed through reviews of compliance with ESIA commitments	**FC See Appendix FC**

Reference / Paragraph No.	Compliance Requirement	Assessment Methodology for IESC	Compliance Category
	to the World Health Organization's Recommended Classification of Pesticides by Hazard and Guidelines to Classification (Geneva: WHO 1994-95). The following criteria apply to the selection and use of pesticides in Bank-financed projects: (a) They must have negligible adverse human health effects. (b) They must be shown to be effective against the target species. (c) They must have minimal effect on nontarget species and the natural environment. The methods, timing, and frequency of pesticide application are aimed to minimize damage to natural enemies. Pesticides used in public health programs must be demonstrated to be safe for inhabitants and domestic animals in the treated areas, as well as for personnel applying them. (d) Their use must take into account the need to prevent the development of resistance in pests.	relevant to pest management including the BAP, Health and Safety Management Plans and other specific ESMP's.	**See Appendix 1 PS3.17**
OP4.09/7	7. The Bank requires that any pesticides it finances be manufactured, packaged, labelled, handled, stored, disposed of, and applied according to standards acceptable to the Bank. The Bank does not finance formulated products that fall in WHO classes IA and IB, or formulations of products in Class II, if (a) the country lacks restrictions on their distribution and use; or (b) they are likely to be used by, or be accessible to, lay personnel, farmers, or others without training, equipment, and facilities to handle, store, and apply these products properly.		**FC** **See Appendix 1 PS3.17**

OP 4.36 Forestry

Reference / Paragraph No.	Compliance Requirement	Assessment Methodology for IESC	Compliance Category
	Policy Objectives		
OP4.36/1	1. The management, conservation, and sustainable development of forest ecosystems and their associated resources are essential for lasting poverty reduction and sustainable development, whether located in countries with abundant forests or in those with depleted or naturally limited forest resources. The objective of this policy is to assist borrowers to harness the potential of forests to reduce poverty in a sustainable manner, integrate forests effectively into sustainable economic development, and protect the vital local and global environmental services and values of forests.	No assessment required	**N/A**
OP4.36/2	2. Where forest restoration and plantation development are necessary to meet these objectives, the Bank assists borrowers with forest restoration activities that maintain or enhance biodiversity and ecosystem functionality. The Bank also assists borrowers with the establishment and sustainable management of environmentally appropriate, socially beneficial, and economically viable forest plantations to help meet growing demands for forest goods and services.		**N/A**
	Scope of Policy		
OP4.36/3	3. This policy applies to the following types of Bank-financed investment projects: (a) projects that have or may have impacts on the health and quality of forests; (b) projects that affect the rights and welfare of people and their level of dependence upon or interaction with forests; and (c) projects that aim to bring about changes in the management, protection, or utilization of natural forests or plantations, whether they are publicly, privately, or communally owned.	No assessment required	**N/A**
	Country Assistance Programs		
OP4.36/4	4. The Bank uses environmental assessments, poverty assessments, social analyses, Public Expenditure Reviews, and other economic and sector work to identify the economic, environmental, and social significance of forests in its borrowing countries. When the Bank identifies the potential for its Country Assistance Strategy (CAS) to have a significant impact on forests, it integrates strategies for addressing that impact into the CAS.	No assessment required	**N/A**
	Bank Financing		
OP4.36/5	5. The Bank does not finance projects that, in its opinion, would involve significant conversion or degradation of critical forest areas or related critical natural habitats. If a project involves the significant conversion or degradation of natural forests or related natural habitats that the Bank determines are not critical, and the Bank determines that there are no feasible alternatives to the project and its siting, and comprehensive analysis demonstrates that overall benefits from the project	Assessed through review of BAP implementation (Section 4) and compliance PR6 in Appendix 1.	**FC**

Reference / Paragraph No.	Compliance Requirement	Assessment Methodology for IESC	Compliance Category
	substantially outweigh the environmental costs, the Bank may finance the project provided that it incorporates appropriate mitigation measures.		
OP4.36/6	6. The Bank does not finance projects that contravene applicable international environmental agreements. Plantations		
OP4.36/7	7. The Bank does not finance plantations that involve any conversion or degradation of critical natural habitats, including adjacent or downstream critical natural habitats. When the Bank finances plantations, it gives preference to siting such projects on unforested sites or lands already converted (excluding any lands that have been converted in anticipation of the project). In view of the potential for plantation projects to introduce invasive species and threaten biodiversity, such projects must be designed to prevent and mitigate these potential threats to natural habitats.		
	Commercial Harvesting		
OP4.36/8	8. The Bank may finance commercial harvesting operations only when the Bank has determined, on the basis of the applicable environmental assessment or other relevant information, that the areas affected by the harvesting are not critical forests or related critical natural habitats.	Not Applicable	**N/A**
OP4.36/9	9. To be eligible for Bank financing, industrial-scale commercial harvesting operations must also a) be certified under an independent forest certification system acceptable to the Bank as meeting standards of responsible forest management and use; or b) where a pre-assessment under such an independent forest certification system determines that the operation does not yet meet the requirements of subparagraph 9(a), adhere to a time-bound phased action plan acceptable to the Bank12 for achieving certification to such standards.		**N/A**
OP4.36/10	10. To be acceptable to the Bank, a forest certification system must require: a) compliance with relevant laws; b) recognition of and respect for any legally documented or customary land tenure and use rights as well as the rights of indigenous peoples and workers; c) measures to maintain or enhance sound and effective community relations; d) conservation of biological diversity and ecological functions;		**N/A**

OP 4.11 Physical Cultural Resources

Reference / Paragraph No.	Compliance Requirement	Assessment Methodology for IESC	Compliance Category
	Introduction		
OP4.11/1	1. This policy addresses physical cultural resources, which are defined as movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. Physical cultural resources may be located in urban or rural settings, and may be above or below ground, or under water. Their cultural interest may be at the local, provincial or national level, or within the international community.	No Assessment required	**N/A**
OP4.11/2	2. Physical cultural resources are important as sources of valuable scientific and historical information, as assets for economic and social development, and as integral parts of a people's cultural identity and practices. Objective		**N/A**
OP4.11/3	3. The Bank assists countries to avoid or mitigate adverse impacts on physical cultural resources from development projects that it finances. The impacts on physical cultural resources resulting from project activities, including mitigating measures, may not contravene either the borrower's national legislation, or its obligations under relevant international environmental treaties and agreements.		**N/A**
	Physical Cultural Resources within Environmental Assessment		
OP4.11/4	4. The borrower addresses impacts on physical cultural resources in projects proposed for Bank financing, as an integral part of the environmental assessment (EA) process. The steps elaborated below follow the EA sequence of: screening; developing terms of reference (TORs); collecting baseline data; impact assessment; and formulating mitigating measures and a management plan.	Review physical cultural heritage mitigation and management measures implemented as per ESIA commitments and the ESMPs as assessed in Section 4.	**FC**
OP4.11/5	5. The following projects are classified during the environmental screening process as Category A or B, and are subject to the provisions of this policy: (a) any project involving significant excavations, demolition, movement of earth, flooding, or other environmental changes; and (b) any project located in, or in the vicinity of, a physical cultural resources site recognized by the borrower. Projects specifically designed to support the management or conservation of physical cultural resources are individually reviewed, and are normally classified as Category A or B.		**FC**
OP4.11/6	6. To develop the TORs for the EA, the borrower, in consultation with the Bank, relevant experts, and relevant project-affected groups, identifies the likely physical cultural resources issues, if any, to be taken into account by the EA. The TORs normally specify that physical cultural resources be included in the baseline data collection phase of the EA.		**FC**
OP4.11/7	7. The borrower identifies physical cultural resources likely to be affected by the project and assesses the project's potential impacts on these resources as an integral part of the EA process, in accordance with the Bank's EA requirements.		**FC**

Reference / Paragraph No.	Compliance Requirement	Assessment Methodology for IESC	Compliance Category
OP4.11/8	8. When the project is likely to have adverse impacts on physical cultural resources, the borrower identifies appropriate measures for avoiding or mitigating these impacts as part of the EA process. These measures may range from full site protection to selective mitigation, including salvage and documentation, in cases where a portion or all of the physical cultural resources may be lost.		**FC**
OP4.11/9	9. As an integral part of the EA process, the borrower develops a physical cultural resources management plan that includes measures for avoiding or mitigating any adverse impacts on physical cultural resources, provisions for managing chance finds, any necessary measures for strengthening institutional capacity, and a monitoring system to track the progress of these activities. The physical cultural resources management plan is consistent with the country's overall policy framework and national legislation and takes into account institutional capabilities with regard to physical cultural resources.		**FC**
OP4.11/10	10. The Bank reviews, and discusses with the borrower, the findings and recommendations related to the physical cultural resources aspects of the EA, and determines whether they provide an adequate basis for processing the project for Bank financing.		**FC**
	Consultation		
OP4.11/11	11. As part of the public consultations required in the EA process, the consultative process for the physical cultural resources component normally includes relevant project-affected groups, concerned government authorities, and relevant nongovernmental organizations in documenting the presence and significance of physical cultural resources, assessing potential impacts, and exploring avoidance and mitigation options.	Not applicable to IESC assessment of Project implementation phase.	**N/A**
	Disclosure		
OP4.11/12	12. The findings of the physical cultural resources component of the EA are disclosed as part of, and in the same manner as, the EA report. Exceptions to such disclosure would be considered when the borrower, in consultation with the Bank and persons with relevant expertise, determines that disclosure would compromise or jeopardize the safety or integrity of the physical cultural resources involved or would endanger the source of information about the physical cultural resources. In such cases, sensitive information relating to these particular aspects may be omitted from the EA report.	Not applicable to IESC assessment of Project implementation phase	**N/A**
OP4.11/13	Projects in Situations of Urgent Need of Assistance or Capacity Constraints under OP 10.00 13. This policy normally applies to projects processed under paragraph 11 of OP 10.00, Investment Project Financing. OP/BP 4.01, Environmental Assessment, sets out the application of EA to such projects. When compliance with any requirement of OP 4.11, Physical Cultural Resources would prevent the effective and timely achievement of the objectives of such a project, the Bank (subject to the limitations set forth in paragraph 11 of OP 10.00) may exempt the project from such a requirement, recording the justification for the exemption in the loan documents. However, the Bank requires that any		**N/A**

Reference / Paragraph No.	Compliance Requirement	Assessment Methodology for IESC	Compliance Category
	necessary corrective measures be built into either the emergency operation or a future lending operation.		
	Projects Involving Subprojects or Financial Intermediaries		
OP4.11/14	14. The physical cultural resources aspects of subprojects financed under Bank projects are addressed in accordance with the Bank's EA requirements.	Not applicable to IESC assessment of Project implementation phase	**N/A**
	Country Systems		
OP4.11/15	15. The Bank may decide to use a country's systems to address environmental and social safeguards issues in a Bank-financed project that affects physical cultural resources. This decision is made in accordance with the requirements of the applicable Bank policy on country systems.	Not applicable to IESC assessment of Project implementation phase	**N/A**
OP4.11/16	16. When the borrower's capacity is inadequate to manage physical cultural resources that may be affected by a Bank-financed project, the project may include components to strengthen that capacity.		**N/A**
OP4.11/17	17. Given that the borrower's responsibility for physical cultural resources management extends beyond individual projects, the Bank may consider broader capacity building activities as part of its overall country assistance program.		**N/A**

OP 4.12 Involuntary Resettlement

Reference / Paragraph No.	Compliance Requirement	Assessment Methodology for IESC	Compliance Category
	Introduction		
OP4.12/1	1. Bank experience indicates that involuntary resettlement under development projects, if unmitigated, often gives rise to severe economic, social, and environmental risks: production systems are dismantled; people face impoverishment when their productive assets or income sources are lost; people are relocated to environments where their productive skills may be less applicable and the competition for resources greater; community institutions and social networks are weakened; kin groups are dispersed; and cultural identity, traditional authority, and the potential for mutual help are diminished or lost. This policy includes safeguards to address and mitigate these impoverishment risks. Policy Objectives	No assessment required	**N/A**
	Impacts Covered		
OP4.12/2	2. Involuntary resettlement may cause severe long-term hardship, impoverishment, and environmental damage unless appropriate measures are carefully planned and carried out. For these reasons, the overall objectives of the Bank's policy on involuntary resettlement are the following: (a) Involuntary resettlement should be avoided where feasible, or minimized, exploring all viable alternative project designs. (b) Where it is not feasible to avoid resettlement, resettlement activities should be conceived and executed as sustainable development programs, providing sufficient investment resources to enable the persons displaced by the project to share in project benefits. Displaced persons should be meaningfully consulted and should have opportunities to participate in planning and implementing resettlement programs. (c) Displaced persons should be assisted in their efforts to improve their livelihoods and standards of living or at least to restore them, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher.	Review Project implementation of RAP/LRP as assessed in Section 4.	**FC** **See PS5 Discussion**
OP4.12/3	3 . This policy covers direct economic and social impacts that both result from Bank-assisted investment projects, and are caused by (a) the involuntary taking of land8 resulting in (i) relocation or loss of shelter; (ii) lost of assets or access to assets; or (iii) loss of income sources or means of livelihood, whether or not the affected persons must move to another location; or (b) the involuntary restriction of access9 to legally designated parks and protected areas resulting in adverse impacts on the livelihoods of the displaced persons.		

Reference / Paragraph No.	Compliance Requirement	Assessment Methodology for IESC	Compliance Category
OP4.12/4	4. This policy applies to all components of the project that result in involuntary resettlement, regardless of the source of financing. It also applies to other activities resulting in involuntary resettlement, that in the judgment of the Bank, are (a) directly and significantly related to the Bank-assisted project, (b) necessary to achieve its objectives as set forth in the project documents; and (c) carried out, or planned to be carried out, contemporaneously with the project.		
OP4.12/5	5. Requests for guidance on the application and scope of this policy should be addressed to the Resettlement Committee (see BP 4.12, para. 7).		
	Required Measures		
OP4.12/6	6. To address the impacts covered under para. 3 (a) of this policy, the borrower prepares a resettlement plan or a resettlement policy framework (see paras. 25-30) that covers the following: (a) The resettlement plan or resettlement policy framework includes measures to ensure that the displaced persons are (i) informed about their options and rights pertaining to resettlement; (ii) consulted on, offered choices among, and provided with technically and economically feasible resettlement alternatives; and (iii) provided prompt and effective compensation at full replacement cost for losses of assets attributable directly to the project. (b) If the impacts include physical relocation, the resettlement plan or resettlement policy framework includes measures to ensure that the displaced persons are (i) provided assistance (such as moving allowances) during relocation; and (ii) provided with residential housing, or housing sites, or, as required, agricultural sites for which a combination of productive potential, locational advantages, and other factors is at least equivalent to the advantages of the old site. (c) Where necessary to achieve the objectives of the policy, the resettlement plan or resettlement policy framework also include measures to ensure that displaced persons are (i) offered support after displacement, for a transition period, based on a reasonable estimate of the time likely to be needed to restore their livelihood and standards of living; and (ii) provided with development assistance in addition to compensation measures described in paragraph 6(a); (iii) such as land preparation, credit facilities, training, or job opportunities.	Review Project implementation of RAP/LRP as assessed in Section 4.	**FC** **See IFC S5 discussion**
OP4.12/7	7. In projects involving involuntary restriction of access to legally designated parks and protected areas (see para. 3(b)), the nature of restrictions, as well as the type of measures necessary to mitigate adverse impacts, is determined with the participation of the displaced persons during the design and		**N/A**

Reference / Paragraph No.	Compliance Requirement	Assessment Methodology for IESC	Compliance Category
	implementation of the project. In such cases, the borrower prepares a process framework acceptable to the Bank, describing the participatory process by which (a) specific components of the project will be prepared and implemented; (b) the criteria for eligibility of displaced persons will be determined; (c) measures to assist the displaced persons in their efforts to improve their livelihoods, or at least to restore them, in real terms, while maintaining the sustainability of the park or protected area, will be identified; and (d) potential conflicts involving displaced persons will be resolved. The process framework also includes a description of the arrangements for implementing and monitoring the process		
OP4.12/8	8. To achieve the objectives of this policy, particular attention is paid to the needs of vulnerable groups among those displaced, especially those below the poverty line, the landless, the elderly, women and children, indigenous peoples, ethnic minorities, or other displaced persons who may not be protected through national land compensation legislation.		**N/A**
OP4.12/9	9. Bank experience has shown that resettlement of indigenous peoples with traditional land-based modes of production is particularly complex and may have significant adverse impacts on their identity and cultural survival. For this reason, the Bank satisfies itself that the borrower has explored all viable alternative project designs to avoid physical displacement of these groups. When it is not feasible to avoid such displacement, preference is given to land-based resettlement strategies for these groups (see para. 11) that are compatible with their cultural preferences and are prepared in consultation with them (see Annex A, para. 11).		**N/A**
OP4.12/10	10. The implementation of resettlement activities is linked to the implementation of the investment component of the project to ensure that displacement or restriction of access does not occur before necessary measures for resettlement are in place. For impacts covered in para. 3(a) of this policy, these measures include provision of compensation and of other assistance required for relocation, prior to displacement, and preparation and provision of resettlement sites with adequate facilities, where required. In particular, taking of land and related assets may take place only after compensation has been paid and, where applicable, resettlement sites and moving allowances have been provided to the displaced persons. For impacts covered in para. 3(b) of this policy, the measures to assist the displaced persons are implemented in accordance with the plan of action as part of the project (see para. 30).		**FC** **See IFC S5 discussion**
OP4.12/11	11. Preference should be given to land-based resettlement strategies for displaced persons whose livelihoods are land-based. These strategies may include resettlement on public land (see footnote 1 above), or on private land acquired or purchased for resettlement. Whenever replacement land is offered, resettlers are provided with land for which a combination of productive potential, locational		**FC** **See IFC S5 discussion**

Reference / Paragraph No.	Compliance Requirement	Assessment Methodology for IESC	Compliance Category
	advantages, and other factors is at least equivalent to the advantages of the land taken. If land is not the preferred option of the displaced persons, the provision of land would adversely affect the sustainability of a park or protected area, or sufficient land is not available at a reasonable price, non-land-based FCoptions built around opportunities for employment or self-employment should be provided in addition to cash compensation for land and other assets lost. The lack of adequate land must be demonstrated and documented to the satisfaction of the Bank.		
OP4.12/12	12. Payment of cash compensation for lost assets may be appropriate where (a) livelihoods are land-based but the land taken for the project is a small fraction of the affected asset and the residual is economically viable; (b) active markets for land, housing, and labor exist, displaced persons use such markets, and there is sufficient supply of land and housing; or (c) livelihoods are not land-based. Cash compensation levels should be sufficient to replace the lost land and other assets at full replacement cost in local markets.		**FC See IFC S5 discussion**
OP4.12/13	13. For impacts covered under para. 3(a) of this policy, the Bank also requires the following: (a) Displaced persons and their communities, and any host communities receiving them, are provided timely and relevant information, consulted on resettlement options, and offered opportunities to participate in planning, implementing, and monitoring resettlement. Appropriate and accessible grievance mechanisms are established for these groups. (b) In new resettlement sites or host communities, infrastructure and public services are provided as necessary to improve, restore, or maintain accessibility and levels of service for the displaced persons and host communities. Alternative or similar resources are provided to compensate for the loss of access to community resources (such as fishing areas, grazing areas, fuel, or fodder). (c) Patterns of community organization appropriate to the new circumstances are based on choices made by the displaced persons. To the extent possible, the existing social and cultural institutions of resettlers and any host communities are preserved and resettlers' preferences with respect to relocating in preexisting communities and groups are honored.		**FC See IFC S5 discussion**
	Eligibility for Benefits		
OP4.12/14	14. Upon identification of the need for involuntary resettlement in a project, the borrower carries out a census to identify the persons who will be affected by the project (see the Annex A, para. 6(a)), to determine who will be eligible for assistance, and to discourage inflow of people ineligible for assistance. The borrower also develops a procedure, satisfactory to the Bank, for establishing the criteria by which displaced persons will be deemed eligible for compensation and other resettlement assistance. The procedure includes provisions for meaningful consultations with affected persons and communities, local authorities, and, as appropriate, nongovernmental organizations (NGOs), and it specifies grievance mechanisms.	Review Project implementation of RAP/LRP as assessed in Section 4.	**FC See IFC S5 discussion**
OP4,12/15	15. Criteria for Eligibility. Displaced persons may be classified in one of the following three groups:		**FC**

Reference / Paragraph No.	Compliance Requirement	Assessment Methodology for IESC	Compliance Category
	(a) those who have formal legal rights to land (including customary and traditional rights recognized under the laws of the country); (b) those who do not have formal legal rights to land at the time the census begins but have a claim to such land or assets--provided that such claims are recognized under the laws of the country or become recognized through a process identified in the resettlement plan (see Annex A, para. 7(f)); and (c) those who have no recognizable legal right or claim to the land they are occupying.		**See IFC S5 discussion**
OP4.12/16	16. Persons covered under para. 15(a) and (b) are provided compensation for the land they lose, and other assistance in accordance with para. 6. Persons covered under para. 15(c) are provided resettlement assistance in lieu of compensation for the land they occupy, and other assistance, as necessary, to achieve the objectives set out in this policy, if they occupy the project area prior to a cut-off date established by the borrower and acceptable to the Bank. Persons who encroach on the area after the cut-off date are not entitled to compensation or any other form of resettlement assistance. All persons included in para. 15(a), (b), or (c) are provided compensation for loss of assets other than land.		**FC** **See IFC S5 discussion**
	Resettlement Planning, Implementation, and Monitoring		
OP4.12/17	17. To achieve the objectives of this policy, different planning instruments are used, depending on the type of project: (a) a resettlement plan or abbreviated resettlement plan is required for all operations that entail involuntary resettlement unless otherwise specified (see para. 25 and Annex A); (b) a resettlement policy framework is required for operations referred to in paras. 26-30 that may entail involuntary resettlement, unless otherwise specified (see Annex A; and (c) a process framework is prepared for projects involving restriction of access in accordance with para. 3(b) (see para. 31).	Review Project implementation of RAP/LRP as assessed in Section 4.	**FC** **See IFC S5 discussion**
OP4.12/18	18. The borrower is responsible for preparing, implementing, and monitoring a resettlement plan, a resettlement policy framework, or a process framework (the "resettlement instruments"), as appropriate, that conform to this policy. The resettlement instrument presents a strategy for achieving the objectives of the policy and covers all aspects of the proposed resettlement. Borrower commitment to, and capacity for, undertaking successful resettlement is a key determinant of Bank involvement in a project.		**FC** **See IFC S5 discussion**
OP4.12/19	19. Resettlement planning includes early screening, scoping of key issues, the choice of resettlement instrument, and the information required to prepare the resettlement component or subcomponent. The scope and level of detail of the resettlement instruments vary with the magnitude and complexity of resettlement. In preparing the resettlement component, the borrower draws on appropriate social, technical, and legal expertise and on relevant community-based organizations and NGOs. The		**FC** **See IFC S5 discussion**

Reference / Paragraph No.	Compliance Requirement	Assessment Methodology for IESC	Compliance Category
	borrower informs potentially displaced persons at an early stage about the resettlement aspects of the project and takes their views into account in project design.		
OP4.12/20	20. The full costs of resettlement activities necessary to achieve the objectives of the project are included in the total costs of the project. The costs of resettlement, like the costs of other project activities, are treated as a charge against the economic benefits of the project; and any net benefits to resettlers (as compared to the "without-project" circumstances) are added to the benefits stream of the project. Resettlement components or free-standing resettlement projects need not be economically viable on their own, but they should be cost-effective.		**FC See IFC S5 discussion**
OP4.12/21	21. The borrower ensures that the Project Implementation Plan is fully consistent with the resettlement instrument.		**FC See IFC S5 discussion**
OP4.12/22	22. As a condition of appraisal of projects involving resettlement, the borrower provides the Bank with the relevant draft resettlement instrument which conforms to this policy, and makes it available at a place accessible to displaced persons and local NGOs, in a form, manner, and language that are understandable to them. Once the Bank accepts this instrument as providing an adequate basis for project appraisal, the Bank makes it available to the public through its InfoShop. After the Bank has approved the final resettlement instrument, the Bank and the borrower disclose it again in the same manner.		**FC See IFC S5 discussion**
OP4.12/23	23. The borrower's obligations to carry out the resettlement instrument and to keep the Bank informed of implementation progress are provided for in the legal agreements for the project.		**FC See IFC S5 discussion**
OP4.12/24	24. The borrower is responsible for adequate monitoring and evaluation of the activities set forth in the resettlement instrument. The Bank regularly supervises resettlement implementation to determine compliance with the resettlement instrument. Upon completion of the project, the borrower undertakes an assessment to determine whether the objectives of the resettlement instrument have been achieved. The assessment takes into account the baseline conditions and the results of resettlement monitoring. If the assessment reveals that these objectives may not be realized, the borrower should propose follow-up measures that may serve as the basis for continued Bank supervision, as the Bank deems appropriate (see also BP 4.12, para. 16).		**FC See IFC S5 discussion**
	Resettlement Instruments		
OP4.12/25	Resettlement Plan 25. A draft resettlement plan that conforms to this policy is a condition of appraisal (see Annex A, para. 2-21) for projects referred to in para. 17(a) above. However, where impacts on the entire displaced population are minor,or fewer than 200 people are displaced, an abbreviated resettlement plan may be	Not applicable: RAP/LRP are already developed and implemented	**FC See IFC S5 discussion**

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	agreed with the borrower (see Annex A, para. 22). The information disclosure procedures set forth in para. 22 apply.		
OP4.12/26	Resettlement Policy Framework 26. For sector investment operations that may involve involuntary resettlement, the Bank requires that the project implementing agency screen subprojects to be financed by the Bank to ensure their consistency with this OP. For these operations, the borrower submits, prior to appraisal, a resettlement policy framework that conforms to this policy (see Annex A, paras. 23-25). The framework also estimates, to the extent feasible, the total population to be displaced and the overall resettlement costs.		**FC** **See IFC S5 discussion**
OP4.12/27	27. For financial intermediary operations that may involve involuntary resettlement, the Bank requires that the financial intermediary (FI) screen subprojects to be financed by the Bank to ensure their consistency with this OP. For these operations, the Bank requires that before appraisal the borrower or the FI submit to the Bank a resettlement policy framework conforming to this policy (see Annex A, paras. 23-25). In addition, the framework includes an assessment of the institutional capacity and procedures of each of the FIs that will be responsible for subproject financing. When, in the assessment of the Bank, no resettlement is envisaged in the subprojects to be financed by the FI, a resettlement policy framework is not required. Instead, the legal agreements specify the obligation of the FIs to obtain from the potential subborrowers a resettlement plan consistent with this policy if a subproject gives rise to resettlement. For all subprojects involving resettlement, the resettlement plan is provided to the Bank for approval before the subproject is accepted for Bank financing.		**N/A**
OP4.12/28	28. For other Bank-assisted project with multiple subprojects27 that may involve involuntary resettlement, the Bank requires that a draft resettlement plan conforming to this policy be submitted to the Bank before appraisal of the project unless, because of the nature and design of the project or of a specific subproject or subprojects (a) the zone of impact of subprojects cannot be determined, or (b) the zone of impact is known but precise sitting alignments cannot be determined. In such cases, the borrower submits a resettlement policy framework consistent with this policy prior to appraisal (see Annex A, paras. 23-25). For other subprojects that do not fall within the above criteria, a resettlement plan conforming to this policy is required prior to appraisal.		**N/A**
OP4.12/29	29. For each subproject included in a project described in para. 26, 27, or 28 that may involve resettlement, the Bank requires that a satisfactory resettlement plan or an abbreviated resettlement plan that is consistent with the provisions of the policy framework be submitted to the Bank for approval before the subproject is accepted for Bank financing.		**N/A**
OP4.12/30	30. For projects described in paras. 26-28 above, the Bank may agree, in writing, that subproject resettlement plans may be approved by the project implementing agency or a responsible government agency or financial intermediary without prior Bank review, if that agency has demonstrated adequate institutional capacity to review resettlement plans and ensure their consistency with this policy. Any		**N/A**

Reference / Paragraph No.	Compliance Requirement	Assessment Methodology for IESC	Compliance Category
	such delegation, and appropriate remedies for the entity's approval of resettlement plans found not to be in compliance with Bank policy, are provided for in the legal agreements for the project. In all such cases, implementation of the resettlement plans is subject to ex post review by the Bank.		
OP4.12/31	Process Framework 31. For projects involving restriction of access in accordance with para. 3(b) above, the borrower provides the Bank with a draft process framework that conforms to the relevant provisions of this policy as a condition of appraisal. In addition, during project implementation and before to enforcing of the restriction, the borrower prepares a plan of action, acceptable to the Bank, describing the specific measures to be undertaken to assist the displaced persons and the arrangements for their implementation. The plan of action could take the form of a natural resources management plan prepared for the project.		**N/A**
	Assistance to the Borrower		
OP4.12/32	32. In furtherance of the objectives of this policy, the Bank may at a borrower's request support the borrower and other concerned entities by providing (a) assistance to assess and strengthen resettlement policies, strategies, legal frameworks, and specific plans at a country, regional, or sectoral level; (b) financing of technical assistance to strengthen the capacities of agencies responsible for resettlement, or of affected people to participate more effectively in resettlement operations; (c) financing of technical assistance for developing resettlement policies, strategies, and specific plans, and for implementation, monitoring, and evaluation of resettlement activities; and (d) financing of the investment costs of resettlement.	Not applicable: RAP/LRP are already developed and implemented	**N/A**
OP4.12/33	33. The Bank may finance either a component of the main investment causing displacement and requiring resettlement, or a free-standing resettlement project with appropriate cross-conditionalities, processed and implemented in parallel with the investment that causes the displacement. The Bank may finance resettlement even though it is not financing the main investment that makes resettlement necessary		**N/A**