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| SUSTAINABILITY FUTURE GROWTH | **TANAP**<br>**TRANS ANATOLIAN NATURAL GAS PIPELINE PROJECT** | TANAP |

# IESC Site Visit Report December 2019

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| P6-A | DIC | 02.12.2019 | Discipline Internal Check | CD | HT | HT | |
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| P6-C | IFR | 06.12.2019 | Issued for Review | CD | HT | HT | |
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| P6-E | Re-IFR | 19.12.2019 | Re-issued for Review | CD | HT | HT | |
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| REV. | REVISION DESCRIPTION | DATE ISSUED | UPDATE / AMENDMENT DETAILS |
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## 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 |
| EWP | Elevated Work Platform |

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|---|---|
| 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 |
| LTIFR | Lost Time Injury Frequency Rate |
| MoEU | Ministry of Environment and Urbanisation |
| MP | Management Plan |
| MSDS | Material Safety Data Sheet |
| NCR | Non-Conformance Report |
| NGO | Non-Governmental Organisation |
| $NO_2$ | 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 |
| PTW | Permit to Work |

| | |
|---|---|
| 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 |
| YTD | Year to Date |

## CONTENTS

# 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 IESC's 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 third site visit in accordance with the IESC's agreed Project Execution Plan from 25$^{th}$ – 28$^{th}$ November 2019. The visit focused on the Project's environmental, occupational health and safety and social performance during commissioning and operational phase activities at AGIs and verification of RoW reinstatement including critical habitat bio restoration. The IESC identified 7 areas of partial compliance and 5 observational findings. No material non-compliances were identified.

The IESC has determined that the Project continues to exhibit robust environmental, OHS and social performance. Transition from the construction phase to the operations phase has and is being implemented in a planned, risk-based approach with a focus on the competence of QHSSE personnel for the required roles. A concern to the IESC is that a QHSSE role is a very multidisciplinary role and whilst this may suit construction it is not always suitable for operations as the nature of the specialities has changed. The transition to operations is almost complete and the risk profile of the Project has changed and now includes decommissioning and deconstruction of Projects infrastructure such as camps. Demobilisation and decommissioning of structures and equipment are noted as a concern from an OHS perspective with details presented in the OHS summary.

**Environmental Summary**

The IESC observed the excellent use of drip trays and secondary containment where needed to contain any spills or leaks of fuels or oils at the CS5 site. Spill kits were provided where required at both the CS5 and MS2 site, which were adequately and appropriately stocked. These were located immediately next to hazardous waste bins to facilitate the correct disposal of any used materials following the clean-up of a spill.

There has been a reverse in the previously observed trend of poor use of the 'at source' waste segregation bins provided, which was a very positive outcome of the site visit. The vast majority of the bins checked on site contained only the correct type of waste. At the CS5 Camp Site, the previous central waste storage area has been dismantled and replaced by a smaller waste storage area. Tekfen were demonstrating good waste management practice here, including the clear segregation and labelling of different waste streams, the storage of waste on a concrete floor, the storage of compatible hazardous wastes within a concrete bund and the provision of the relevant material safety data sheets.

At KP 1369 hydroseeding had been completed 1 month prior to the site visit (in October) and as such, there was very limited revegetation. Whilst this had been undertaken in accordance with the requirements of the relevant specifications and method statements the limited vegetation cover will provide minimal protection against soil erosion during the winter period. It will therefore be important for PLK and TANAP to closely monitor this and other similar sites during the winter period and especially

following significant rainfall, to ensure that any soil erosion is detected and can be addressed in an appropriate time period.

Significant gapping between rolls of jute matting that had been laid down was observed at KP 1661, which is not in accordance with the relevant method statement for biorestoration works. The IESC is concerned that over the winter period there may be heavy rainfall events that will result in soil erosion at this site where there are such large gaps in the jute matting, especially as minimal revegetation was observed. As the slope is already revegetated, re-implementation of the jute matting is not practical. Where gaps in the jute matting has been observed, TANAP will closely monitor these areas. Any observed defects including erosion will be added to the Defect List and be rectified prior to provisional acceptance.
The IESC is comfortable that any reinstatement defects beyond Provisional Acceptance, which is expected to be achieved by the end of 2019 for Lot 4, will be identified through the multi-layered Operational phase RoW monitoring that has been put in place to ensure they are tracked and rectified within a time period commensurate with the risk generated. Should any defects be identified, there are multiple contracts in place to ensure repairs are undertaken in addition to the Contractors' warranty period obligations.

**Biodiversity Summary**

**Impact of OHLS and Anode-Bed on Birds**

IESC is satisfied with the TANAP's to date progress with the bird monitoring activities as required by the ESIA of OHLS and Anode Bed Lines. Cinar completed the required spring and autumn bird monitoring in all areas specified in the ESIA. During the post spring migration monitoring in July 2019, three carcasses of white stork were found along the BVS21 OHL confirming the potential OHL impacts identified in the OHL ESIA. TANAP to make decision on OHL mitigation measures or additional monitoring when the autumn bird monitoring report is commissioned.

**Biorestoration and Reforestation in LOT4**

TANAP developed the main documents for LOT4 reinstatement and biorestoration. As of November 2019, biorestoration work in LOT4 has been fully completed with about 25% of the reforestation work remaining. The LOT4 Aftercare Management Plan was under TANAP review during the audit. It is important to have the Aftercare Plan approved and get it implemented in a timely manner before the rainy winter season in the region.

In June 2019, the LOT4 Contractor and the Ministry of Agriculture and Forestry signed a protocol for all reforestation activities in LOT4 including care and maintenance. The regional Forestry Directorates specified the reforestation requirements for the reforestation work and TANAP reviewed them for the Project compliance. The IESC team observed some deviations between the Project Reforestation Strategy requirements and actual reforestation activities in the field such as deviations in tree planting timing and tree planting methods. Another observation by the IESC is the potential gaps in timing from TANAP to provide supervision and oversight to the reforestation Contractors once the LOT4 Contractors warranty period ends in 2021, whereas the reforestation care and maintenance period continues to 2022. This appears a potential lapse in TANAP's oversight, but the IESC is advised by TANAP that would monitor implementation of the reforestation success and care and maintenance period and ensure there is no lapse in oversight through its long term operational monitoring programme.

**Implementation of the Mitigation Hierarchy in Critical Habitat**

Based on the two Critical Habitat sites (CH58, FCH26) visited, the IESC was satisfied with the application of impact mitigation hierarchy at those sites. Vegetation regrowth is considered adequate at CH58 after completion of reinstatement and biorestoration activities in 2018. The IESC is satisfied with the successful

regrowth of riparian vegetation at FCH26 that was nearly identical to the adjacent undisturbed areas riparian vegetation condition.

**Biodiversity Offset Planning and implementation**

The BOMP preparations progressed since the previous IESC team visit in May 2019. During this period six potential offset projects has been identified. The target species surveys and fine scale (1:10,000) habitat mapping also undertaken for the preliminary offset project areas with the aim of selecting the offset project sites and activities. Results of these surveys are used to improve the accuracy of the net gain calculations. Consultation and engagement with other parties has continued to date to ensure all parties to understand and agree the offset projects implementation while making sure the identified projects' implementation is legally and institutionally feasible. BOMP Contractor Golder calculated the Net Gains expected from each of the offsite sites. The cost estimates for the BOMP implementation will be provided once the BOMP is finalised in 2020.

IESC considers the scheduling and procedure for biodiversity offset implementation to be on track and in accordance with the requirements of PS6.

**Occupational Health and Safety Summary**

OHS lagging statistics have improved dramatically through the duration of the Project and currently LTIFR is zero with no lost time injuries YTD. OHS lagging statistics are excellent and best practice for the YTD.

In general, work sighted was being undertaken safely with the correct controls in place and in compliance with TANAP systems. Minor non-compliances identified were rectified immediately or within a very short timeframe (for example the platforms in MS2 Red Zone). No chemical storage issues were identified, and pervious findings related to this will now be closed in this report.

The Project OHS team is transitioning to operations and concern to the IESC is that a QHSSE role is a very multidisciplinary role and whilst this may suit construction it is not always suitable for operations as the nature of the specialities has changed. Construction safety is vastly different from operational safety (which is more process safety orientated).

Decommissioning and deconstruction are raised by the IESC as an OHS partial compliance based on observations from the CS5 Camp Site visit. Suitable diligence and focus must be maintained at this time as the risk profile changes not only due to the nature of the work but also because of the attitude of the Contractor and TANAP employees. Personnel can lose concentration and there can be pressure on expenditure and effort for areas that are about to be removed. Possible mitigation could include:

- More frequent inspections by TANAP on Contractor areas and activities;
- Checklists for inspections and audits based on decommissioning and deconstruction; and
- HO personal conducting inspections.

The main issue is managing the changing risk profile, and this was not obviously in place at the time of the IESC visit.

PTW, Road Safety and Hygiene Audits were conducted during the May-October 2019 period at CS1-MS1 and CS5-MS2. There were a number of non-conformances identified in the Road Safety audits that were concerning and did not reflect the current excellent lagging statistics around road safety (pre-use inspections not done, safety equipment missing, travel Management Plans not completed to standard as examples). In any project where there has been a strong focus on a high risk activity with good results there is a risk of complacency developing. This is when significant and potential tragic incidents occur as

the company believes controls are in place and effective. The audits that were conducted are highly commended and provided a "wake-up call" for TANAP regarding road safety.

**Social Summary**

Evidence presented to the IESC indicates labour management practices are generally in line with Project requirements. Demobilisation continues while the remaining construction workforce is now completing construction at AGIs and Lot 4. Demobilisation is being carried out as planned, and the IESC is satisfied that there is adequate monitoring of retrenchment processes and that any issues are being raised and closed out in line with Project requirements.

Oversight by TANAP and third parties (e.g. Practical Solutions) continues to work effectively to identify and respond to any issues associated with worker payments and overtime; a small number of issues have been identified with subcontractor's performance. The IESC is satisfied these are also being picked up and addressed in line with Project commitments.

Consultants have completed a Community-Based Emergency Response Management Plan for directly affected communities. This considers risks to communities from operations and roles and responsibilities in response management. Disclosure of this MP is forthcoming.

Engagement with affected communities targeted to land acquisition, resettlement and livelihood restoration continues, including with new, recently elected muhtars. Interviews during the visit with Project Affected People (PAPs) indicate good working relationships with the Project, for which the IESC commends staff. Substantive activities completed under the Addendum to the RAP include:

- Achieving 99.7% of targeted eligible PAPs for the additional payments under RAP Fund;
- Multiple pipeline payments now completed;
- Completion of all RAP Fund payments;
- Community-based livelihood support delivered for LRP for 9 of the 14 eligible settlements with AGI-affected households; and
- Delivery of livelihood restoration assistance packages to 133 eligible households affected by permanent land acquisition for AGIs.

There are 133 households eligible for livelihood restoration measures and all of them have received their entitlements; i.e. all AGI-affected, vulnerable people identified have received livelihood assistance support in addition to their land acquisition-based compensation and crop payments entitlements. Further, an additional piece of work is to be carried out before the end of 2019 to identify vulnerable households affected by pipeline-induced land acquisition; following identification, any additional support will be developed if this is required.

Monitoring of land use restrictions including crossings of the pipeline are supported by TANAP's Social Impact team in cooperation with the TANAP Permit team. Stakeholder interviews indicated this was a straightforward process with full TANAP support. However, a second round of Land Use restriction meetings are to be held to ensure there is wider coverage in affected communities on this information.

Monitoring efforts of social performance are ongoing. The RAP Monitoring Plan is key to being able to close out compliance with Project commitments on land acquisition and livelihood restoration. Updating this Plan and ensuring the RAP Completion Audit scope of work is aligned, will be key to a meaningful RAP completion process.

Table 1 Recommendations

| ID # | Monitoring Exercise Date | Closing Date | Description | Compliance Category | Ref. | Status | Comments / Report Reference |
|---|---|---|---|---|---|---|---|
| **Environmental and Social Assessment and Management System** | | | | | | | |
| 1.17 | 25th-28th November 2019 | | **Organisational Capacity and Competency**<br><br>Whilst this has been found to be fully compliant an observation has been made as follows:<br><br>Further work is required to develop detailed role descriptions for the QHSE Engineers that will allow them to assess their competence and confidence to undertake the roles and consideration should be given to splitting the roles into disciplines, based on risk. It is also recommended that a tailored training programme is developed for the Operational QHSE Engineers to be based on site to ensure they have adequate background understanding of all the topics they are expected to oversee.<br><br>Further, Social Impact (SI) specialists team may also require review upon | **FC** | IFC PS1 | Open | Appendix A IFC PS assessment table |

| ID # | Monitoring Exercise Date | Closing Date | Description | Compliance Category | Ref. | Status | Comments / Report Reference |
|---|---|---|---|---|---|---|---|
| | | | demobilisation of all Contractor CLOs/stabilisation of the Modifications team, to ensure that the entire operation is sufficiently covered by appropriately qualified and available SI specialists. | | | | |
| 1.20 | 25th-28th November 2019 | | **Emergency Response and Preparedness**<br><br>Lagging OHS statistics are excellent and best practice, except for emergency drills conducted against target (14 from a target of 24). Emergency drills are a vital aspect of risk management and especially important as a project moves into operations.<br><br>It is recommended that:<br><br>• Emergency drills be conducted on a regular basis in accordance to targets throughout the year at all locations and scenarios should be risk based. | **PC** | IFC PS1 | Open | Appendix A IFC PS assessment table |

| ID # | Monitoring Exercise Date | Closing Date | Description | Compliance Category | Ref. | Status | Comments / Report Reference |
|---|---|---|---|---|---|---|---|
| | | | • Complete disclosure of the Community-based Emergency Response Management Plan.<br>• Emergency Response (ER) Plans developed for all Ops sites. | | | | |
| 1.22 | 25th-28th November 2019 | | **Monitoring and Review**<br>This IFC PS was fully compliant, however this is only an observation:<br>The IESC notes that ROW patrolling could potentially be strengthened by use of technologies (e.g. drones, VR), particularly in areas which may be harder to access for any reason. The IESC notes that some technologies are already under consideration (e.g. aerial surveying methods) in addition to photogrammetric surveying. | **FC** | IFC PS1 | Open | Appendix A IFC PS assessment table |
| 1.26 | 13th – 17th May 2019<br>25th-28th November 2019 | | **Stakeholder engagement**<br>This IFC PS was fully compliant, however this is only an observation:<br>The IESC observes that TANAP needs to ensure the basics of good | **FC** | IFC PS1 | Open | Appendix A IFC PS assessment table |

| ID # | Monitoring Exercise Date | Closing Date | Description | Compliance Category | Ref. | Status | Comments / Report Reference |
|---|---|---|---|---|---|---|---|
| | | | engagement practice need to be met (e.g.: engaging with stakeholders using appropriate methods, engage at suitable times, timely follow up as necessary). TANAP's evidence of engagement / records should show follow up to stakeholders met during Nov 2019 visit in line with good industry practices, including for the following groups/issues:<br>• Regarding the turning lane to CS5/MS2; and<br>• Engagement on Land Use Awareness meetings (2nd round). | | | | |
| 1.5 | 13th –17th May 2019<br>25th-28th November 2019 | | **Environmental and Social Assessment and Management System**<br>Based on the findings of Çinar's bird monitoring report, TANAP are recommended to reassess the necessity for mitigation measures and further monitoring requirements for birds. | **PC** | IFC PS1 | Open | Appendix A IFC PS assessment table |
| **Labour and Working Conditions** | | | | | | | |

| ID # | Monitoring Exercise Date | Closing Date | Description | Compliance Category | Ref. | Status | Comments / Report Reference |
|---|---|---|---|---|---|---|---|
| 2.8 | 25th-28th November 2019 | | **Working Conditions**<br><br>This IFC PS was fully compliant, however this is only an observation.<br><br>Ensure that all workers are paid their entitlements prior to demobilisation of subcontractors and Contractors. | **FC** | IFC PS2 | Open | Appendix A (IFC PS Assessment Table) |
| 2.23 | 25th-28th November 2019 | | **Incident Investigation**<br><br>The IESC recommend that a systematic process is implemented to ensure that all information arising from incidents and the associated investigations are transposed onto a database that is kept up to date at all time to allow for learnings from incidents to be shared across the business. | **PC** | IFC PS4 | Open | Appendix A (IFC PS Assessment Table) |
| 2.23 | 25th-28th November 2019 | | **OHS - Decommissioning and deconstruction OHS risk management at CS5**<br><br>Decommissioning and deconstruction of the camp was in progress, and a number of partial compliances were noted. | **PC** | IFC PS4 | Open | Appendix A (IFC PS Assessment Table) |

| ID # | Monitoring Exercise Date | Closing Date | Description | Compliance Category | Ref. | Status | Comments / Report Reference |
|---|---|---|---|---|---|---|---|
| | | | The following recommendations are suggested:<br>• More frequent inspections by TANAP on Contractor areas and activities<br>• Checklists for inspections and audits based on decommissioning and deconstruction<br>• HO personal conducting inspections | | | | |
| **Resource Efficiency and Pollution Prevention** | | | | | | | |
| 3.10 | 25th-28th November 2019 | | **Soil Erosion**<br>It is recommended that PLK ensure that jute matting laid down meets the requirements of the Method Statement for Biorestoration Works in Lot 4. Areas with gaps in jute matting must be closely monitored and prior to Provisional Acceptance, any defects observed from gapping | **PC** | IFC PS3 | Open | Appendix A (IFC PS Assessment Table) |

| ID # | Monitoring Exercise Date | Closing Date | Description | Compliance Category | Ref. | Status | Comments / Report Reference |
|---|---|---|---|---|---|---|---|
| | | | in the jute matting must be included in the defect list and rectified. | | | | |
| **Land Acquisition and Involuntary Resettlement** | | | | | | | |
| 5.13 | 13th –17th May 2019 and<br>25th-28th November 2019 | | **RAP/LRP Monitoring**<br>Whilst being found fully compliant the following observation has been made:<br>The IESC recommends that the RAP Monitoring Plan is revised prior to the Completion Audit.<br>It is observed that TANAP can inform muhtars/post signs in relevant villages with Botas about the pending amounts in escrow, during the summer. | **FC** | IFC PS5 | Open | Appendix A (IFC PS Assessment Table) |

| ID # | Monitoring Exercise Date | Closing Date | Description | Compliance Category | Ref. | Status | Comments / Report Reference |
|---|---|---|---|---|---|---|---|
| **Biodiversity Conservation and Sustainable Management of Living Natural Resources** | | | | | | | |
| 6.7 | 13th –17th May 2019 and<br>25th-28th November 2019 | | **LOT 4 Biorestoration & reforestation recommendation:**<br>TANAP has fully completed the biorestoration activities in LOT4 with about 75% completion of reforestation. The Aftercare Plan needs to be approved by TANAP and gets implemented by Contractor.<br>**OHL and anode bedlines recommendation:**<br>TANAP is progressing well with the recommended spring and autumn bird monitoring at areas where impacts are likely to occur. It is recommended that OHL mitigations and additional monitoring decisions to be made once the Cinars autumn bird monitoring findings are assessed. | **PC** | IFC PS6 | Open | Appendix A IFC PS assessment table |

# 1. INTRODUCTION

TANAP Doğalgaz İletim A.Ş.(TANAP) has engaged Sustainability Pty Ltd (Sustainability) for the delivery of Independent Environmental, Social and 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. This report presents the findings of the third monitoring visit of the assignment which occurred in Turkey from 25th to 28th November 2019. Sustainability had previously been engaged by the EBRD as the Independent Environmental and Social Consultant to support financing requirements and had completed environmental and social due diligence in 2016 and monitoring visits in 2017 and June 2018.

The TANAP Project will deliver 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, and 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 1 construction.

- Phase 0: Initial phase of operation, 6bcma capacity of Shah Deniz 2 was delivered to BOTAS in mid-2018 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 has completed 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 into Europe via TAP, the operation of 48" section of the onshore pipeline and the two compressor stations (CS-1 and CS-5) will be required. The Project is nearing completion of Phase 1 (which is 99.9% complete at the time of the site visit).
- 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 IESC's 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 and 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

### 1.2.1 Project Status

At the time of the monitoring visit (25$^{th}$ – 28$^{th}$ November 2019), the construction phase (Phase 0) of the Project was complete in Lots 1-3 and associated AGIs (Above Ground Installations). Final construction activities were ongoing in Lot 4. Phase1 Main Stations (i.e. CS1, CS5, MS3 and MS4) were mechanically complete by 30.04.2019 whereas technical hand over dates were 30.06.2019 for MS3 and MS4, and 30.09.2019 for CS1 and CS5. Provisional Acceptance was planned to be achieved by the end of 2019 (with 90% of remaining Punchlist Items having been closed).

Upon completion of the certification process as per the Joint TANAP-TAP Linefill Procedure, hydrocarbon was introduced into the TANAP-TAP Interconnection Pipeline on 25th of November 2019 and the pipeline was pressurized up to 30 barg on 26th of November 2019. Necessary commercial agreements with AGSC and TAP in respect of TAP Linefill and Commissioning Operations are executed and upon TAP's notification on readiness, TAP Linefill operations will be commenced. Steady operations with 100% efficiency against 96% KPI target has been achieved for last 12 month as per agreed daily nominations with no defaulting position to TANAP.

In addition to the punch list, a modifications project and contract has been established (around 20 projects) to manage modifications that are not a result of construction issues such as: improving slope

stability; erosion and drainage issues that are not on the punch list as they are not construction related. There is a separate Emergency repair contract in place that was established on 28th May 2019.

A separate offshore expert has been identified for emergency repairs but there is currently no contract in place and the company is on "stand-by" and on an "on call" basis.

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)
- Inauguration Ceremony of TANAP Phase 0 was held in Eskişehir CS5-MS2 site on 12th June 2018
- Commercial Operations started as of 30.06.2018

**Phase 1**

- Gas to Europe facilities (incorporating 460 km long 48" diameter pipeline and 2 x 36'' diameter offshore pipelines); two metering stations - MS3 and MS4, 10 Block Valve Stations, 6 Pigging Stations and Compressor Stations (CS1 and CS5) were mechanically complete as of 30.04.2019.
- TANAP and TAP pipelines connected.
- TANAP-TAP Interconnection Pipeline cleaning pig activity completed on 21st June 2019.
- TANAP-TAP interconnection pipeline was purged with $N^2$ on 26th October 2019.
- Phase 1 Linefill activities (within the 48" section) from CS 5 to MS 4 were completed on 15th June 2019.
- Offshore Pipeline Construction
    - 2 parallel 36" offshore pipelines completed
    - 4 Fibre Optic Cables completed
    - 24 Crossing completed

Reinstatement progress on the ROW at the time of the site visit is outlined in Table 2 below.

Table 2 Reinstatement Update (as of November 2019)

| Reinstatement Process | Lot 1 | Lot 2 | Lot 3 | Lot 4 |
|---|---|---|---|---|
| Clean up | 100% | 100% | 100% | 100% |
| Re-contouring | 100% | 100% | 100% | 100% |
| Topsoil replacement including erosion control measures | 100% | 100% | 100% | 100% |
| Bio-restoration | 100% | 100% | 100% | 100% |
| Reforestation | 100% | 100% | 100% | 75% |

Figure 1 Important Milestones Achieved between 26/02/2015 – 31/10/2019

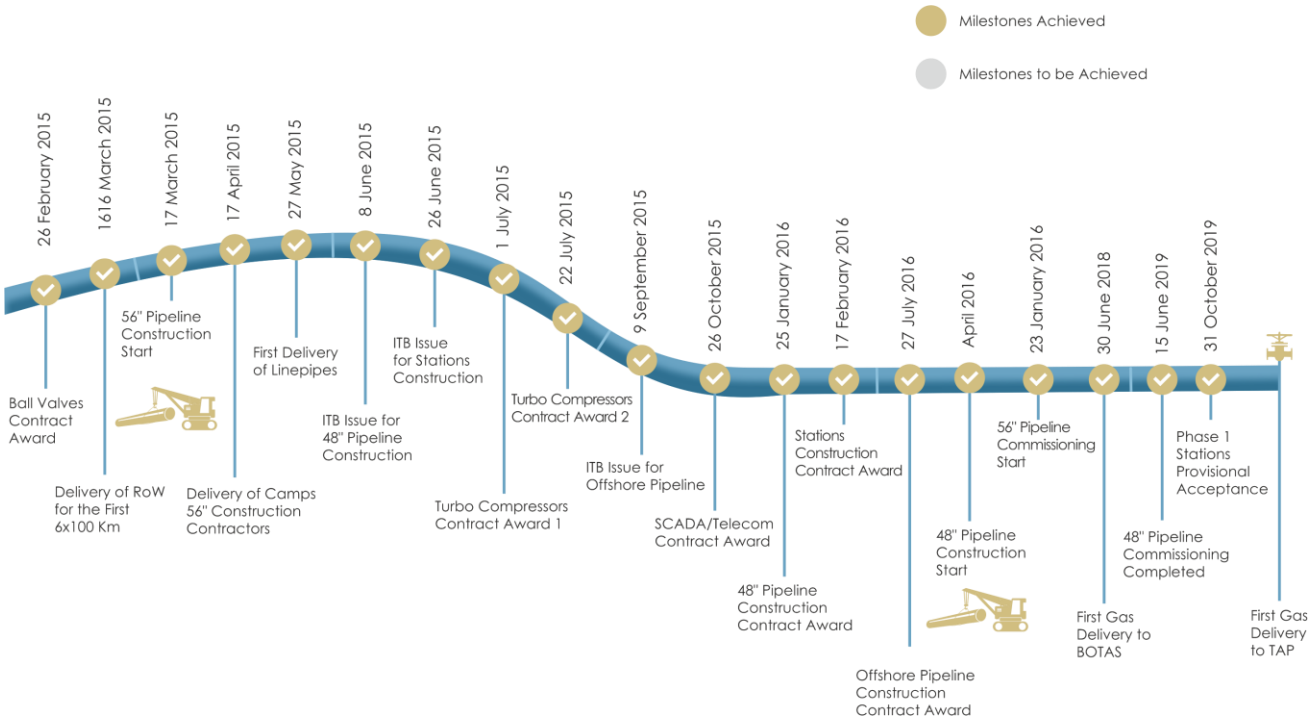
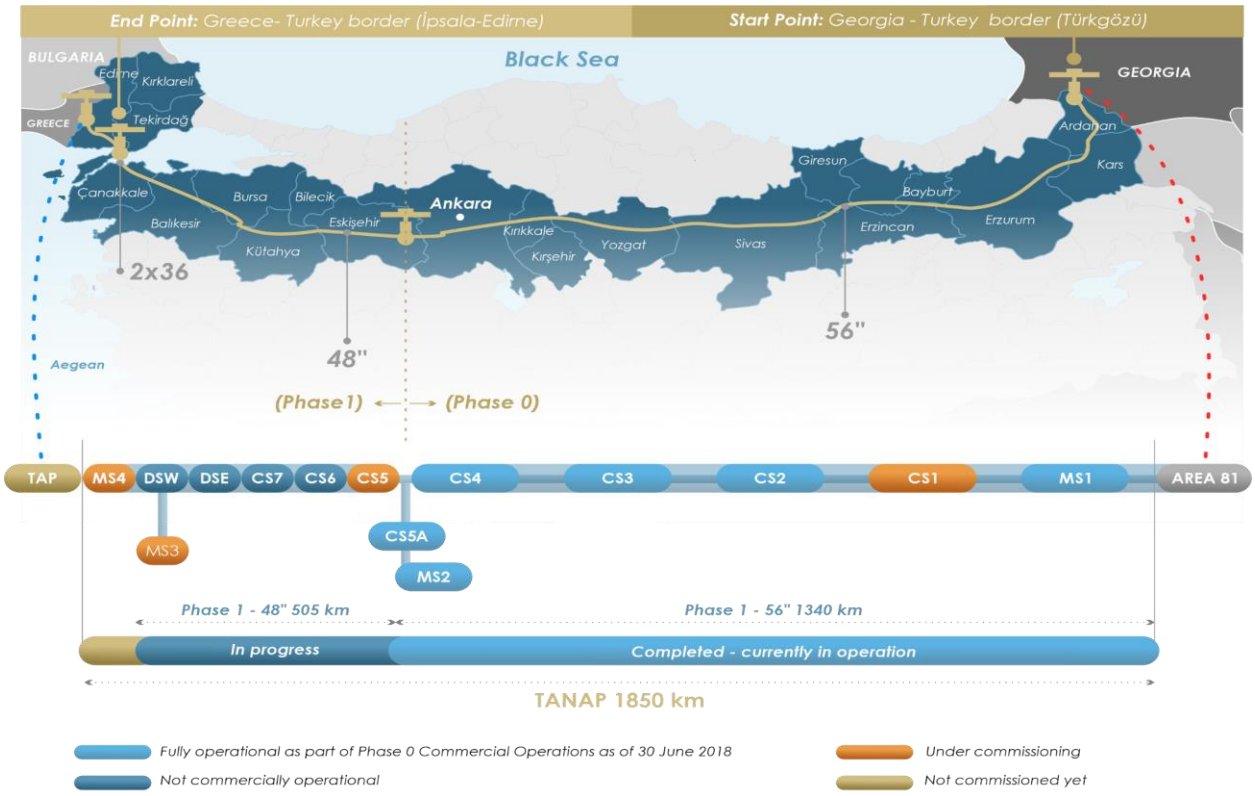


Figure 2 Operational Status of the TANAP Project




## 1.3 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.

## 1.4 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.

## 1.5 Monitoring Site Visit Attendance

The site visit was conducted from the 25th to the 28th November 2019 by the Independent Consultant team, and EBRD. The team members included:

- Heath Thorpe: Independent Consultant Team Project Director and OHS Specialist;
- Claire Penny: Independent Consultant Team Environmental Specialist;
- Nyamdorj Barnuud: Independent Consultant Team Biodiversity Specialist;
- Amy Sexton: Independent Consultant Team Social, labour and Cultural Heritage Specialist; and
- Bossan Annayeva: EBRD Senior Environmental Adviser.

## 1.6 Monitoring Site Visit Itinerary

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

**Day 1. 25th November 2019**

- TANAP Head office in Ankara
  - Opening meeting with TANAP Management
  - Meeting with TANAP on Overall progress of the Project
  - Meeting with TANAP OHS Team
  - Meeting with TANAP Environmental Team
  - Meeting with TANAP LAC and Social Team
  - Meeting with TANAP HR and Social Team
- Travel from Ankara to Eskişehir

**Day 2. 26th November 2019 – Lot 4**

- CS5/MS2/Lot4
  - Opening meeting and HSE induction
  - Environmental Team visit to:
    - CS5 Camp Site
    - MS2 Red Zone
    - Reinstated RoW and pre-existing local access road at KP 1370+452.
    - Reinstated steep slope, River crossing 4-0553 and CH 58 at KP 1369
  - Social Team visit to:
    - RoW and AGI affected settlements (Eskişehir - Seyitgazi - AKSAKLI) for LRP Implementation

- land exit completion interviews with muhtar, villagers and LRAP Beneficiaries
- MS2 interviews with technicians (working conditions)
- Settlement visit (Kümbet Akpınar) affected by AGI and RoW

- Visit reinstatement, biorestoration and CH areas (CH 64 & 65)
- Meetings with Social Impact Team to be updated about activities; especially on stakeholder engagement for land use restriction during Operation-Maintenance and Integration Period (MS2-CS5)

**Day 3. 27th November 2019**

- Lot 4
  - Opening meeting at Gönen Site Office.
  - Environment Team visit to:
    - Gönen River crossing - FCH26 and reinstated steep slopes at KP 1661.
  - Social Team visit to:
    - Settlement visit to Buğdaylı affected by RoW(pipeline only) where land exit was completed
    - Interviews with Lot 4 workers (working conditions)
  - Travel to Bandirma

**Day 4. 28th November 2019**

- Technical and Close Out Meetings at Gönen Site Office
- Travel to Istanbul Airport

## 1.7 Report Organisation

This Report follows the format as outlined in the IESC's Project Execution Plan developed by Sustainability and approved by TANAP. The reporting template reflects the scope of IESC's 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 focused on compliance with EBRD Performance Requirements. This monitoring report is expanded to include the assessment against the full scope of the IESC's criteria as outlined above. However, the IESC 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 IESC monitoring review.

The general structure and organisation of the report includes:

## 1.8 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 are 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:

Table 3 Compliance Rating

| | |
|---|---|
| **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.

Table 4 Risk Matrix

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

## 2. STATUS OF PREVIOUS IESC FINDINGS

The Table below provides an overview of the past IESC findings from ESDD and monitoring visits undertaken by Sustainability Pty Ltd on behalf of EBRD (formerly) and TANAP (currently) from 2016 to May 2019. 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 the action items have been completed. Items from previous visits that have been considered closed have been removed from the table.

Table 5 Status of previous IESC findings

| Ref. | Performance Requirement | Actions Required | TANAP Response | Status |
|---|---|---|---|---|
| 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. | | Closed<br><br>The area of overspill at KP 1257+150 that was observed by the IESC during the June 2018 monitoring site visit (adjacent to the reinstated RoW, where erosion control measures had not been implemented and there was still a lack of vegetation. Consequently, erosion of the steep slopes was evident and rocks were migrating down onto cultivated farmland at the foot of one slope, which was impacting the farmer by making ploughing more difficult) is also included in the latest Çinar Quarterly E&S Monitoring Report (dated 13.03.19) ref. PE-43. This issue |

| Ref. | Performance Requirement | Actions Required | TANAP Response | Status |
|---|---|---|---|---|
| | | | | has been registered on the Provisional Acceptance Defect List to be addressed within the Contractor's warranty period. In the Çinar Report, a date of completion is given as 31.10.2018. The Tekfen Monitoring and Aftercare Report for Lot 3 (March-April 2019) includes photographic evidence to verify that this has been addressed. In addition, the damaged scour protection at the river crossing at KP 1257+134 observed by the IESC in June 2018, (which is ref. PE-44 in the Çinar Report) was also registered the Provisional Acceptance Defect List. The Çinar Report also gives a date of completion of 31.10.2018 and photographic evidence was also provided in the Tekfen Monitoring and Aftercare Report for Lot 3 (March-April-May 2019) to verify that this has been addressed. |
| 1.17 | Organisational Capacity and Competency | **Project OH&S Resources**<br><br>Whilst this has been found to be fully compliant an observation has been made as follows: | Closed<br><br>Demobilisation of OHS personnel is decided by considering the mentioned risks as well as the scope and content | Closed |

| Ref. | Performance Requirement | Actions Required | TANAP Response | Status |
|---|---|---|---|---|
| | | It is recommended that TANAP review the use of Project OH&S to provide oversight to the Operations as this can put stress on the Project OH&S team especially at this stage of commissioning, handover and demobilisation. The use of Project OH&S resources to oversee both Project and operational OH&S requirements could result in a loss of focus by the team on Project issues at this critical stage in the Project. | of the remaining activities. Therefore, OHS personnel are being demobilised gradually for every 4 monthly period. | |
| 1.17 | Organisational Capacity and Competency | **QHSE Resources**<br><br>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. | In line with the completion of Construction Phase, the process of assigning competent employees to the Operations organization and providing support by Ankara Headquarters for Transition period is in progress. | Open<br><br>The Project OHS team is transitioning to operations and a concern to the IESC is that a QHSE role is a very multidisciplinary role and whilst this may suit construction it is not always suitable for operations as the nature of the specialities has changed. Construction safety is vastly different from operational safety (which is more process safety orientated).<br><br>A workshop was held with the QHSE Engineers from discipline leads from OHS, Environment and Quality to explain the requirements for the roles and a training matrix has been developed for the QHSE Engineers. The training matrix was sighted and |

| Ref. | Performance Requirement | Actions Required | TANAP Response | Status |
|---|---|---|---|---|
| | | | | does not contain sufficient detail to provide evidence that the QHSE Engineers will have sufficient training and competence for such a multidisciplinary role.<br><br>Despite being fully compliant, further work is also required to develop detailed role descriptions for the QHSE Engineers that will allow them to assess their competence and confidence to undertake the roles and consideration should be given to splitting the roles into disciplines, based on risk. |
| 1.20 | Emergency Preparedness and Response | Complete preparation of the emergency response plan for directly affected communities. | Closed<br><br>Community Based Emergency Management Plan was finalized as of September, 2019 | Closed, noting that public disclosure of the MP is scheduled for Q1/2020. |
| 1.22 | Monitoring and Review | Whilst this has been found to be fully compliant an observation has been made as follows:<br><br>TANAP must continue to work closely with Contractors to ensure that any reinstatement defects that are identified through the third party or Contractor monitoring process are repaired in a timeframe that is commensurate with | Ongoing<br><br>This is an ongoing item until the end of Warranty Period of the CC's Contracts.<br><br>CCs have Aftercare Monitoring Plans and make their monitoring studies | Open |

| Ref. | Performance Requirement | Actions Required | TANAP Response | Status |
|---|---|---|---|---|
| | | the risks. Particular attention should be given to reinstating overspill areas. | quarterly and submit the relevant reports. | |
| 1.26 | Stakeholder Engagement | • This IFC PS was fully compliant, however this is only an observation<br>• There is a need to maintain efforts in stakeholder engagement (SE) and information disclosure (ID). The Project construction is nearing completion; however impacts are ongoing in active work areas. The Project's SE and ID needs to continue to respond to stakeholders, as well as Project, needs. | Ongoing with progress<br>SE activities are ongoing.<br>Land Use Information Meetings have been completed in about 50% of Project-affected settlements and will be completed in the remaining settlements as per the Project schedule.<br>Annual stakeholder meetings will be held in December 2019 as planned. | Open.<br>Ongoing with progress, with the IESC observing that TANAP needs to ensure the basics of good engagement practice need to be met (e.g.: engaging with stakeholders using appropriate methods, engage at suitable times, follow up as necessary). Evidence that some issues may have slipped are:<br>• The first round of Land Use Information meetings have been held; a second round has been identified as necessary given low turnout to round one.<br>• Outstanding engagement issues and requests are yet to be addressed (e.g. turning lane on the road into CS5/MS2). |

| Ref. | Performance Requirement | Actions Required | TANAP Response | Status |
|---|---|---|---|---|
| | | | | • Disclosure of and engagement on the Community Based Emergency MP is planned for 2020, although Lots 1, 2, and 3 are under Operations control. |
| 1.34 | External Communications and Grievance Mechanisms | This IFC PS was fully compliant, however this is only an observation.<br><br>IT systems need to remain accessible during the transition into operations, including OSID for stakeholder engagement and grievance management. | Ongoing with progress<br><br>OSID system is live, running and accessible to relevant parties as it was during the Construction Phase. OSID system will be re-structured to meet the needs of operational phase and will be live during that period as well. | Open.<br><br>Ongoing with progress. The OSID system remains accessible to the operational organisation (TANAP). A new purpose-built database will be developed that will integrate grievances with engagement, environmental parameters, infringements and other land use data. |
| 1.5 | Environmental and Social Assessment and Management System | Based on the findings of Çinar's bird monitoring report, TANAP are recommended to reassess the necessity for mitigation measures and further monitoring requirements for birds. | In progress<br><br>Post construction bird monitoring study was completed for Spring-2019 period and ongoing for Autumn-2019 period. Upon the outcomes of the Autumn Report, it will be decided whether this study will continue in the next year or not. | Open.<br><br>The spring and autumn bird monitoring by Cinar in areas with potential negative impacts to birds has been completed. TANAP needs to make a decision on additional mitigation and monitoring measures based on the monitoring outcomes |

| Ref. | Performance Requirement | Actions Required | TANAP Response | Status |
|---|---|---|---|---|
| | | | | and update the necessary management plans. |
| 2.23 | HS05 HS Supervision | A review of the quality / competence of supervisors, if found to be an issue, subsequently develop a plan to overcome the gaps considering education, training and mentoring.<br><br>A review must be conducted to establish if the ratio of supervisors (operational) to workers is appropriate.<br><br>A review must 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.<br><br>. | NA for existing status of the Project. | Closed |
| 2.23 | HS07 Significant Lapses | It is recommended that TANAP undertake chemical storage compliance assessments across all sites to ensure:<br>• chemical compatibility assessments for storage locations<br>• Only compatible chemicals are stored together<br>• MSDSs are in date and in Turkish | Closed<br><br>Assessment realized at storage locations; chemicals have started to be stored according to the segregation requirements<br><br>Turkish versions of MSDSs have been provided and displayed accordingly | Closed<br><br>All chemical storage areas visited were complaint |

| Ref. | Performance Requirement | Actions Required | TANAP Response | Status |
|---|---|---|---|---|
| 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.<br><br>Environmental toolbox is required to provide a further refresher session on waste segregation and recycling commitments across sites. | The waste management was corrected by the relevant supervisors and managers including each individual work packages/streams that produce wastes. | Open – See 3.12/13 below.<br><br>General environmental training is given to all workers as part of their induction that includes waste management. In addition, job specific training is provided as required and toolbox talks are used to focus on areas of concern or planned daily activities. However, despite training and a focus of waste management the use of “at source” segregation bins by workforce remains generally poor. |
| 3.10 | Topsoil Management | Whilst this has been found to be fully compliant an observation for topsoil management has been made as follows:<br><br>At the DSW site, the IESC observed a topsoil stockpile that was highly compacted (and likely to result in anaerobic conditions and unlabelled. This is not in alignment with the requirements of the Erosion, Reinstatement and Landscaping Plan. | Closed<br><br>Reinstatement works were completed at DSW in compliance with the Specification for Reinstatement. | Closed<br><br>The DSW site was not visited on this site visit, however, no poor topsoil management practices were observed at the MS2 or CS5 sites visited. Furthermore, reinstatement has now been completed at DSW, so this recommendation becomes invalid. |

| Ref. | Performance Requirement | Actions Required | TANAP Response | Status |
|---|---|---|---|---|
| | | • It is recommended that TANAP works with PLK to ensure that the necessary actions are taken to restore the condition of this topsoil to its original state and consideration should be given to protecting the soil from erosion by the use of covers given the windy conditions at this site. | | |
| 3.12/3.13 | Hazardous and Non-hazardous Waste Management | The lack of improvement in performance relating to the use of 'at source' segregation waste bins demonstrates that achieving a change in worker's behaviour is likely to require an even more targeted approach, with increased levels of oversight. It is recommended that TANAP/Contractors consider appointing individual workers with waste monitoring responsibilities, who could on a rotational basis be stationed near to waste bins to ensure their correct use.<br><br>At the DSW site it is recommended that all waste bins either have lids or are placed within containers and that regular clean up exercises (at least weekly) are implemented to pick up any loose windblown waste across and around the site. | Closed<br><br>It was confirmed with the Lead Environmental Engineer at site that refresher trainings were given to the relevant staff and those containers were all removed since operation phase activities are replacing the construction phase. | Closed<br><br>Excellent at source waste segregation was observed at the CS5 and MS2 sites and TANAP provided assurance that mixed waste storage and bins with no covers were a continuing focus of attention following the most recent E&S Compliance Audit. |
| 3.13 | Pollution Prevention | It is recommended that a concrete bund is placed around the relevant area within the MS2 Central Waste Storage | It was checked with the Lead Environmental Engineer at site that | Closed |

| Ref. | Performance Requirement | Actions Required | TANAP Response | Status |
|---|---|---|---|---|
| | | Area to contain any leaks or spills from containers being stored there that contain waste filter separation water.<br><br>It is recommended that stock levels (especially of anti-freeze) are managed to ensure there is adequate storage space for all hazardous substances within an appropriately protected area of the site at MS4. | the area which was used for the storage of the containers was demobilised (closed).<br><br>Temporary waste storage area has concrete bunds. | The central waste storage area at MS2 has been dismantled and replaced with a smaller waste storage area where best practice waste management was observed. |
| 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. | A SoW has been prepared and a consultant has been awarded for conducting additional study on Emergency Prep. and Response Plan. | Closed<br><br>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.<br><br>The Solo Institute has been engaged to prepare an emergency response plan for directly affected communities (see also 1.20), which will inform processes for communications with local communities.<br><br>Regular emergency response exercises are scheduled for all sites across the Project and operations. |

| Ref. | Performance Requirement | Actions Required | TANAP Response | Status |
|---|---|---|---|---|
| | | | | Note: Community-based Emergency Response MP has been prepared (See 1.20). |
| 4.11 | Emergency preparedness and response requirements (communities) | Complete preparation of the emergency response plan for directly affected communities. | Closed<br>Community-Based Emergency Management Plan was finalized as of September, 2019 | Closed |
| 5.2 | Consultation | TANAP to hold RAP meetings in Lots 1 and 3. | Pls. refer to 9th Internal RAP Monitoring Report for the update. | Closed.<br>All RAP Fund meetings have now been held and 99.7% of RAP Fund payments disbursed (awaiting the payment of the last 4% of Land Registration charges). No further RAP Fund related claims or requests have been received as at November 2019. |
| 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 | It continues as recommended. For details, pls. refer to 9th Internal RAP Monitoring Report. | Ongoing<br>As at November 2019, 52% of the livelihood restoration budget has been spent. Preparation of the LRP for AGIs and the Fishing Livelihood RP |

| Ref. | Performance Requirement | Actions Required | TANAP Response | Status |
|---|---|---|---|---|
| | | phases in the case where livelihood restoration has not yet been achieved. | | have both been completed. The FLRP has been fully implemented; the remaining funds are being disbursed on the LRP for AGIs.<br><br>The RAP Completion Audit scope of work has been prepared and is anticipated for delivery in mid-2020. At this time it will be clear if any additional actions are required to close out livelihood restoration measures. Until such time, internal monitoring continues with the existing team in place with access to all data collected to date on all RAP-related activities. Remains open until conclusion of the Completion Audit. |
| 5.10 | General | Whilst being found fully compliant the following observation has been made:<br><br>TANAP to ensure consistency in application of the land exit process between Lots, and Lot 4 benefit from the lessons learned in Lots 1-3. TANAP described that shifting of experienced TANAP Social Specialists into Lot 4 has enabled implementation of some of the earlier lessons. | Closed<br><br>Land exit in Lot 4 was completed with a 99% of success rate considering lessons learned from other lots in addition to Lot 4's own social context. | Closed<br><br>Land exit close out status has achieved 99.5%. At the time of the visit, 3 villages remained to be completed, where disagreement relates to muhtar's requests for additional funding in their communities in Lot 1. |

| Ref. | Performance Requirement | Actions Required | TANAP Response | Status |
|---|---|---|---|---|
| | | | | Negotiations are ongoing to close these remaining 3 of 584 villages. |
| 5.13 | General | This IFC PS was fully compliant, however this is only an observation.<br>The IESC recommends that the RAP Monitoring Plan is revised and the SOW checked that it aligns with outcome / output indicators prior to tendering the Completion Audit. | Ongoing in progress<br>SoW for Completion Audit was prepared and TANAP has recently got in touch with potential experts for that activity. RAP Monitoring Plan is also being revised. | Open.<br>Ongoing in progress. The scope of work has been completed however the RAP monitoring plan has not yet been updated; this will need to be addressed in advance of the completion audit being carried out (mid-2020). |
| 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. | | Closed<br>The IESC observed the reinstatement of the overspill area in parallel with the RoW at KP 1661. |
| 6.7 | LOT 4 Biorestoration & reforestation recommendation | TANAP has not yet commenced biorestoration or reforestation in LOT 4; the majority of plans are in the process of being developed and approved. However, the Aftercare Plan still needs to be developed by Contractor and approved by TANAP. It is recommended that this is developed and submitted for approval in a timely fashion in accordance with the biorestoration/reforestation schedule. | Closed for Bio-restoration activities<br>In progress for reforestation & after care monitoring planning act.<br>Biorestoration was completed, whereas reforestation activities will be completed in LOT-4 by the end of 2019. | Open.<br>TANAP to approve the LOT4 Aftercare Monitoring Plan for implementation. |

| Ref. | Performance Requirement | Actions Required | TANAP Response | Status |
|---|---|---|---|---|
| | | | Aftercare Monitoring Plan of LOT-4 will be submitted by PCC within November 2019. | |
| 6.7 | OHL and anode bedlines recommendation: | The ESIA on OHLS and Anode Bed-lines has been updated to include impacts on bird species and Çinar has been contracted to undertake bird monitoring at areas where impacts are likely to occur. It is recommended that OHL mitigations and additional monitoring be implemented based on the findings of Çinar's bird monitoring report. | When post-construction bird monitoring study (autumn 2019) is completed, necessity of additional monitoring and OHL mitigation measures will then be defined. | Open<br>TANAP to make decision based on Cinar's 2019 bird monitoring findings.<br>See 1.5 |

# 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 2014 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 6 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 3 | Nothing to report | Nothing to report |
| Lot 4 | 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 |

The latest Çinar quarterly environmental and social monitoring report (CIN-PRQ-PRC-GEN-029 Rev-P3-C) issued in October 2019, does not refer to any breach of Turkish legislation. During the opening presentations, the IESC was informed that there have been no financial penalties or warnings on the Project to date as a result of environmental incidents or the exceedance of environmental thresholds.

# 4. INTERNAL COMPLIANCE

The IESC was informed during this site visit that there have been Project changes in 2019 that have been subject to the TANAP Management of Change (MoC) process. Please see Section 5.1.1.2 of this Report for further detail.

The ESAP was last updated in April 2017. Following review, the IESC has not identified any outstanding actions.

# 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 focused 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)[1]

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

#### 5.1.1.1 Operational Readiness: Construction phase to Operations

**Impact Assessment**

TANAP handed over 6 main camp sites, which were rented for the 5-year Project construction phase, to the public institutions free of charge at the completion of their use during construction phase, subject to requirements in a Grant Protocol agreement. The camp sites that have been handed over to authorities were subject to a Stakeholder Consultation and Social Impact Assessment (CIN-REP-SOC-GEN-003 Rev-P3-D) following the Management of Change process discussed during the previous visit. The Engagement and SIA was carried out by an independent consultant, and identified that monitoring for compliance with Grant Protocol requirements and any social impacts is to be undertaken in mid-2020. Results of this monitoring will be followed up at the next IESC visit.

**Management Programs**

Transition to operations is being implemented in a planned, risk based approach. There is a continued focus by TANAP on operational readiness and handover of assets from the construction phase to the operations phase. Work is ongoing to close out the remaining construction contracts and most sites are now under the control of the TANAP Operations team and the TANAP Permit to Work system (PTW).

Existing management systems will continue to be utilised as a basis for transition to operations but the Operational Phase ESMS and associated Management Plans and Procedures are now in place. There is a need to ensure that the good E&S and H&S standards that were set as a precedent during the construction phase are maintained during operations.

**Organisational Capacity and Competency**

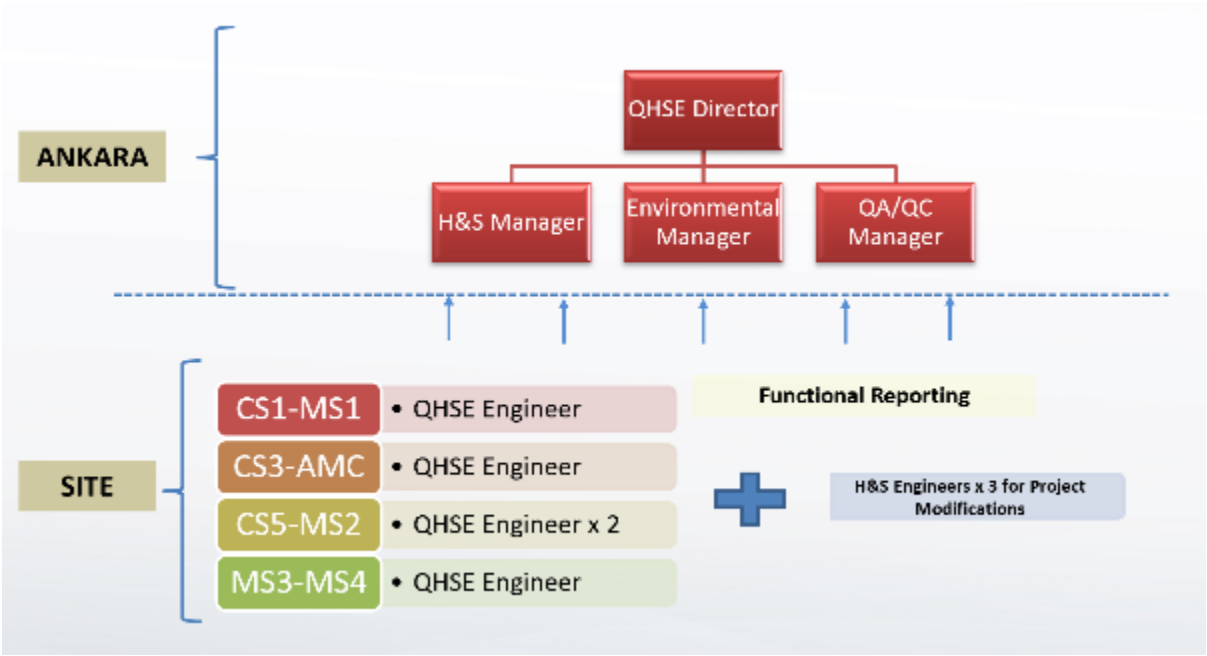
A positive outcome is the retention of E&S, QA/QC and H&S Managers and QHSSE Site Staff on the Project, who will transition from the construction to operations phase and ensure the transfer of important Project knowledge and experience. However, there are concerns from the IESC that the QHSE Engineers on site will be taking on a significant role with a requirement to have an adequate understanding of all the areas

[1] Including Equator Principles and MIGA Performance Standards.

covered (i.e. QA/QC, Environment and H&S) but as individuals may not be technical experts or have adequate background knowledge in all of these areas.

A workshop was held with the QHSE Engineers from discipline leads from OHS, Environment and Quality to explain the requirements for the roles and a training matrix has been developed for the QHSE Engineers. The training matrix was sighted and does not contain sufficient detail to provide evidence that the QHSE Engineers will have sufficient training and competence for such a multidisciplinary role. Despite being fully compliant, further work is required to develop detailed role descriptions for the QHSE Engineers that will allow them to assess their competence and confidence to undertake the roles and consideration should be given to splitting the roles into disciplines, based on risk. It is also recommended that a tailored training programme is developed for the Operational QHSE Engineers to be based on site to ensure they have adequate background understanding of all the topics they are expected to oversee.

Figure 3 Organisation Chart for Operational Phase QHSE (note not including Social)




The social impact team is also part of the QHSSE Directorate. Currently during transition phase, there are now 8 roles including the manager and consultants in headquarter, and three on sites for operations and two still on site for construction. At the headquarter, SI team will comprise 3 staff. Four site-based roles will remain, based at an AGI to enable communications with the rest of the team and TANAP more widely. These are anticipated to be at: CS1/MS1 (tbc), Area Maintenance Center 3, CS5/MS2 and MS3/MS4. As it is currently being carried out, the role based in CS5 currently provides social impact services to approximately 400km of pipeline (a part of former Lot 3) and AGIs. Upon Lot 4 construction completion and demobilisation of the CC's CLO, this position is earmarked to have responsibility of an additional 200km of pipeline and AGIs. Again, while currently compliant with Lender requirements, the IESC recommends a review of sufficiency of the number of Social Impact Specialists to provide adequate services in each area prior to the expected official commencement of commercial operations of Phase 1 on 30 June 2020.

Following completion of Provisional Acceptance for Lot 4 CC, it was stated that the confirmed SI team will come together for training. While all SI site staff will act under the same job description, this would be a reasonable time for undertaking a capacity building efforts for the team as a whole. Influencing factors

are anticipated to include that there may be challenges in finding an available, interested and appropriately skilled individual for the role based permanently at CS1.

**Differentiated measures to support vulnerable groups**

In the process of identifying potentially vulnerable households along the pipeline route, TANAP completed a first, preliminary round of interviews with muhtars. The RAP monitoring report of Q9 identified that no more than 50 households are expected to be vulnerable and require additional support. To confirm this figure and provide for this support, a field study is being prepared for implementation in Q4/19 by an independent consultant. The methodology and questionnaires for interviews have been prepared and interviews to finalise identification of vulnerable households are due to conclude in December 2019. Confirmation and delivery of any additional support will commence in Q1/2020.

#### 5.1.1.2 Management of Change

A Management of Change Request was raised on 1st August 2019 by the Operation Support Team Leader in relation to the Exhaust Stacks for the Water Bath Heaters (process gas heaters) at MS2. These were understood to be not compliant with the requirements of relevant Environmental Regulations and CIN-REP-ENV-GEN-031. As such, they needed to be extended from 5.9m to 10m. In addition, two emissions monitoring stations were required to be installed on each of the extended stacks. The Modifications Contractor developed the scope of the work to be completed and the proposed design was not considered to introduce new risks. The MOC is due to be closed in Q1 2020.

#### 5.1.1.3 Emergency Preparedness and Response

Lagging OHS statistics are excellent and best practice, with the exception of emergency drills conducted against target (14 from a target of 24). Emergency drills are a vital aspect of risk management and especially important as a Project moves into operations. They should be conducted on a regular basis in accordance to targets throughout the year at all locations and scenarios should be risk based. SOLO has been appointed as an external consultant for emergency drills to get the operations on track.

Emergency Response (ER) Plans developed for all Operational sites; ER Trainings and Drills conducted for MS3-MS4 sites; Second cycle ER Drills conducted for CS1-MS1, CS3 AMC and CS5-MS2 Sites.

Sites are conducting the internal ER Drills based on a yearly ER Drill Targets.

#### 5.1.1.4 Stakeholder Engagement, Information Disclosure and Grievance Management

**Engagement**

Stakeholder engagement is being carried out in accordance with the Stakeholder Engagement Plan and interviews with community members during this visit demonstrated good feedback on accessibility and responsiveness of CLOs to any community concerns/issues. Construction Contractor CLOs are still leading on engagement in Lot 4 and for AGIs, with support from TANAP specialists as necessary. TANAP's operational Social Impact team will lead as the Contractors are fully demobilised; this has already occurred in Lots 1, 2 and 3, where there is now one Contractor CLO present in Lot 1 only.

However, a number of engagement issues emerged during the visit:

Land Use Awareness meetings were held but during the first round there was low turnout recorded; this was reported to be due to the time of year held (during harvest) but may also be because PAPs are aware of the future land use restrictions so did not feel they needed to attend. To ensure that disclosure reaches all affected PAPs, a second round will be held.

The IESC met with the Muhtar and other stakeholders of Aksakli neighbourhood (the closest settlement to CS5/MS2). They reported that the request for a turning lane to be installed for vehicles entering the AGI, however that this issue had not been responded to.

Lastly, other village meetings held with the IESC during the visit revealed the legacy issues associated with the SEIP program, specifically, concerns about amounts disbursed, the process for applications that communities versus individuals had received funds, and that individuals had invested money in preparing proposals that were then rejected. While SEIP is not an impact-mitigation program for directly affected households, nor run from the same team, the impacts of the program are still influencing engagement with stakeholders, including for SI team in delivering SI mitigations.

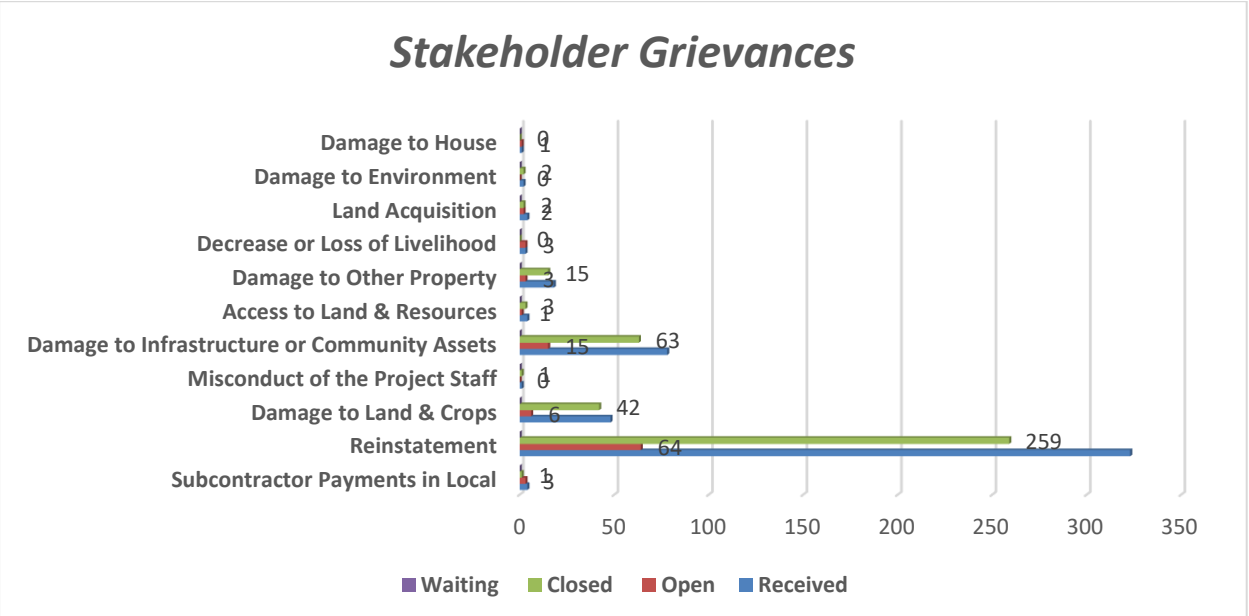
The IESC reminds TANAP to pay attention to ensuring that good stakeholder engagement practices are carried out, including proposing meetings that are at a time convenient for participants, that regular updates are provided, even where decisions have yet to be finalised (e.g. with the turning lane in Aksakli). TANAP has a good record of engagement practice so is encouraged to maintain this during the transition phase particularly while human resources are changing (Contractor CLOs are being demobilised and the operations team is being established) but construction is not yet complete and issues remain outstanding for stakeholders.

**Grievances**

The TANAP grievance mechanism remains in place and is being actively used. There have been 5,079 complaints registered in the Project to date, of which 133 are open and 109 are overdue. A total of 25 grievances have been escalated to the Appeals Committee to date, 18 of which have been closed, 2 are pending and 5 have been further escalated to courts for resolution.

Stakeholder grievances overwhelmingly relate to reinstatement issues in the period 01.04.2019 – 29.10.2019, where 259 of the 323 received at that time have been closed, as shown in **Error! Reference source not found.**. These issues can be expected at the phase of activities at the time, and resolution is being met of those that have been raised.

Figure 4 Stakeholder grievances (1 April – 29 October 2019)



However, there are a number of longstanding reinstatement-related grievances evident in Lots 1, 2 and 3 that have required additional action. In Lot 1 (15 grievances), Lot 2 (19) and Lot 3 (6) an investigative committee has been formed, comprising TANAP, CC, complainant and a soil expert, to agree a resolution to these issues. In these cases, Contractors and landowners/users are in disagreement about whether reinstatement had been achieved correctly. A good solution was found in forming an independent committee to jointly review these cases. Lot 1 was completed prior to the site visit, Lot 2 at the same time as the site visit, with Lot 3 to be completed in December. The IESC notes that the agreed resolutions will require mobilisation of a repairs team by the Contractor in Lot 1 for about half of the cases; this will also enable a test/lessons learned opportunity of warranty period processes. In Lot 4, it is yet to be determined whether any of the grievances will require an investigative committee for their resolution.

The IESC also notes that TANAP recognises that the Appeals Committee, while this is in place and has been activated during construction, the recommendations that the AC makes are not binding for the Contractor, so in this way, it is likely that escalation to court has been avoided through mobilising the Investigative committee.

The IESC observed at the previous visit that the IT systems needed to remain accessible during the transition phase. With confirmation of TANAP as the operating entity, including retaining all IT systems, full and ongoing access to OSID is assured. Further, integration is planned for OSID with a GIS-based system, thereby enabling access to parcel-level data and engagement/grievance history to support, inter alia, external communications.

### 5.1.2 Performance Standard 2: Labour and Working Conditions

#### 5.1.2.1 Working Conditions and Worker Relationships

TANAP continues to use third party labour auditor, Practical Solutions, for monitoring the working conditions and management of worker relationships in the Project. In the most recent report (2019/08/09, for the period May 2019), it was identified that payments to subcontractors had been late. During the site visit it was stated that these had been rectified, however the IESC observes that prior to all subcontractor demobilisation – not yet complete – that all entitlements must be paid in full.

The limited worker interviews carried out by the IESC this visit indicated that workers continue to be aware that the grievance mechanism is in place and can be used if needed; one grievance had been raised by an interviewee but resolved to satisfaction promptly.

Demobilisation for both Integrated Project Management Team (IPMT: Staff comprised of employees and Agency staff contracted to TANAP and indicated on the TANAP Organisation Chart) and construction contractor labour is being carried out as planned, and the IESC is satisfied that there is adequate monitoring of retrenchment processes and that any issues are being raised and closed out in line with Project requirements.

Demobilisation figures for IPMT Staff are being presented to the TANAP Board of Directors at most every six months with Project progress and a list of workers to be transferred or terminated. The latest Board meeting was held in October 2019 and demobilization plan till the end of March 2020 was approved which will bring workforce numbers to just under 400 people for TANAP. The next Board meeting to discuss this will be in Jan/Feb 2020 for completion of mobilisation planned for March 2020. Currently, there are approximately: 437 TANAP employees, 331 PLK and 700 Tekfen workers.

Worker grievances continue to be recorded and addressed. For Contractor PLK, there are currently two open grievances relating to wage/overtime/severance/payment, of a total of 92 worker grievances received in the Project to date. Tekfen reported that 74 worker grievances had been received in the Project to date, all of which are closed.

The IESC notes that TANAP and Contractors both discussed how notification and payments are being approached within their organisations with regards to demobilisation. Under Turkish law, employees can either serve out their notice period, or receive payment and not work the entirety of the notice period. It was stated that in most cases, payment is accepted in lieu of working out the notice period. Further, interviewees indicated that this is additionally helping to retain a focus/maintain motivation in completing final tasks, including ensuring that tasks are carried out safely. However, it must be ensured that all payments are made on time, if the notice period is paid out rather than worked to the final demobilisation date.

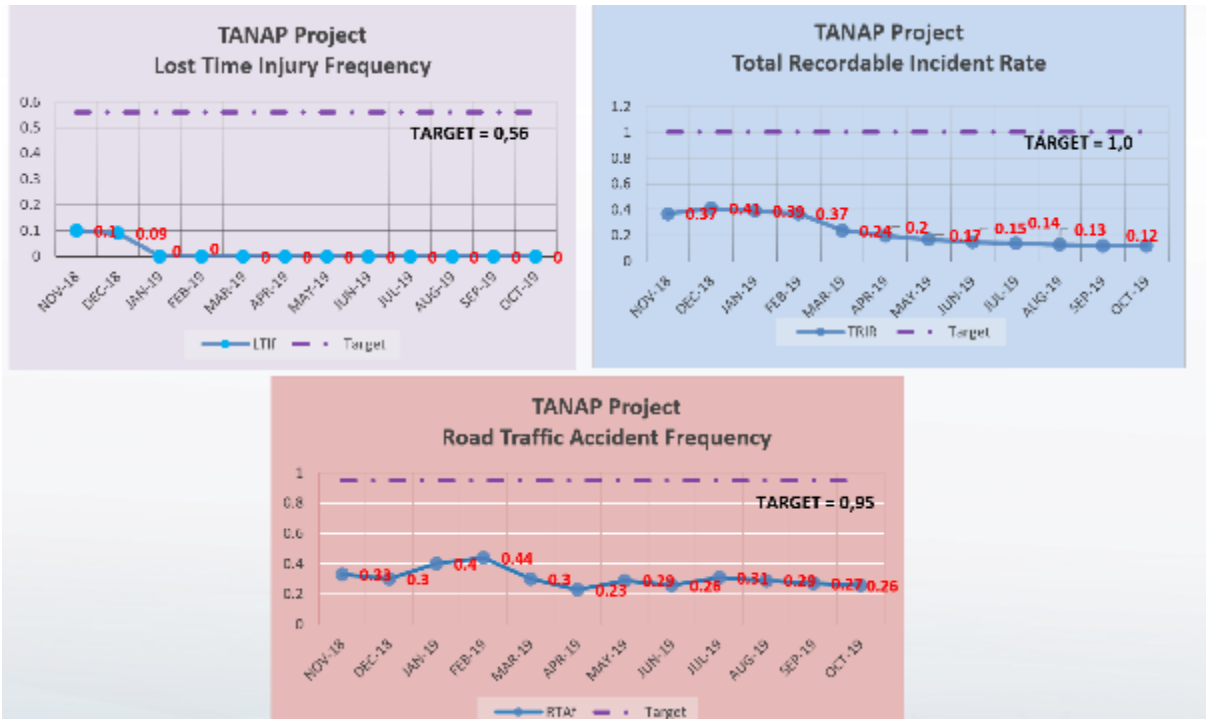
#### 5.1.2.2 OH&S

OHS lagging statistics have improved dramatically through the duration of the Project and currently LTIFR is zero with no lost time injuries YTD.

Figure 5 Health and Safety KPIs

| | | | Current Month | Year to Date | Project to Date | 2019 Targets |
|---|---|---|---|---|---|---|
| EVENTS | Fatalities | | 0 | 0 | 9* | 0 |
| | Lost Time Incidents | | 0 | 0 | 36 | N/A |
| | Road Traffic Accidents (RTA) (≥10.000USD) | | 0 | 0 | 16 | N/A |
| | High Potential (HIPO) Incidents | | 0 | 0 | 39 | N/A |
| | Near Misses | | 3 | 58 | 832 | N/A |
| | Safety Observations | | 1.263 | 30.367 | 145.089 | N/A |
| | Man hours | | 438.207 | 8.689.482 | 114.690.031 | N/A |
| | Km Driven | | 793.680 | 15.547.979 | 230.923.114 | N/A |
| H&S Benchmarks | LTI(f) | (Lost Time Injury Frequency) | 0,00 | | | 0,561 |
| | TRI(f) | (Total Recordable Incident Rate) | 0,12 | | | 1,01 |
| | RTA(f) | (Road Traffic Accident Frequency) | 0,26 | | | 0,951 |

Figure 6 Health and Safety KPIs - LTIF, TRIR, RTAF




Leadership H&S Walk-Down target for 2019 reached and in the change from construction to operations the format for the “walk-down” inspections have been changed.

Based on Ops H&S Training Matrix requirements; Confined Space, Lifting, WAH, Isolation Authority and Ground Disturbance trainings have been conducted at sites.

PTW, Road Safety and Hygiene Audits conducted during May-October, 2019 period at CS1-MS1 and CS5-MS2. There were a number of non-conformances identified in the Road Safety audits that were concerning and did not reflect the current excellent lagging statistics around road safety (pre-use inspections not done, safety equipment missing, Travel Management Plans not completed to standard as examples). In any project where there has been a strong focus on a high risk activity with good results there is a risk of complacency developing. This is when significant and potential tragic incidents occur as the company believes controls are in place and effective. The audits that were conducted are highly commended and provided a “wake-up call” for TANAP regarding road safety.

Results of the hygiene audit also highlighted a number of non-conformances and the TANAP Administration Department has since been put in charge of the kitchens.

The close out status of the action items for the subject Audits:

**CS5 MS2**

- RS Audit: 4 Closed, 1 Ongoing
- PTW Audit: All Closed

**CS1-MS1**

- RS Audit: 22 Closed, 4 Ongoing
- Hygiene Audit: All Closed

Chemical storage was fully compliant where sampled and the recommendation from the previous IESC assessment has been implemented with the following results:

- Chemical compatibility assessments for storage locations
- Only compatible chemicals are stored together
- MSDSs are in date and in Turkish
- Assessment realized at storage locations, chemicals have started to be stored according to the segregation requirements
- Turkish version of MSDSs are provided and displayed accordingly

The IESC observed good general compliance to OH&S requirements and TANAP standards across all the sites visited.

The number of safety observations is commended and is due, in part, to targets for the number of H&S observations taken being related personnel's remuneration (bonuses). The H&S manager raised a concern that quality of the observations was not up to standard as people were more focused on numbers rather than quality. This is a continual struggle when attempting to get the number of observations to a suitable level, and has been managed on other mega-projects by implementation of a system which sends alerts (e-mails) to the person in charge of the area where a safety observation was made, this allows for assessment of the quality of the observation and rejection if required. This does result in a high initial workload for area managers, but results in quality safety observations and a change in behaviour of people making observations.

The incident logs were provided by TANAP as part of the pre-assessment documentation. There were gaps in the information provided in the databases (Excel spreadsheets) and many of the cells contained "NA" including lessons learnt available, safety alert available, and much other details were missing. In the interview with the H&S manager the IESC as informed that the missing information was available but had not been transposed onto the incident log databases. This requires attention as currently the IESC cannot verify that a comprehensive incident investigation system is in place and effective based on the information in this database provided. Note that the IESC are aware of an effective incident investigation system in place and TANAP, however the databases do not reflect this reality.

At MS2 Red Zone, two unsuitable portable access platforms were noted, one appeared "homemade". The IESC were informed that neither was in service, however at the time of the visit neither had "out of service" tags on them. This was rectified by the MS2 team and they were both removed from the site with photos provided to the IESC team as evidence.

Figure 7 Portable Access Platforms

Figure 8 EWP parked adjacent to an OH power line

At CS5 Camp Site, decommissioning and deconstruction of the camp was in progress, and a number of partial compliances were noted.

An elevated work platform (EWP) was sighted parked adjacent to an overhead (OH) power line. This is poor practice as to energise and move the equipment a full PTW would be required. During deconstruction activities use of elevated equipment adjacent to OH power lines can be a significant risk. Areas are congested this can lead to hazardous conditions. Consider demarcation of “no-go” and “no-park” areas marked on the ground for elevated equipment operators.

A TEKFEN workshop was inspected in the camp area. It appeared to be an “ad-hoc” workshop put in place to manage the decommissioning / deconstruction activities and the following non-compliances were noted:

- Poor layout
- Poor housekeeping with material on the workshop floor
- Poor structure – holes in roof and concrete slab with poor drainage
- Water pooling on floor
- Homemade tools
- Scrap and material poorly stored
- Poor electric welding bench and general area with water on floor
- Eyewash bottles with no lids and dust on the eye socket

It was not to standard and presented numerous risks to workers. This is a common hazard during decommissioning / deconstruction activities as the normal controls and standards that were in place are not enforced as the area is in the process of being torn down.

Suitable diligence and focus must be maintained at this time as the likelihood of injury is not less and likely higher. It should also be noted that the risk profile changes not only due to the nature of the work but also because of the attitude of the Contractor and TANAP employees. Personnel can lose concentration whilst considering future opportunities and there can be pressure on expenditure for areas that are about to be removed. Possible mitigation could include

- More frequent inspections by TANAP on Contractor areas and activities
- Checklists for inspections and audits based on decommissioning and deconstruction
- HO personal conducting inspections

The main issue is managing the changing risk profile, and this was not obviously in place at the time of the IESC visit.

Figure 9 Ad-hoc Workshop Identified by the IESC

Figure 10 Alternate View of Workshop

Figure 11 Eyewash Bottles identified by IESC


Figure 12 Home Made Tools in Workshop

The Emergency repair contract poses OHS risks if not managed correctly. Emergency repairs often require short response time and often with specific competencies. Exposure to similar contracts in other projects has highlighted to the IESC that this can often imply that the usual OHS controls applied to Contractors are superseded by the importance of the emergency repair work and that "exemptions" are put in place to manage these very urgent, yet often high risk emergency repair works. The IESC was provided with the power point which details how TANAP manage Contractor's "HSE Assurance/Control Over Contractor's PPT" however the IESC requested that TANAP provide additional detail on how the management of the emergency repair contract would differ to this approach (if at all).

In addition to the uploaded presentation the following controls were noted by TANAP as in place for the management of Emergency Repair companies like ACD:

- H&S Plan, PEP, Emergency Plan and Generic RA of ACD were reviewed
- TANAP checked the personnel / operator information and OHS training and health records of the personnell
- All equipment to be made available in accordance with the contract declared to be used in the field was inspected by H&S

It was also noted by TANAP that ACD will mobilize the necessary resources to the location required to be repaired no later than 24 hours upon Client's first notification to perform the preliminary site assessment for determining the repair method and the resources. Contractor shall mobilize competent personnel, equipment, machinery etc. to perform the EPR Services no later than 48 hours upon Client's approval.

IESC raised an observation around the effective management of the emergency repair contract given the short- timeframe for mobilisation and also that although the company and personnel have been assessed

by TANAP the nature of the emergency may require personnel not assessed by TANAP in the past and with not enough time permitted for a comprehensive assessment prior to the repair work commencing.

### 5.1.3 Performance Standard 3: Resource Efficiency and Pollution Prevention

#### 5.1.3.1 Pollution Prevention

The IESC observed excellent pollution prevention practices being implemented by the Tekfen at the CS5 and MS2 sites visited. This included the use of drip trays to contain potential spillages of fuels or oils beneath generators and the placement of oil drums within secondary containment trays. Additionally, spill kits were provided at both CS5 and within the Red Zone at MS2 (for any unexpected spills, despite them being highly unlikely to be required as construction is completed). These were all adequately and appropriately stocked and hazardous waste bins were located immediately next to the spill kits to facilitate the correct disposal of any used materials following the clean-up of a spill. The floor of the waste storage area at CS5 was concrete and where necessary (i.e. where hazardous wastes were being stored) there was appropriate secondary containment in case of leaks.

#### 5.1.3.2 Waste Management

Previous IESC Monitoring Reports have highlighted the incorrect use of waste bins by EPC Contractors on site for the allocated waste stream. In addition, TANAP identified the issue of mixed waste streams in many of the segregated waste bins during their most recent annual E&S Compliance Audit. This is acknowledged by the IESC to have been a consistent issue that TANAP have continually focused on throughout the Construction phase of the Project, by proactively liaising with EPC Contractors on the ground who have consequently initiated many toolbox talks on this subject. It was therefore a very positive outcome of the visit for the IESC to observe consistently good at source waste segregation at both the CS5 and MS2 sites. The vast majority of the bins checked on site contained only the correct type of waste. The only minor observation was that two of the bins were not labelled, which can be very easily rectified.

At the CS5 Camp Site, the previous central waste storage area has been dismantled and replaced by a smaller waste storage area. Lose waste generated around the site is taken to this central point at the end of each shift. Tekfen were demonstrating good waste management practice here, including the clear segregation and labelling of different waste streams, the storage of waste on a concrete floor, the storage of compatible hazardous wastes within a concrete bund and the provision of the relevant material safety data sheets.

#### 5.1.3.3 Soil Erosion

Reinstatement is 100% completed in Lots 1, 2, 3 and 4 (including re-contouring, topsoil and erosion control measures and biorestoration). The TANAP Specification for Reinstatement (WRP-SPC-EGG-PLG-001) describes the reinstatement requirements that the Contractors should adhere to for areas disturbed by construction activities and the Method Statement for Biorestoration Works in Lot 4 describes the methods of hydroseeding, hydromulching, and jute matting/ flexible growth medium that should be adopted in LOT4.

At KP 1369 hydroseeding had been completed 1 month prior to the site visit (in October) and as such, there was very limited revegetation. Whilst this had been undertaken in accordance with the requirements of the Method Statement for Biorestoration Works in Lot 4, the limited vegetation cover will provide minimal protection against soil erosion during the winter period. It will therefore be important for PLK and TANAP to closely monitor this site during the winter period and especially following significant rainfall to ensure that any soil erosion is detected and addressed in an appropriate time period.

At KP 1661 jute matting had been laid down as part of reinstatement works 4 months prior to the site visit. However, the IESC observed significant gapping between the rolls of jute matting. This in not in compliance with the Method Statement for Biorestoration Works in Lot 4 (PLK-MST-ENV-PLK-028-P4-0) which stated that the jute matting should be overlapped away from the prevailing wind and water flow direction. This was not considered by PLK to present a soil erosion risk due to the fact that hydromulching of the slope surface has also been undertaken at this site. There were no obvious signs of erosion, but this may be due to a lack of significant rainfall since the matting was laid down. The IESC is concerned that over the winter period there may be heavy rainfall events that will result in soil erosion where there are such large gaps in the jute matting, especially as minimal revegetation was observed. As the slope is already revegetated, re-implementation of the jute matting is not practical. Where gaps in the jute matting has been observed, TANAP will closely monitor these areas. Any observed defects including erosion will be added to the Defect List and be rectified prior to provisional acceptance.

#### 5.1.3.4 GHG Emissions Quantification

Çinar has been appointed to conduct annual GHG reporting to meet Turkish legal and IFI requirements, and ESIA commitments. In addition, Aura will be producing annual verification reports for the GHG reporting. The IESC has been provided with the Çinar 2018 Annual GHG Emissions Report for Operations (dates 28.03.2019). This includes Scope 1 and 2 emissions and reports that the total annual GHG emissions resulting from the operation of the Project in 2018 is 19,027 t $CO_2$ eq. The total operational GHG emissions were expected to increase in 2019 due to start of operation of all components of Phase 0 facilities and the start-up of Phase 1 facilities. The next annual GHG Emissions Report for Operations is due to be issued in Q1 2020 and will be a focus of the next monitoring site visit.

### 5.1.4 Performance Standard 4: Community Health, Safety, and Security

At the previous visit, TANAP had engaged consultants the Solo Institute to develop the Community Based Emergency Risk Assessment Study, including the Community-Based Emergency Management Plan. This was finalised in September 2019 and rollout of emergency preparedness with stakeholders is planned for Q1/2020. This closes out the action from the previous visit report.

Measures for protecting public health and safety remain in place from previous visits, i.e. outstanding risk management practices for safe driving, and site security measures protecting public access to AGIs.

TANAP continues to have received no claims of failure to meet the Voluntary Principles on Security and Human Rights.

### 5.1.5 Performance Standard 5: Land Acquisition and Involuntary Resettlement

#### 5.1.5.1 Consultation and Engagement

The RAP and LRP plans and procedural documents are in place in the Project, with updates as required to address specific issues. Stakeholder engagement is also continuing, with critical consultations including RAP Fund meetings now completed, and additional identification, engagement and support (where this may be necessary) with vulnerable households. See also PS1.

Following recent elections, newly elected muhtars have also received briefings from the TANAP team about the Project; this was verified during stakeholder interviews during the visit. Issues of continuity were not raised: it was described that both former and new muhtars are both part of the villages and have at least some awareness of the Project in their affected villages already.

#### 5.1.5.2 RAP and LRP Implementation

The RAP and LRP team has made substantial progress in completing tasks identified in the Addendum to the RAP. These include:

- Achieving 99.7 7% of payments to eligible PAPs for additional payments under the RAP Fund;
- Multiple pipeline payments now completed;
- Completion of all RAP Fund payments;
- Delivery of livelihood restoration assistance packages to 133 eligible households affected by permanent land acquisition for AGIs; and
- LRP for AGI-affected households: 2nd Round Monitoring was also completed in October 2019, with the delivery in 9 of the 14 eligible settlements of the community-based livelihood and social supports for the AGI-affected settlements have received their payments and commenced works. All payments will be completed before the end of Q4/19.

TANAP has prepared the following table (Table 7) identifying actions yet to be completed in order to reach the Completion Audit for the RAP and LRPs.

Table 7 Planned and Ongoing RAP/LRP Activities to Q2/2020

| ACTIVITIES | STATUS | Completion Date |
|---|---|---|
| Delivery of Community-Supports to AGI-affected 14 settlements | Ongoing | December 2019 |
| 6th (last) External RAP Monitoring Panel Visit (October) and Report (December) | Ongoing | December 2019 |
| Field study for Identification of Project-affected Vulnerable People (VP) | Ongoing | December 2019 |
| Pipeline-related Livelihood Impact Assessment on PAPs received crop payments | Ongoing | December 2019 |
| 12th Internal RAP Monitoring Report | Planned | December 2019 |
| Revision of RAP Monitoring Plan and ist disclosure on TANAP website | Ongoing | January 2020 |
| Developing possible additional supports for Project-affected VP | Planned | March 2020 |
| Last (3rd round) Monitoring of LRAPs and Community Supports | Planned | March 2020 |
| Commencement of RAP Completion Audit | Planned | June 2020 |

Botas is currently undertaking internal research, at TANAP's LAC department request on how much money is still in escrow being held for eligible land owners/users. Botas described trends in how the balance of funds are being accessed, broadly:

- Where there is one landowner or up to approx. 5 shareholder landowners, this money has been withdrawn from escrow
- There are approx. 5-10 or more shareholder landowners, this money has not been withdrawn.

The explanation for the trend is that the cost/time/effort in accessing funds for shareholder owners can be higher than the amount of entitlement; or, that shareholder landowners may be absent/abroad, so a

peak in access to the escrow account may occur in the summer, when landowners return for the season. For this reason, TANAP (and Botas) can notify villagers during the summer about the funds in escrow available to the relevant PAPs.

Land access in what was Lots 1, 2 and 3 is now managed by TANAP's Social Impact team, including support for households which need to implement crossings (e.g. by agricultural pipes) of the pipeline. Stakeholder interviews indicated that this was a straightforward process for the household with full support from TANAP. The IESC notes however that knowledge of the process requires that the PAP has participated in / is clear about the land use restrictions; those who have not participated in the land use disclosure meetings may not yet be so well informed.

#### 5.1.5.3 Grievances

In the Project to date, 5,079 grievances have been registered. Of these, 97% are closed, 133 are open and 109 are overdue. As Land Exit meetings were carried out in Lot 4, grievances were recorded. The most frequently cited issues were improper reinstatement; damage to crops and land; overspill; recontouring; and stones left on soil. However, third party E&S monitoring by Cinar shows that generally, lands have been successfully recultivated. This was additionally reported to the IESC during interviews: cultivation has been recommenced, with productivity not less than that which was anticipated.

#### 5.1.5.4 Land acquisition

Total number of parcels subject to land acquisition is 28,937 (an increase of approximately 20 from the previous visit) and 97.05% of public and private parcels have been registered in the name of the LRE.

The current land acquisition statistics, as at 30 October 2019 are shown in Table 8.

Table 8 Land Acquisition status (30 Oct 2019)

| | Total Number of Parcels | Number of Private Parcels | Number of Public Parcels | Total Number of Registered Parcels | | | Registered Parcels % Breakdown | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Private | Public | Total | Private | Public | Total |
| **Pipeline** | 24,809 | 18,340 | 6,469 | 17,992 | 6,311 | 24,303 | 98.10 | 97.56 | 97.96 |
| **AGI** | 516 | 419 | 97 | 402 | 93 | 495 | 95.94 | 95.88 | 95.93 |
| **ETL*** | 2,966 | 2,020 | 946 | 1,850 | 844 | 2,694 | 91.58 | 89.22 | 90.83 |
| **Access Roads** | 431 | 289 | 142 | 262 | 128 | 390 | 90.66 | 90.14 | 90.49 |
| **Ancillary Areas & Utilities **** | 215 | 170 | 45 | 159 | 41 | 200 | 93.53 | 91.11 | 93.02 |
| **Total** | 28,937 | 21,238 | 7,699 | 20,665 | 7,417 | 28,082 | 97.30 | 96.34 | 97.05 |

*ETL: Energy Transmission Lines
*** Drainage, Cathodic Protection, Fault Lines, Rip-Rap, Sewage and Potable water*

#### 5.1.5.5 Livelihood restoration

Current figures (as at March 2019) for livelihood restoration eligibility is 133 households, to whom individual and 14 settlements entitled for the community livelihood restoration assistance packages (LRAPs) have or are being delivered, and to 14 settlements entitled to community-based social support. TANAP is commended on progressing this area of work; interviews with PAPs during the visit indicated very good support from the Team to affected households in understanding eligibility and delivering the PAPs' selected support measures.

The IESC was able to receive an indication from those landowners/users in ROW-affected parcels on their self-assessment of livelihoods compared to pre-Project levels. It is noted that in all cases PAPs responded

that livelihoods were the same; they had been able to harvest pre-construction, then received compensation entitlements to cover 3 years of crop harvest, and that this is considered reasonable given crop productivity evident in the ROW so far (i.e. it has not yet returned to pre-disturbance yields, exactly as was anticipated). The IESC will follow up on outcomes of the study on the Livelihood restoration of temporarily affected landowners in the ROW, at the next visit.

#### 5.1.5.6 Monitoring

Internal monitoring and IESC monitoring is continuing. The most recent report of the External RAP Monitoring team was undertaken in June 2019. This lists 21 outstanding tasks at the time of their visit on issues regarding RAP management; land reinstatement/land exit; livelihood restoration; cumulative impacts; grievances and engagement. The IESC recognises that some of these items are now works in progress or have since been completed. These items should be completed prior to the Completion Audit, currently anticipated for mid-2020. The 6$^{th}$ and final External RAP monitoring visit was carried out in October, with the final report due in December 2019.

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

#### 5.1.6.1 Biorestoration and Reforestation in LOT4

TANAP developed reinstatement, biorestoration and reforestation requirement documents specific for LOT4. As of November 2019 all biorestoration work was fully completed, while the reforestation work was about 75% complete in LOT 4. The IECS is satisfied with the good implementation of the Mitigation Hierarchy (Avoid, Minimise, Mitigate/Restore, Offset) and evidence of TANAP and its Contractors undertaking their roles adequately in areas visited in LOT4.

As agreed through the signed Protocol between the LOT4 Contractor and the Ministry of Forestry and Agriculture, all reforestation activities and care and maintenance work will be the Ministry's full responsibility, with some supervision by the LOT4 contractors during the process. The IESC team observed some variations between the TANAP Reforestation Strategy document requirements and actual reforestation activities in the field such as tree planting methods and timing. These deviations were reviewed and approved by TANAP during review of the reforestation project applications. Overall risks from using the different reforestation approach may be low as all the activities are carried out by the professional entities. It is less value to revise the reforestation documents at this stage as most of the replantation activities completed, however, it is IESC's suggestion that review and approval of any biorestoration activities that needed to be carried out different to the specified methods, need to be clearly provisioned in the relevant documents for clarity. The IESC observed, based on the document review, some potential oversight lapse by TANAP in the reforestation care and maintenance period in 2022. On this issue, TANAP provided an explanation that confirms TANAP's continued monitoring of reforestation success through its operational monitoring programmes .

The LOT4 Aftercare Management Plan was under TANAP review and needs to be approved soon, so the monitoring and necessary repair work by the LOT Contractor could commence in timely manner.TANAP has engaged with professional entities (Cinar/Golder for Biodiversity Offset Management Plan Development Studies and Preparation, ENVY for Environmental Monitoring and Consultancy, ACD for Row Restoration Vegetation Maintenance Management and Snow Removal) for the required post construction monitoring.

#### 5.1.6.2 Implementation of the Mitigation Hierarchy in Critical Habitats

The IESC visited two Critical Habitat sites (CH58 and FCH26) in LOT4 during this audit. IESC is satisfied with the implementation of the mitigation hierarchy activities in the visited Critical Habitat sites. The previous IESC audit in May 2019 determined that mitigations required by the BAP were included in construction scheduling and planning. During this audit the IESC team observed reinstatement and biorestoration activities have been completed to high standard. Installed slopes breakers and riprap work are observed to be functioning as they it intended to and the plant coverage at CH58 and FCH26 indicate successful revegetation.

It is observed during this IESC audit that certain plant species (for example *Chenopodium botrys*) dominated the RoW compared to the neighbouring undisturbed habitat. TANAP's Contractors ecologist explained that this was normal ecological process after heavy disturbance like fire and the dominant plants will gradually decrease when other plants started growing. Another observation noted by the audit team was that 'bridging' of jute matting over the soil surface by the dominant species growth and TANAP is advised to monitor this at CH58.

Construction of the river crossing at FCH26 was completed. The IESC is satisfied with the status of the reinstated river banks regrowth of the riparian vegetation that appeared to be recovering well after the river crossing reinstatement and biorestoration measures taken place.

#### 5.1.6.3 Biodiversity offset Planning and Implementation

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 BOMP preparations progressed since the previous IESC team visit in May 2019. During this period six potential offset projects has been identified with close collaboration with Nature Conservation Centre (DKM) and Anatolian Pastures (AP) NGOs. The target species surveys and fine scale (1:10,000) habitat mapping also undertaken for the preliminary offset project areas with the aim of selecting the offset project sites and activities. Results of these surveys are used to improve the accuracy of the net gain calculations.

Consultation and engagement with other parties, including government authorities and NGOs, has continued to date to ensure all parties to understand and agree the offset projects implementation while making sure the identified projects' implementation is legally and institutionally feasible. Consultation outcomes also provide useful feedback to refine the selected proposal as reported in the Quarter 3 BOMP development progress report by Golder.

As of November 2019, the final BOMP is under development and it is expected to be completed by January 2020. IESC considers the scheduling and procedure for biodiversity offset implementation to be on track and in accordance with the requirements of PS6.

### 5.1.7 Performance Standard 8: Cultural Heritage

Cultural heritage was not assessed during this visit as there has been no new land clearance since the previous visit.

# Appendix A Assessment Table - IFC Performance Standards (2012)

| PS Heading<br><br>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 2014 and "EIA Positive Decision" for the TANAP Project was obtained from the Ministry of Environment and Urbanization (MoEU) in 2014.<br><br>As it was noted during the previous IESC audit findings, the ESIA on OHLs and Anode Bed-lines (CIN-REP-ENV-GEN-026 Rev-P3-1) has been updated to include impacts on bird species and Çinar has been contracted to undertake bird monitoring at areas where impacts are likely to occur.<br><br>IESC is satisfied with the TANAP's to date progress with the bird monitoring activities as required by the ESIA of OHLS and Anode Bed Lines. Cinar completed the required spring bird monitoring in all areas (i.e. MS4, DSW, DSE, CS7, BVS21, CS1) along the known for bird migration routes during the spring migration (April-May 2019) and post spring migration period (June -July 2019). Cinar's autumn bird monitoring is completed and report was under preparation during this IESC audit.<br><br>OHL mitigations and additional monitoring will be implemented based on the findings of | **PC** | Based on the findings of Çinar's bird monitoring report, TANAP are recommended to reassess the necessity for mitigation measures and further monitoring requirements for birds. |

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| | | Çinar's bird monitoring report.<br><br>There has been one Project change in 2019 that has been subject to the TANAP Management of Change (MoC) process. This is outlined under 3.10 of Appendix A of this Report. | | |
| **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.<br><br>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).<br><br>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. | | | |
| 1.9 | Consider risks and impacts resulting from third party involvement (where the client | | | |

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| | 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** | | | | |

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| 1.13 | Establish management programmes that describe mitigation and performance improvement measures and actions that address the identified risks and impacts. | The Operations Phase Environment and Social Management Plan (ESMP) and associated topic specific Management Plans have been completed, although where demobilisation activities and final Punchlist activities remain under Phase 1 of the Project (which was 99.9% complete at the time of the site visit), the existing Construction Contractors' E&S Management Systems, Plans and Procedures are still valid.<br><br>There are a number of environmental activities that are on-going to ensure operational readiness. These include:<br>• The on-going review of Operational Documents to ensure all HSE aspects are included;<br>• Ensuring all Operations Environmental Plans have been implemented;<br>• Continuation of the Operations Phase Environmental Permitting Process (Environmental Permits for MCC and MS1 and Provisional Operation Certificated for CS1, CS5/MS2 and MS4 were received);<br>• The management of waste is still under the responsibility of the Contractor at the existing construction camp sites and TANAP at all the stations; and<br>• Wastewater management is now under the responsibility of TANAP.<br><br>The monitoring site visit identified examples of inconsistent implementation of Health & Safety controls by Tekfen at the CS5 site (as outlined in Section 5.1.2.2). The IESC recommends that TANAP continues to work closely with Tekfen during the de-mobilisation process to ensure that Project commitments outlined in the ESMS continue to be fully implemented. It will be important to maintain the standards of H&S performance achieved on the Project to date despite the Construction phase coming to an end. TANAP acknowledged during the opening meeting that as the Project transitions into the Operations Phase there is a need to maintain the good H&S standards set as a precedent during Construction but as most sites are now under the control of the TANAP | **FC** | |
| 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 | | | |

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| | responsive to changes in circumstances, unforeseen events and results of monitoring and review. | Operations team and the TANAP Permit to Work system, the level of oversight is expected to be more consistent and that any grey areas in approach should be avoided. | | |
| **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. | The primary internal TANAP team is now the Operations Team as opposed to the Construction Team as the Project enters the final 'Modifications' stage and work is on-going to close out the remaining construction contracts with all Mechanical Completion contracts having been issued.<br><br>The structure of the Quality, Health & Safety and Environment organisation for the Operations phase is illustrated in The social impact team is also part of the QHSSE Directorate. Currently during transition phase, there are now 8 roles including the manager and consultants in headquarter, and three on sites for operations and two still on site for construction. At the headquarter, SI team will comprise 3 staff. Four site-based roles will remain, based at an AGI to enable communications with the rest of the team and TANAP more widely. These are anticipated to be at: CS1/MS1 (tbc), Area Maintenance Center 3, CS5/MS2 and MS3/MS4. As it is currently being carried out, the role based in CS5 currently provides social impact services to approximately 400km of pipeline (a part of former Lot 3) and AGIs. Upon Lot 4 construction completion and demobilisation of the CC's CLO, this position is earmarked to have responsibility of an additional 200km of pipeline and AGIs. Again, while currently compliant with Lender requirements, the IESC recommends a review of sufficiency of the number of Social Impact Specialists to provide adequate services in each area prior to the expected official commencement of commercial operations of Phase 1 on 30 June 2020.<br><br>Following completion of Provisional Acceptance for Lot 4 CC, it was stated that the confirmed SI team will come together for training. While all SI site staff will act under the same job description, this would be a reasonable time for undertaking a capacity building efforts for the team as a whole. Influencing factors are anticipated to include that there may be challenges in finding an available, interested and appropriately skilled individual | **FC** | Whilst this has been found to be fully compliant an observation has been made as follows:<br><br>Further work is required to develop detailed role descriptions for the QHSE Engineers that will allow them to assess their competence and confidence to undertake the roles and consideration should be given to splitting the roles into disciplines, based on risk. It is also recommended that a tailored training programme is developed for the Operational QHSE Engineers to be based on site to ensure they have adequate background understanding of all the |
| 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 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 | | | |

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| | 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. | for the role based permanently at CS1. . It should be noted that this does not include the Social Impact (SI) team, which will comprise 3 staff (one SI manager and one Senior SI Specialist and one SI Specialist). Four site-based roles will remain, based at an AGI to enable communications with the rest of the team and TANAP more widely. These are anticipated to be at: CS1, Maintenance Area 3, CS5 and MS3/MS4 (tbc). While currently compliant with Lender requirements, the IESC recommends a review of capacity of Social Impact Specialists to provide adequate services in each area prior to the official commencement of operations of 30 June 2020.<br><br>All of the Managers and QHSE Engineers based on site have transitioned across from the Construction phase, ensuring the retention of important Project knowledge and experience. The various managers will be supported by the respective teams based in TANAP Headquarters in Ankara. However, the IESC was concerned that the QHSE Engineers on site will be taking on a significant role with a requirement to have an adequate understanding of all the areas covered (i.e. QA/QC, Environment and H&S) but as individuals may not be technical experts or have adequate background knowledge in all of these areas. The IESC was informed during the site visit that a workshop was recently held in Ankara to remind all individuals in the Operations teams what is required in terms of incident and KPI reporting and all teams presented on their topics to ensure a good understanding for all individuals.<br><br>Despite being compliant, further work is therefore required to develop detailed role descriptions for the QHSE Engineers that will allow them to assess their competence and confidence to undertake the roles and consideration should be given to splitting the roles into disciplines, based on risk. Direct training may also be required for the QHSE Engineers to ensure they have an adequate and appropriate understanding of all of the topics they will be expected to oversee on site. A training matrix for H&S has been provided. The Organisation Chart for Operational Phase QHSE can be seen in The social impact team is also part of the QHSSE Directorate. Currently during transition phase, there are now 8 roles including the manager and consultants in headquarter, and three on sites for operations and two still on site for construction. At the headquarter, SI team will comprise 3 staff. Four site-based roles will remain, based at an AGI to enable | | topics they are expected to oversee.<br><br>A further observation: a review of Social Impact operational staff arrangements (including team capacity and full time availability across all locations, following demobilisation of all construction staff and considering Modifications team role) should be carried out prior to 30 June 2020 to ensure sufficient SI coverage of the whole operation. |

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| | | communications with the rest of the team and TANAP more widely. These are anticipated to be at: CS1/MS1 (tbc), Area Maintenance Center 3, CS5/MS2 and MS3/MS4. As it is currently being carried out, the role based in CS5 currently provides social impact services to approximately 400km of pipeline (a part of former Lot 3) and AGIs. Upon Lot 4 construction completion and demobilisation of the CC's CLO, this position is earmarked to have responsibility of an additional 200km of pipeline and AGIs. Again, while currently compliant with Lender requirements, the IESC recommends a review of sufficiency of the number of Social Impact Specialists to provide adequate services in each area prior to the expected official commencement of commercial operations of Phase 1 on 30 June 2020.<br><br>Following completion of Provisional Acceptance for Lot 4 CC, it was stated that the confirmed SI team will come together for training. While all SI site staff will act under the same job description, this would be a reasonable time for undertaking a capacity building efforts for the team as a whole. Influencing factors are anticipated to include that there may be challenges in finding an available, interested and appropriately skilled individual for the role based permanently at CS1. | | |
| **Emergency Preparedness and Response** | | | | |
| 1.20 | Establish and maintain an emergency preparedness and response system. | Lagging OHS statistics are excellent and best practice, with the exception of emergency drills conducted against target (14 from a target of 24). Emergency drills are a vital aspect of risk management and especially important as a Project moves into operations. They should be conducted on a regular basis in accordance to targets throughout the year at all locations and scenarios should be risk based. SOLO has been appointed as an external consultant for emergency drills to get the operations on track. | **PC** | It is recommended that emergency drills be conducted on a regular basis in accordance to targets throughout the year at all locations and scenarios should be risk based. |
| 1.21 | Assist potentially affected communities and local government with preparations to enable effective response to emergency situations (if | | | |

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| | 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 emergencies associated with the Project. Document and disclose to Affected Communities and government agencies. | At the previous site visit, the Solo Institute had been engaged to prepare an emergency response plan for directly affected communities. This work has now been completed. See also PS4. | | Complete disclosure of the Community-based Emergency Response Management Plan. |
| **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. | In Lot 4 there have been a total of 2,026 Punchlist Items identified through the close out monitoring process undertaken by TANAP and the third party E&S monitoring and analysis that has been conducted by Çinar during the Construction Phase. Of these 223 were still open at the time of the site visit. The Punchlist items are tracked through the Punchlist register, which is updated on a weekly basis. Once PLK considers that all of the Punchlist Items have been closed, and all land exit protocols for Lot 4 have been signed, they can apply to TANAP for Provisional Acceptance (PA). As around 90% of the Punchlist Items in Lot 4 have been closed, PLK are aiming to achieve Provisional Acceptance by the end of 2019, or early 2020 at the latest. Any Defects that are identified beyond PA are tracked through a Defects Register, which is also updated on a weekly basis. The Defects Register for Lot 3 contained 16 Items relating to the pipeline. The EPC Contractors will remain liable for any Defects identified within their warranty period (which will be for 3 years duration from Mechanical Completion or 2 years from Provisional Acceptance – whichever comes first). When the Contractor considers that a Defect has been addressed, they issue a Notice of Inspection to TANAP, which triggers a bi-party inspection of the site with a relevant TANAP individual (depending on the issue). The Defect is then signed off as closed if TANAP are comfortable that it has been adequately addressed. | **FC** | This IFC PS was fully compliant, however there is an observation as follows:<br><br>The IESC notes that ROW patrolling could potentially be strengthened by use of technologies (e.g. drones, VR), particularly in areas which may be harder to access for any social, environmental or other reason. |
| 1.23 | Use inspections and audits to verify compliance and progress toward desired outcomes. Document results and corrective and preventative | | | |

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| | actions implemented and followed up. | There will be multi-layered Operational Phase RoW monitoring to ensure that any Defects are detected and can be rectified within a time period commensurate with the risk generated. Contractors are required to produce and submit Aftercare and Monitoring Plans to TANAP for approval to outline how they will ensure that any defects are detected and addressed Contractors are also required to continue to monitor the RoW during their warranty period, accompanied by TANAP, at least 4 times per year. In addition, the TANAP Specification for Reinstatement (WRP-SPC-EGG-PLG-001) requires that slope breakers shall be inspected immediately after any significant rainfall event (1 in 2 year return period) within the first month after construction and at a minimum every 6 weeks for the first 6 months following construction. Then the frequency should be every 3 months up to 2 years after construction when it drops to annual.<br><br>There will be Operational patrolling of the RoW undertaken in accordance with the TANAP Standard Operation Procedure for ROW Patrolling (TNP-PCD-OPR-GEN-153-P3). In this Procedure, RoW patrolling is defined as the, "*visual inspection of the pipeline corridor to check 3rd party interferences, surface conditions, erosion, construction activity and leaks or monitor and report of the condition of the pipeline ROW and surrounding environment*". The patrolling will be performed throughout the entire pipeline by 7 teams under the responsibility of four dedicated zones (CS1/MS1, CS3/AMC, CS5/MS2 and MS3/MS4). According to the Procedure, patrolling teams will make daily trips to a 30km section. As such, the pipeline RoW should be walked every 4 weeks.<br><br>The TANAP Environment Department based in Ankara will continue to undertake annual monitoring and inspection visits to inform the production of the E&S Compliance Report.<br><br>The contract for the third party E&S monitoring and analysis that has been conducted by Çinar during the Construction Phase has been extended from 15 December 2019 to the end of April 2020 (as there are some outstanding issues to be closed out that are expected to be carried over into 2020). Beyond this third party monitoring during the Operations Phase will be undertaken on a monthly basis by ENVY. This will primarily be to inform TANAP of its ongoing environmental performance and compliance (not for | | |
| 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. | | | |

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| | | Lenders), although ENVY will consider both the Turkish regulatory and IFI requirements as part of their scope of work.<br><br>Finally, Sustainability Pty Ltd will continue in its role undertaking Independent Environmental, Social and Safety Monitoring and Consultancy Services on an annual basis to meet Lender requirements.<br><br>Çinar will remain on the Project to produce the annual GHG Report and Continuous Emissions Monitoring System Verification Report.<br><br>Should any defects be identified, there are multiple contracts in place to ensure repairs are undertaken. In addition to the Contractors' warranty period obligations to repair any identified Defects, FERNAS has been awarded a ROW restoration and vegetation maintenance management and snow removal contract, which will incorporate performing any minor repairs that are not the responsibility of the Contractor.<br><br>There are several area maintenance centres located along the pipeline and the monitoring system in the main control centre will detect any leaks and mobilise a repair team from the nearest centre. An Emergency Repair Contract, for any major repairs of defects that arise beyond the Contractors' 2 year warranty period was awarded to ACD Insaat Ticaret Ltd. Sti on 29th May 2019. The scope of services under this Contract is to undertake any emergency (causing gas flow interruption or has an interruption risk)/non-emergency temporary and/or permanent repairs and Project modifications on the TANAP system (all on-shore above and below ground pipeline and piping and AGIs). The Contract does not include the offshore pipeline. It is the intention to tender for a separate off-shore emergency repair contract that will be used on a call off basis. There is also an off-shore inspections contract for regular inspections of the condition of the 2 pipelines. It is noted that the two off-shore pipelines both have the capacity to carry 100% of the gas supply and therefore if one pipeline needs to be isolated to effect a repair the other can fully compensate. There have been no emergency repairs required to date. ACD Insaat Ticaret Ltd. Sti have also been awarded a Modifications Contract which covers unforeseen issues that are not the responsibility of the EPC Contractors or are a risk to | | |

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| | | the integrity of the pipeline, for example, drainage, problems with the conditions of roads and design modifications. | | |
| **Stakeholder Engagement** | | | | |
| 1.25 | Stakeholder engagement is an ongoing process that may involve the following elements:<br>• stakeholder analysis and planning;<br>• disclosure and dissemination of information;<br>• consultation and participation;<br>• grievance mechanism;<br>• ongoing reporting to Affected Communities. | Stakeholder engagement is being carried out in accordance with the Stakeholder Engagement Plan (SEP) of September 2018 (TNP-PLN-SOC-GEN-001-P3-4). The SEP describes responsibilities for TANAP, CCs and LRE for the construction phase, and provides for the updated RAP-specific stakeholder engagement provisions and post-construction RAP-related engagement (Annex 2), and analysis, methods and engagement activities and monitoring during the operations phase of the Project (Annex 3). | **FC** | |
| 1.26 | Identify stakeholders, including Affected Communities, and consider external communications to facilitate a dialog with them. | Stakeholder engagement is being carried out in accordance with the Stakeholder Engagement Plan and interviews with community members during this visit demonstrated good feedback on accessibility and responsiveness of CLOs to any community concerns/issues. Construction Contractor CLOs are still leading on engagement in Lot 4 and for AGIs, with support from TANAP specialists as necessary. TANAP's operational Social Impact team will lead as the Contractors are fully demobilised; this has already occurred in Lots 1, 2 and 3, where there is now one Contractor CLO present in Lot 1 only. | **FC** | This IFC PS was fully compliant, however there is an observation as follows:<br>The IESC observes that TANAP needs to ensure the basics of good engagement practice |
| 1.27 | Develop and implement a SEP tailored to the characteristics and interests of the Affected | | | |

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| | Communities. Include differentiated measures to allow effective participation of those identified as disadvantaged or vulnerable. | However a number of engagement issues emerged during the visit:<br>• The first round of Land Use Information meetings have been held; a second round has been identified as necessary given low turnout to round one<br>• Outstanding engagement issues and requests are yet to be addressed (e.g. turning lane on the road into CS5/MS2).<br>Disclosure of and engagement on the Community Based Emergency MP is planned for 2020, although Lots 1, 2, and 3 are under Operations control. | | need to be met (e.g.: engaging with stakeholders using appropriate methods, engage at suitable times, follow up as necessary). TANAP's evidence of engagement / records should show follow up to stakeholders met during Nov 2019 visit in line with good industry practices, including for the following groups/issues:<br>• Regarding the turning lane to CS5/MS2; and<br>• Engagement on Land Use Awareness meetings (2nd round). |
| 1.28 | Where the Project location is not known, prepare a stakeholder engagement framework including general principles and strategy to:<br>◦ identify Affected Communities and other stakeholders; and<br>◦ plan for an engagement process. | | | |
| 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. | Information disclosure continues, including the commencement of distribution of leaflets with land exit, a disclosure announcement on LRAP monitoring on the TANAP website, and to participants of the Annual Stakeholder Meeting (where each stakeholder participant received a written information package comprising a Project Leaflet in Turkish).<br>Interviewees during this visit confirmed that brochures have received materials although this does not always ensure it is read (see above). | **FC** | See 1.26 |

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| 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.<br>In the 9th Quarter to March 2019, key engagement actions have included:<br>• Annual Stakeholder Meetings conducted in January 2019;<br>• Engagement with directly affected communities on the future of the construction camps (MoC process completion)<br>• RAP Fund engagement meetings (combined with land exit engagement in LOT1)<br>• AGI-affected settlement engagement on community-based livelihood support options<br>• Monitoring of LRAP beneficiaries.<br>Second round of land exit negotiations completion (except for a small number of villages in Lot 1). | **FC** | |
| 1.31 | Conduct an Informed Consultation and Participation (ICP) process for Projects that may have significant adverse impacts. | Separate meetings had been held periodically with women and vulnerable households in the Project Area.<br>In the process of identifying potentially vulnerable households along the pipeline route, TANAP completed a first, preliminary round of interviews with muhtars. The RAP monitoring report of Q9 identified that no more than 50 households are expected to be vulnerable and require additional support. To confirm this figure and provide for this support, a field study is being prepared for implementation in Q4/19 by an independent consultant. The methodology and questionnaires for interviews have been prepared and interviews to finalise identification of vulnerable households are due to conclude in | **FC** | |

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| | | December 2019. Confirmation and delivery of any additional support will commence in Q1/2020. | | |
| 1.32 | Conduct an ICP process for Projects that may have 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). | The requirements of PS7 are not triggered by the Project. | **FC** | |
| 1.33 | When stakeholder engagement is the responsibility of the host Government:<br>• collaborate with the responsible agencies (to the extent permitted) to achieve outcomes consistent with the objectives of this PS.<br>• play an active role in engagement planning, implementation planning and monitoring (if Government capacity is limited). | The change management process requiring consultation with affected stakeholders on the change in land use of six temporary construction camps has been concluded. An engagement and social impact assessment process has been carried out. Engagement included community level engagement meetings, local authority meetings and face to face interviews relating to the 19 affected settlements. Attendees from the proponent side included experts from the Çinar, BOTAS and TANAP teams and impact assessment carried out. Future uses of camp facilities have been determined that offer continuation of economic contributions to those areas or reinstatement. The Annual monitoring required under the SIA is to be conducted in mid-2020. | **FC** | |

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| | • conduct a complementary process when the Government-led process does not meet the relevant requirements of this PS. | | | |
| **External Communications and Grievance Mechanisms** | | | | |
| 1.34 | Implement and maintain a procedure for external communication. | The TANAP grievance management system remains active and operational. With the operational organisation now confirmed, it is also clear that TANAP will retain operational control and will retain access to OSID data from the construction phase. | **FC** | |
| 1.35 | Establish a grievance mechanism to receive and facilitate resolution of Affected Communities concerns about the Project's environmental and social performance. | The TANAP grievance mechanism remains in place and is being actively used. There have been 5,079 complaints registered in the Project to date, of which 133 are open and 109 are overdue. A total of 25 grievances have been escalated to the Appeals Committee to date, 18 of which have been closed, 2 are pending and 5 have been further escalated to courts for resolution.<br>Stakeholder grievances overwhelmingly relate to reinstatement issues in the period 01.04.2019 – 29.10.2019, where 259 of the 323 received at that time have been closed. These issues can be expected at the phase of activities at the time, and resolution is being met of those that have been raised. | **FC** | |
| 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 | Annual stakeholder meetings are again to be held commencing Q4/2019 and will be reported on at the next site visit by the IESC. | **FC** | |

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| | that are of concern to Affected Communities. | | | |
| | Communicate material changes or additions to mitigation measures or actions described in the Action Plans to Affected Communities not less than annually. | | | |

| **PS 2: Labour and Working Conditions** | | | | |
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| **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 HR function continues to use third party labour audits by Practical Solutions to verify contracted labour is being managed in accordance with TANAP's standards, Project lender standards and requirements, and national law.<br><br>The Practical Solutions' audit (May 2019) indicates that payments to subcontractors had been made late by PLK and Tekfen. It was reported during the site visit that these had been rectified prior to demobilisation of the relevant subcontractors.<br><br>However, the IESC notes that all subcontractors have not yet been demobilised thus the Project still needs to ensure all entitlements are paid to workers for the remainder of the job.<br><br>Interviews conducted with workers during this monitoring visit are consistent with previous interviews, demonstrating that workers' have knowledge of and use the grievance mechanism when they have any issues to raise; that the workers interviewed did not experience any instances of unpaid / late paid overtime themselves; and that the demobilisation process was understood, including that information had been shared and expectations made clear, including an understanding of the limitations of ongoing employment. Positive feedback was received by the IESC from all of those workers interviewed. | **FC** | This IFC PS was fully compliant, however there is an observation as follows:<br><br>Ensure that all workers are paid their entitlements prior to demobilisation of subcontractors and Contractors. |
| 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.<br><br>Provide reasonable working conditions and terms of employment where collective | | **FC** | |

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| | bargaining agreements do not exist, or do no address working conditions and terms of employment. | | | |
| 2.11 | Ensure migrant workers are identified and engaged on substantially equivalent terms and conditions to non-migrant workers carrying out similar work. | | | |
| 2.12 | Where accommodation services are provided to workers: Implement policies on quality and management of accommodation and provision of basic services.<br><br>Provide services consistent with principles of non-discrimination and equal opportunity.<br><br>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 | | **FC** | |

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| | working conditions and terms of employment. | | | |
| 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. | | | |
| 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. | | | |

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| 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 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. | The Project workforce continues to demobilise and the IESC is satisfied that there is adequate monitoring of retrenchment processes and that any issues are being raised and closed out in line with Project requirements.<br><br>Demobilisation figures for IPMT Staff are being presented to the TANAP Board of Directors every six months with Project progress and a list of workers to be transferred or terminated. The latest Board meeting was held in October 2019 and demobilization plan till the end of March 2020 was approved which will bring workforce numbers to just under 400 people for TANAP, as shown in Table 9. The next Board meeting to discuss this will be in Jan/Feb 2020 for completion of mobilisation planned after March 2020.<br><br>Table 9 Demobilisation Figures<br><br>Workforce numbers reported as of mid-October 2019 were as follows: | **FC** | |
| 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. | | | |

| | Starting BOD Decision date Sep 2017 | Demob 1 End date Mar 2018 | Demob 2 End date Aug 2018 | Demob 3 End date Dec 2018 | Demob 4 End date Apr 2019 | Demob 5 End date Aug 2019 | Demob 6 End date Dec 2019 | Demob 7 End date Mar 2020 |
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| OM&I | 72 | 95 | 158 | 166 | 192 | 195 | 202+ | 202+ |
| PROJECT | 701 | 609 | 487 | 395 | 348 | 288 | 235 | 196 |
| TOTAL | 773 | 704 | 645 | 561 | 540 | 483 | 437+ | 398+ |

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| | Provide evidence of such payments to the workers. | Table 10 Lot 4 mid- October Workforce Numbers (Contractor: PLK)<br><br>**Demob figures since April 2019 (PLKJV+Subcontractors)** / **Current workforce figures (PLKJV+Subcontractors)**<br>SPREAD 7: 204 / 120<br>SPREAD 8E: 249 / 198<br>SPREAD 8W: 84 / 13<br>**Total: 537 / 331**<br><br>Table 11 Compressor Station mid-October Workforce Numbers (Contractor: Tekfen)<br><br>**Demob figures since April 2019 (TEKFEN+Subcontractors)** / **Current workforce figures (TEKFEN+Subcontractors)**<br>CS1: 529 / 276<br>CS5: 512 / 222<br>MS3: 286 / 58<br>MS4: 502 / 144<br>**Total: 1829 / 700**<br><br>Practical Solutions completed their last audit of Contractor performance in May 2019. From this data, 96% of compliance issues had been resolved, and 1 issue required ongoing action to ensure compliance, as seen in<br><br>Table 12: | | |

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| | | Table 12 Compliance Issues<br><br>**STATUS** / **FERNAS** / **PLK** / **SYA** / **TEKFEN** / **SCC TKN** / **TOTAL** / **%**<br>Closed / 26 / 30 / 11 / 10 / 8 / 85 / **96%**<br>Open / 0 / 1 / 0 / 0 / 2 / 3 / **3%**<br>Ongoing / 1 / 0 / 0 / 0 / 0 / 1 / **1%**<br>**TOTAL** / **27** / **31** / **11** / **10** / **10** / **89** /<br><br>TANAP and Contractors both discussed how notification and payments are being approached within their organisations with regards to demobilisation. Under Turkish law, employees can either serve out their notice period, or receive payment and not work the entirety of the notice period. It was stated that in most cases, payment is accepted in lieu of working out the notice period. Further, interviewees indicated that this is additionally helping to retain a focus/maintain motivation in completing final tasks, including ensuring that tasks are carried out safely. However, it must be ensured that all payments are made on time, if the notice period is paid out rather than worked to the final demobilisation date. | | |
| 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 | Worker grievance mechanisms are in place at all Project work sites. Çinar's Quarterly monitoring report (CIN-PRQ-PRC-GEN-025) indicates that in monitoring the Employment and Training Plan that 8 worker grievances were registered in OSID system in the monitoring period to March 2019, which predominantly raised the issue of unpaid salaries, which were followed up and those grievances closed. No worker strike was recorded in the monitoring period. | **FC** | |

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| | provides timely feedback, without retribution. It will not impede access to judicial or administrative remedies. | For Contractor PLK, there are currently two open grievances relating to wage/overtime/severance/payment, of a total of 92 worker grievances received in the Project to date. Tekfen reported that 74 worker grievances had been received in the Project to date, all of which are closed. . | | |
| **Protecting the Workforce** | | | | |
| 2.21 | Children will not be employed in a manner that is economically exploitative, hazardous, interferes with their 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. | 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 verify that no workers under the age of 18 years were employed, as has been consistent at all site visits.<br>The audits additionally verify that workers are engaged in accordance with legal obligations in Turkey which prohibits forced labour and employment of trafficked persons. | **FC** | |
| 2.22 | Forced labour will not be employed, whether involuntary or compulsory. Do not employ trafficked persons. | | | |
| **OHS** | | | | |

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| 2.23 | Provide a safe and healthy work environment that takes account of inherent risks and hazards and particular 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:<br>• identification of potential hazards to workers (especially life threatening);<br>• provision of protective and preventive measures (modification;<br>• substitution/elimination of hazardous conditions or substances);<br>• training of workers; documentation and reporting of accidents, diseases and incidents; and | OHS lagging statistics have improved dramatically through the duration of the Project and currently LTIFR is zero with no lost time injuries YTD.<br>Lagging OHS statistics are excellent and best practice, with the exception of emergency drills conducted against target (14 from a target of 24). Emergency drills are a vital aspect of risk management and especially important as a Project moves into operations. They should be conducted on a regular basis in accordance to targets throughout the year at all locations and scenarios should be risk based. SOLO has been appointed as an external consultant for emergency drills to get the operations on track (see 1.20)<br>Leadership H&S Walk-Down target for 2019 reached and in the change from construction to operations the format for the "walk-down" inspections have been changed.<br>Based on Ops H&S Training Matrix requirements; Confined Space, Lifting, WAH, Isolation Authority and Ground Disturbance trainings have been conducted at sites.<br>PTW, Road Safety and Hygiene Audits conducted during May-October, 2019 period at CS1-MS1 and CS5-MS2. There were a number of non-conformances identified in the Road Safety audits that were concerning and did not reflect the current excellent lagging statistics around road safety (pre-use inspections not done, safety equipment missing, Travel Management Plans not completed to standard as examples). In any Project where there has been a strong focus on a high risk activity with good results there is a risk of complacency developing. This is when significant and potential tragic incidents occur as the company believes controls are in place and effective. The audits that were conducted are highly commended and provided a "wake-up call" for TANAP regarding road safety.<br>Chemical storage was fully compliant where sampled and the recommendation from the previous IESC assessment has been implemented with the following results:<br>• Chemical compatibility assessments for storage locations<br>• Only compatible chemicals are stored together<br>• MSDSs are in date and in Turkish | **PC** | The IESC recommend that a systematic process is implemented to ensure that all information arising from incidents and the associated investigations are transposed onto a database that is kept up to date at all time to allow for learnings from incidents to be shared across the business.<br>The IESC recommends:<br>• More frequent inspections conducted by TANAP on Contractor areas and activities<br>• Checklists for inspections and audits based on decommissioning and deconstruction |

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| | • emergency prevention, preparedness and response arrangements. | • Assessment realized at storage locations, chemicals have started to be stored according to the segregation requirements<br>• Turkish version of MSDSs are provided and displayed accordingly<br><br>The IESC observed good general compliance to OH&S requirements and TANAP standards across all the sites visited.<br><br>The number of safety observations is commended and is due, in part, to targets for the number of H&S observations taken being related personnel's remuneration (bonuses). The H&S manager raised a concern that quality of the observations was not up to standard as people were more focussed on numbers rather than quality. This is a continual struggle when attempting to get the number of observations to a suitable level, and has been managed on other mega-projects by implementation of a system which sends alerts (e-mails) to the person in charge of the area where a safety observation was made, this allows for assessment of the quality of the observation and rejection if required. This does result in a high initial workload for area managers, but results in quality safety observations and a change in behaviour of people making observations.<br><br>The incident logs were provided by TANAP as part of the pre-assessment documentation. There were gaps in the information provided in the databases (excel spreadsheets) and many of the cells contained "NA" including lessons learnt available, safety alert available, and much other details were missing. In the interview with the H&S manager informed the IESC that the missing information was available but had not been transposed onto the incident log databases. This requires attention as currently the IESC cannot verify that a comprehensive incident investigation system is in place and effective based on the information in this database provided.<br><br>At CS5 Camp Site, decommissioning and deconstruction of the camp was in progress, and a number of partial compliances were noted.<br><br>An EWP was sighted parked adjacent to an OH power line as seen in Figure 7. This is poor practice as to energise and move the equipment a full PTW would be required. During deconstruction activities use of elevated equipment adjacent to OH power lines can be a | | • HO personal conducting inspections |

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| | | significant risk. Areas are congested this can lead to hazardous conditions. Consider demarcation of “no-go” and “no-park” areas marked on the ground for elevated equipment operators.<br><br>A TEKFEN “workshop” was inspected in the camp area. It appeared to be an “ad-hoc” workshop put in place to manage the decommissioning / deconstruction activities and the following issues were noted:<br>• Poor layout<br>• Poor housekeeping with material on the workshop floor<br>• Poor structure – holes in roof and concrete slab with poor drainage<br>• Water pooling on floor<br>• Home made tools<br>• Scrap and material poorly stored<br>• Poor electric welding bench and general area with water on floor<br>• Eyewash bottles with no lids and dust on the eye socket<br><br>It was not to standard and presented numerous risks to workers. This is a common hazard during decommissioning / deconstruction activities as the normal controls and standards that were in place are not enforced as the area is in the process of being torn down.<br><br>Suitable diligence and focus must be maintained at this time as the likelihood of injury is not less and likely higher. It should also be noted that the risk profile changes not only due to the nature of the work but also because of the attitude of the Contractor and TANAP employees. Personnel can lose concentration whilst considering future opportunities and there can be pressure on expenditure for areas that are about to be removed. The following recommendations are suggested: | | |

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| | | • More frequent inspections by TANAP on Contractor areas and activities<br>• Checklists for inspections and audits based on decommissioning and deconstruction<br>• HO personal conducting inspections<br>The main issue is managing the changing risk profile, and this was not obviously in place at the time of the IESC visit. | | |
| **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). | All parties have access to the grievance mechanism.<br>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. TANAP have developed an HS team whose primary responsibility is to ensure that the standards are maintained. The HS team have a governance / assurance role. i.e. TANAP set the standard and then ensure that the standard is being complied with. | **FC** | |
| 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. | | **FC** | |
| 2.26 | Ensure that contracted workers have access to a grievance | | **FC** | |

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| | mechanism, either provided by the third party or by the company. | | | |
| **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 | The principles of resource efficiency were suitability identified during the ESIA process. The Compressor Stations (CSTs) will be the main emitters 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 | **FC** | |

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| | prevention principles, tailor principles and techniques to hazards and risks associated with Project's nature and consistent with GIIP including WBG EHS Guidelines. | 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.<br><br>In order to track GHG emissions generated as a result of Project activities during construction, TANAP has implemented a monthly reporting framework that consolidates Scope 1 and 2 emissions data from direct TANAP sources and EPC Contractors. TANAP has produced an Annual GHG Emissions Report for the Construction Phase (2018) and this shows that the Project generated 71,646.05 t $CO_2$ eq during 2018 (scope 1 and 2 emissions), which represents a 44% decrease in emissions compared to 2017. There are a number of assumed reasons for the decrease, including that Phase 0 construction activities were completed in July 2018 and a number of Camps were closed; resulting in a significant decrease in diesel consumption relating to the use of Project vehicles and equipment, as well as heating. In addition, the offshore section was completed in August 2018 reducing the emissions from vessel activities.<br><br>The Annual GHG Emissions Report for 2019 is due in Q1 2020. | | |
| 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. | | | |
| **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 suitably identified during the ESIA process. See 3.7 – 3.9 of Appendix 1 for further information. | **FC** | |

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| 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 $BV_S$ and $MS_S$.<br><br>CS-1 & CS-5 will be in Operation during Phase 1 (operations) and during Phase 2, CS3 and CS-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 other AGIs including:<br>• Ensuring efficient natural gas combustion within compressor stations;<br>• Preventive maintenance programmes on plant and equipment responsible for generating emissions;<br>• Monitoring emissions and air quality to ensure compliance with relevant standards and, as necessary, identify the need for corrective actions;<br>• Procurement and uninterrupted delivery of optimum fuels (as feasible) for plant and equipment; and<br>• Ensuring environmental emissions are appropriately considered as an integral part of any changes to Operations.<br><br>TANAP have employed mitigation measures to reduce GHG emissions from vehicles such as:<br>• Use of low emission Project vehicles;<br>• Regular vehicle maintenance including exhaust checks;<br>• Economic driving practices including excessive idling restriction; and | **FC** | |

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| | | • 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. | The TANAP Project is expected to produce more than 25,000 t $CO_2$-equivalent annually.<br>TANAP has been calculating and reporting annual Construction phase GHG emissions since Q1 2018 (for 2017 GHG emissions). The total emissions (scope 1 and 2) generated by TANAP during construction in 2018 were calculated as **71,646.05 t $CO_2$ eq** as reported in the *2018 Annual GHG Emissions Report for the Construction Phase (*28.03.19). This was based on the following methodologies:<br>• IFI Framework for a Harmonised Approach to GHG Accounting (2012);<br>• IFC Performance Standards – PS3 Resource Efficiency and Pollution Prevention (2012);<br>• EBRD Greenhouse Gas Assessment Methodology (2010); and<br>• Greenhouse Gas Protocol guidance notes & tools.<br>Çınar has been appointed by TANAP to compile GHG emissions for the Operations phase of the Project. Çınar has prepared a Greenhouse Gas Emissions Estimation Methodology document; based on the IFI Framework for a Harmonised Approach to GHG Accounting. The first annual operational Scope 1 and 2 emissions were estimated using this methodology and reported in March 2019, for the Project's operations in 2018, being **19,027 t $CO_2$ eq**. The GHG Emissions Report for 2019 will be issued in Q1 2020 and will include details of emissions released by the Project during 2019. | **FC** | |
| 3.9 | When a potential significant water consumer, adopt measures that avoid or reduce | The principles of resource efficiency were suitably identified during the ESIA process. | **FC** | |

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| | 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). | | | |
| **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. | **Air Quality**<br><br>TANAP has developed and implemented Key Performance Indicators (KPIs) in relation to air quality, which are reported on a monthly basis to monitor Contractor performance in relation to this topic. KPIs include:<br>• % of air quality test results compliant with legal standards;<br>• # of tests carried out near sensitive receptors;<br>• # of complaints received related to dust, and/or odour; and<br>• % of non-compliances raised by TANAP which are closed within agreed timeframe.<br><br>During previous site visits, it has been noted that third party monitoring had indicated some incidents of dust measurements exceeding Project standards at or near active work sites. In the latest Çınar quarterly monitoring report for May to July 2019 (which only covers Lot 4 and AGIs, as operations had begun in Lots 1, 2 and 3), Table 3.1.1-2 (KPI Table for Air Quality in Lot 4) indicates that in June 2019, the KPI relating to % of test results compliant with legal standards, was only met for 50% of the time. TANAP have provided an explanation for this performance. The June 2019 air quality measurements were | **PC** | It is recommended that PLK ensure that jute matting laid down meets the requirements of the Method Statement for Biorestoration Works in Lot 4. Areas with gaps in jute matting must be closely monitored and prior to Provisional Acceptance, any defects observed from gapping in the jute matting must be included in the defect list and rectified. |

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| | | conducted in Dutluca Village adjacent to working areas in Lot 4 and at the Ilıcak Pipe Stock Yard (PSY). The levels of dust (PM10) were compliant with limit values set by the Industrial Air Pollution Control Regulation and the IFC-EHS limit value at Dutluca Village but not at Ilıcak PSY. In response, appropriate mitigation measures including enforcing speed limits and dust suppression through water spraying were implemented and the KPI for July 2019 was met 100%, which implies that the measures taken were effective. It will be important for TANAP to maintain oversight of the PLK and Tekfen in Lot 4 during de-mobilisation activities as these also have the potential to generate dust.<br><br>A Management of Change Request was raised on 1st August 2019 by the Operation Support Team Leader in relation to the Exhaust Stacks for the Water Bath Heaters (process gas heaters) at MS2. These were understood to be not compliant with the requirements of relevant Environmental Regulations and CIN-REP-ENV-GEN-031. As such, they needed to be extended from 5.9m to 10m. In addition, two emissions monitoring stations were required to be installed on each of the extended stacks. The Modifications Contractor developed the scope of the work to be completed and the proposed design was not considered to introduce new risks. The MOC is due to be closed in Q1 2020.<br><br>**Water Quality**<br><br>Potable water at the MS2/CS5 site was sourced from three boreholes during the construction phase (for which TANAP has abstraction permits). The first well was used for domestic purposes, the second for the concrete batching plant and the third for construction and dust control activities. Only the third well is being utilised during the demobilisation phase and the first borehole was decommissioned during the week of the site visit as part of the demobilisation process. Once decommissioning of all three wells is completed, the abstraction permit will be cancelled.<br><br>Potable water is treated in a Cooking Water Treatment Until which incorporates a sand filter, carbon filter, reverse osmosis and UV treatment. It is then passed through a water softening unit. Potable water quality is sampled and analysed on a monthly basis to ensure that both regulatory quality standards and Project standards are being met. There | | |

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| | | have been no exceedances of water quality parameters at the MS2/CS5 site since June 2019.<br><br>A community grievance was raised at MS2-CS5 in April 2019 in relation to leaks on the treated waste water discharge pipe. This was closed in July 2019, although the due date for closure was in May.<br><br>**Wastewater**<br><br>At MS2/CS5 there was a biological wastewater treatment plant (WWTP) in operation, which was permitted on 11th December 2017 (including biological WWTP as well as vehicle washing discharge water and the backwash water of the WWTP).The WWTP has now been dismantled as part of the de-mobilisation exercise and the application has been made for the cancellation of the Environmental Permit for Discharge (following treatment effluent was previously discharged to Fırıncıbaşı creek through an 11 km discharge pipe)Waste water is now transferred from septic tanks via vacuum trucks to the WWTP of Eskişehir Municipality.<br><br>**Topsoil Management**<br>Topsoil has now been replaced on the RoW across the whole of Lot 4 as part of reinstatement works, including at those KPs observed during the site visit and has been partially replaced where the ground has been prepared at CS5. Where topsoil was still being stored in stockpiles at CS5 management processes were observed to be following best practice. The stockpiles were clearly labelled as topsoil in both Turkish and English. The soil had been seeded with local plant species and there was significant vegetation growth to help prevent erosion. The latest Çınar quarterly monitoring report for May to July 2019 highlighted that water was accumulating in the area adjacent to topsoil stockpiles at CS5 due to the natural drainage of surface water. It was recommended that proper drainage of accumulated water should be provided by Tekfen, although it was not considered likely that significant loss of topsoil would occur. The IESC did not have the opportunity to confirm whether specific drainage had been installed, however, reinstatement and the replacement of topsoil is on-going at this site and therefore this is not considered to represent a significant issue. | | |

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| | | Tekfen outlined in their presentation to the IESC that topsoil quality is being analysed to identify any significant changes in the properties of the soil in accordance with the Project Soil Protection Report. The results are awaited and will be reported once available. In addition, soil sampling is being undertaken at potentially contaminated areas within the site, such as refuelling areas and hazardous waste storage areas and vehicle maintenance areas. To date, all samples have been compliant with the required standards.<br><br>**Soil Erosion**<br><br>Reinstatement is 100% completed in Lots 1, 2, 3 and 4 (including re-contouring, topsoil and erosion control measures and biorestoration). In Lot 4 at the time of the site visit, the final step of reforestation was 75% completed. The reinstatement monitoring process is outlined under 1.22 of Appendix A of this Report above.<br><br>The TANAP Specification for Reinstatement (WRP-SPC-EGG-PLG-001) describes the reinstatement requirements that the Contractors should adhere to for areas disturbed by construction activities. It also defines the minimum technical requirements for topographical replacement, stabilisation, erosion control and biorestoration following the completion of construction works. The Universal Soil Loss Equation has been used to predict the long-term average annual rate of erosion on a slope based on rainfall intensity, soil type, topography, vegetation cover and management practices. The objective of biorestoration (including hydroseeding and reforestation) is to achieve an erosion class of 3 (Moderate [5-10 tonnes per ha per annum]) or lower.<br><br>In Lot 4, 2,730 slope breakers have been installed of which 2,300 are temporary and 430 are permanent. As per the Specification for Reinstatement, temporary slope breakers are required to be functional for the first 5 years following reinstatement whereas permanent slope breakers should be in the form of stone dressed or rock breakers and must be functional for the design life of the Project (i.e. 25 years). In both cases, maintenance must be undertaken to ensure functionality over the required period. | | |

KP 1369 is also covered by a Specific Area Reinstatement Method Statement (SARMS) that was developed following pre-reinstatement verification surveys undertaken by TANAP in collaboration with PLK. This SARMS covers KPs 1341+000 to KP 1442+125. The SARMS defines the site-specific requirements for clean-up, re-contouring, spreading of topsoil and erosion control measures. KP 1369+680 to 1369+900 has been designated as Special Area 9 within this document. This has determined the number of slope breakers required at KP 1369, for a 21% gradient slope with a soil erosion class of 2; 3 permanent slope breakers and 9 temporary. The IESC observed excellent re-contouring of the slope, which was reinstated 1 year ago and there were no obvious signs of soil erosion. Jute matting was laid 4 months ago (at the same time as hydroseeding and mulching were undertaken) and appears to have been effective. As per the plans included in the SARMS, slope breaker 'outlets' were observed to have been constructed at the end of each slope breaker. These are intended to dissipate the energy from run off (increased by being rock lined) and allow water to soak away and occasionally over-top the outlet berm without causing excessive erosion of the surrounding slopes, as illustrated in **Error! Reference s ource not found.**.

Figure 13 Rock lined slope breaker outlet at KP 1369

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| | | At KP 1661 the slope breakers on the slope above the right bank of the River Gönen had been extended into the overspill area to ensure adequate protection from soil erosion in all areas impacted by construction activities. As at KP 1369, outlets had been constructed at the down gradient end of the slope breakers.<br><br>Approximately 200,000m$^2$ of jute matting has been laid in Lot 4 to provide immediate protection against soil erosion until sufficient vegetation cover has been established. According to the Specification for Reinstatement, the jute matting should be unrolled from the top of the slope, lay naturally on the soil and be fastened to the slope surface. In addition, in accordance with the Method Statement for Biorestoration Works in Lot 4 (PLK-MST-ENV-PLK-028-P4-0) the jute matting should be overlapped away from the prevailing wind and water flow direction. At KP 1661 there are two slopes either side of the Gönen river crossing, where jute matting had been laid down four months prior to the site visit. It was clear that the matting had been applied vertically and fastened to the slope surface using wooden stakes. However, on both slopes the IESC observed significant gapping between the rolls of jute matting. This is illustrated in **Error! R eference source not found.** showing the slope on the left bank of the River.<br><br>Figure 14 Gaps in Jute Matting at KP 1661 | | |

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| | |  <br>This was not considered by PLK to present a soil erosion risk due to the fact that hydromulching of the slope surface has also been undertaken at this site. There were no obvious signs of erosion but this may be due to a lack of significant rainfall since the matting was laid down. However, this appears to be non-compliant with the requirements of the Method Statement for Biorestoration Works in Lot 4, and the IESC is concerned that over the winter period there may be heavy rainfall events that will result in soil erosion where there are such large gaps in the jute matting, especially on the slope of the left bank of the river where there was minimal revegetation compared to the right. This issue is not captured on the Punchlist for the Lot 4 pipeline that was provided immediately following the site visit. The IESC was assured by TANAP that the proposed RoW monitoring (See Appendix A Monitoring and Review) up to and beyond Provisional Acceptance (expected to be achieved for Lot 4 by the end of 2019) will identify any soil erosion issues and ensure that they are addressed within an appropriate time period. The IESC will request an update on this condition of the slopes at KP 1661 during the next site visit, planned for June 2020 and details of any repairs of defects that have resulted from soil erosion during the winter period. As the slope is already revegetated, re-implementation of the jute matting is not practical. Where gaps in the jute matting has | | |

been observed, TANAP will closely monitor these areas. Any observed defects including erosion will be added to the Defect List and be rectified prior to provisional acceptance.

In some areas, there was already clear deterioration in the condition of the matting. When questioned, PLK stated that the jute matting was expected to last for 1 year. The Specification requires that the matting should rot within 2 years and that where matting has remained in place for longer than 12 months, the Contractor will be responsible for maintaining and replacing the matting as required. The rate of deterioration is likely to vary from site to site dependant on the specific conditions at each site. As above, the IESC was assured that the monitoring process will ensure the identification and rectification of any issues.

At KP 1369 there is an ephemeral watercourse that typically flows when there has been significant rainfall. The flashy nature of this watercourse has therefore necessitated the installation of rock armouring beneath the river bed and on both banks.

Hydroseeding had been completed 1 month prior to the site visit (in October) and as such, there was very limited revegetation as shown in **Error! Reference source not found.**, w hich may also be as a result of limited rainfall since this was completed.

Figure 15 Limited revegetation at KP 1369 following recent hydroseeding

Seeding and bio-restoration activities are defined in the 'Method Statement for Bio-restoration Works in Lot 4' (PLK-MST-ENV-PL4-028). This states that the most suitable time for seeding in Lot 4 is autumn and early spring, although the exact scheduling of each operation will be dependent on weather and ground conditions (with sufficient rainfall needed following seeding and mulching to promote germination and establishment). As such, hydroseeding at this site was completed in the appropriate time period. The Method Statement also states that if seeding has been carried out in autumn, the first monitoring study should be conducted in April-May (which is the flowering period of the next year) and then every 3 months subsequently until the target cover is achieved**.** The IESC was informed that TANAP and PLK will monitor the growth of vegetation and if no growth is seen by the spring of 2020 (which is in accordance with the Method Statement for Biorestoration for Lot 4), the hydroseeding will need to be re-done and will be added to the Defects Register for Lot 4. However, the limited vegetation cover will provide minimal protection against soil erosion. There is evidently a risk of soil erosion at this site, demonstrated by the rilling on a slope caused by the leaking of a water tank during the hydroseeding process (shown in **Error! Reference source not found.**).

Figure 16 Rilling resulting from a leaking water tank at KP 1369

It will therefore be important for PLK and TANAP to closely monitor this site during the winter period and especially following significant rainfall to ensure that any soil erosion is detected and addressed in an appropriate time period.

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| 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 been 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 emissions' control and residues). When hazardous waste disposal is conducted by third parties conduct disposal, use reputable, legitimate | Contractors have developed individual Waste Management Plans that are aligned with TANAP's Waste Management Plan, and which will continue to be implemented during the remainder of the construction phase. TANAP has also developed an Operations Phase Waste Management Plan (TNP-PLN-ENV-GEN-007), which outlines waste management strategies to be implemented, including the waste management hierarchy. This Plan will apply to all operational staff, Contractors and subcontractors active at compressor and metering stations, block valve stations and other AGIs.<br><br>Previous IESC Monitoring Reports have highlighted the incorrect use of waste bins by EPC Contractors on site for the allocated waste stream. In addition, TANAP identified the issue of mixed waste streams in many of the segregated waste bins during their most recent annual E&S Compliance Audit. This is acknowledged by the IESC to have been a consistent issue that TANAP have continually focused on throughout the Construction phase of the Project, by proactively liaising with EPC Contractors on the ground who have consequently initiated many toolbox talks on this subject. It was therefore a very positive outcome of the visit for the IESC to observe consistently good at source waste segregation at both the CS5 and MS2 sites. The vast majority of the bins checked on site | **FC** | |

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| | 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. | contained only the correct type of waste, with one exception where a plastic bottle had been placed in a hazardous waste bin within the MS2 Red Zone. In addition, all waste bins had lids.<br><br>Within the MS2 Red Zone there were at source waste segregation bins both within the main control building and outside of other buildings. These are collected for recycling approximately every 2 weeks or as needed by the local municipality. The only minor observation was that two of the bins were not labelled, which can be very easily rectified. Despite the lack of need now that the site is operational, there was also a spill kit within the Red Zone located immediately next to a hazardous waste bin to facilitate the correct disposal of any used spill clean-up materials should an unexpected spill occur. At the CS5 Camp Site, the previous central waste storage area has been dismantled and replaced by a smaller waste storage area. Lose waste generated around the site is taken to this central point at the end of each shift. Tekfen were demonstrating good waste management practice here, including the clear segregation and labelling of different waste streams, the storage of waste on a concrete floor, the storage of compatible hazardous wastes within a concrete bund and the provision of the relevant material safety data sheets. This is illustrated in **Error! Reference source not found.** and **Error! Reference source not fo und.**.<br><br>Figure 17 Waste Storage Area at CS5<br><br>  <br><br>Figure 18 Alternate View of Waste Storage Area at CS5 | | |

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| | |  <br>During the on-going dismantling of the CS5 camp, it will be important to maintain the high standards of waste management achieved, even if this is for a short period of time during which individuals are being demobilised.<br>The IESC was informed during the site visit that all gravel and fill material from CS5 will be removed from site and re-used for road construction. As such this is taken to a storage area off-site for the local municipality. In addition, the concrete that was being broken out from the camp area will be crushed and also used by the local municipality for road construction. This is an excellent example of the re-use of construction materials and implementation of the waste hierarchy. | | |
| 3.13 | Avoid or, when avoidance is not possible, minimise and control the release of hazardous materials;<br>Assess production, transportation, handling, storage and use of hazardous materials; | The IESC observed the appropriate use of drip trays beneath generators where needed at CS5 to contain any spills of fuels or oils. In addition, oil drums were observed being stored within secondary containment trays in case of any leaks or spills despite the on-going de-mobilisation and dismantling activities (as shown in **Error! Reference source not found.**).<br>Figure 19 Excellent use of drip trays and secondary containment | **FC** | |

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| | Consider using less hazardous substitutes in manufacturing processes or other operations;<br><br>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. |  <br><br>Spill kits were provided at both CS5 and within the Red Zone at MS2 (for any unexpected spills, despite them being highly unlikely to be required as construction is completed). These were all adequately and appropriately stocked and hazardous waste bins were located immediately next to the spill kits to facilitate the correct disposal of any used materials following the clean-up of a spill (as shown in **Error! Reference source not found.**).<br><br>Figure 20 Placement of hazardous waste bins next to spill kits | | |

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| | |  <br>The floor of the waste storage area at CS5 was concrete and where necessary (i.e. where hazardous wastes were being stored) there was appropriate secondary containment in case of leaks. | | |
| 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 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. There were no pesticides being stored in the hazardous materials and chemicals stores observed at the construction sites visited by the IESC. | **FC** | |
| **PS4: Community Health, Safety and Security** | | | | |
| 4.5 | Evaluate risks and impacts to health and safety of affected | At the previous visit, TANAP had engaged consultants the Solo Institute to develop the Community Based Emergency Risk Assessment Study, including the Community-Based | **FC** | |

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| | communities during Project life cycle;<br><br>Establish preventive measures consistent with GIIP, such as the WBG EHS Guidelines;<br><br>Identify risks and impacts and propose mitigation measures; and<br><br>Measures will favour the avoidance of risks and impacts over minimisation. | Emergency Management Plan ( TNP-PLN-SOC-GEN-016). This was finalised in September 2019 and rollout of emergency preparedness with stakeholders is planned for Q1/2020.<br><br>The MP describes circumstances for the Plan's activation, leadership actions, roles and responsibilities and various scenario-based/emergency responses, including coordination with and public announcements through media, muhtars and public emergency services.<br><br>Consistent with previous site visits, the key risk to community from a health and safety perspective remains to be road safety which is anticipated to continue throughout the construction to operations transition. Strong adherence to road and traffic safety was observed in accordance with the golden rules implemented. The Project demonstrated good level of operational control for road safety.<br><br>Whilst limited construction remains, ensuring the community is a safe distance away from site-based also remains a key risk. 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. | | |
| 4.6 | Design, construct, operate, and decommission the structural elements or components of the Project in accordance with GIIP, taking into consideration safety risks to third parties or Affected Communities.<br><br>Consider incremental risks of the public's potential exposure to operational accidents and/or natural hazards. | | **FC** | |

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| | Structural elements will be designed and constructed by competent professionals.<br><br>When structural elements or components are located in high risk locations, external experts with relevant and recognised experience must be engaged.<br><br>For Projects that operate moving equipment on public roads avoid the occurrence of incidents and injuries to members of the public. | | | |
| 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 order to avoid exposure to the community.<br><br>Exercise commercially reasonable efforts to control the safety of deliveries, | See Appendix A 3.13 regarding hazardous materials management on site and thus minimised potential exposure offsite. Public access to hazardous waste storage on AGIs is prevented through site security. | **FC** | |

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| | transportation and disposal of hazardous materials and wastes.<br><br>Implement measures to avoid or control exposure to pesticides in accordance with PS3. | | | |
| 4.8 | Where appropriate and feasible, identify risks and potential impacts on priority ecosystem services that may be exacerbated by climate change.<br><br>Avoid adverse impacts, and if these impacts are unavoidable, implement mitigation measures in accordance with PS6, paragraphs 24 and 25.<br><br>Implement mitigation measures with respect to use of and loss of access to provisioning services in accordance with PS5, paragraphs 25–29. | Ecosystem Services were not assessed during this monitoring visit. | Not Assessed | |
| 4.9 - 10 | Avoid or minimise potential for community exposure to water-borne, water-based, water-related, vector-borne diseases | A key risk is the impact to drinking water via the release from the wastewater treatment. Assessment of the wastewater 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, | **FC** | |

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| | and communicable diseases that could result from Project activities, taking into consideration differentiated exposure to and higher sensitivity of vulnerable groups. | wastewater was taken off site to a licenced municipal treatment facility. See Appendix A 3.10. | | |
| 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<br><br>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.<br><br>Document emergency preparedness, response activities, resources and responsibilities. | The Solo Institute was engaged to prepare an emergency response assessment and Management Plan for directly affected communities. This has been completed; disclosure is anticipated in Q1/2020. See Appendix A 4.5. | **FC** | |

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| | Disclose appropriate information to affected communities, government agencies and relevant parties | | | |
| **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.<br><br>Security arrangements should be guided by principles of proportionality and GIIP.<br><br>Make reasonable inquiries to ensure those providing security are not implicated in past abuses.<br><br>Train security personnel in the use of force.<br><br>Sanction use of force only when used for preventive and defensive purposes.<br><br>Provide a grievance mechanism. | Assessment was undertaken at the due diligence phase to assess compliance with security personnel requirements, and 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 during this visit. | **FC** | |

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| 4.13 | Assess and document risks arising from use of government security personnel deployed to provide security services.<br><br>Encourage public authorities to disclose security arrangements. | | **FC** | |
| 4.14 | Investigate allegations of unlawful or abusive acts of security personnel.<br><br>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 | 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 unchanged from the previous visit: | **FC** | |

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| | at full replacement cost and other assistance.<br><br>Transparent and consistent compensation standards to be offered to all communities and persons affected by the displacement.<br><br>Where feasible offer those whose livelihoods are land based and are displaced from land, land-based compensation.<br><br>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.<br><br>Provide opportunities to displaced communities and persons to derive appropriate development benefits from the Project. | <table><tr><th>Document Name</th><th>Document Number</th></tr><tr><td>Resettlement Action Plan for Pipeline</td><td>GLD-PLN-LAC-GEN-003</td></tr><tr><td>Addendum to RAP for TANAP Pipeline Route</td><td>TNP-PLN-SOC-GEN-006</td></tr><tr><td>Resettlement Action Plan for AGIs</td><td>TNP-PLN-SOC-GEN-008</td></tr><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><br>Since the previous visit, key actions in delivery of entitlements have included:<br>• Achieving 97% of payments to eligible PAPs;<br>• Multiple pipeline payments now completed (to almost 2,000 landowners);<br>• Completion of all RAP Fund payments (total 4.78 million Turkish Lira); and<br>• LRP for AGI-affected households: 2nd Round Monitoring was also completed in October 2019, with the delivery in 9 of the 14 eligible settlements of the community-based livelihood and social supports for the AGI-affected settlements have received their payments and commenced works. All payments will be completed before the end of Q4/19.<br><br>The Budget spent on RAP/LRP currently stands at 480.33 million Turkish Lira (almost half of which has been spent on Land acquisition).<br><br>Key tasks going forward include: | | |

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- The field study for identifying project-affected vulnerable people (for which planning has commenced, including field research tools), which is due to be carried out before the end of Q4/19;
- Completion of the delivery of support to AGI-affected settlements (the remaining 5 villages); and
- Conducting the Pipeline-related Livelihood Impact Assessment of PAPs that received crop payments;

Information disclosure and stakeholder engagement are ongoing.

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<tr><td>5.10</td><td>Engage with affected communities, including host communities through stakeholder engagement as described in PS1.<br><br>Decision-making processes should include options and alternatives to resettlement and livelihood restoration where applicable.<br><br>Disclosure of relevant information and participation with communities will continue during planning, implementation, monitoring and evaluation of compensation payments, livelihood restoration and</td><td>

Engagement with affected communities has been ongoing throughout the life of the Project, as is evidenced by internal and external monitoring, including interviews undertaken by the IESC.

Land Exit has now been completed, in all but three villages, as shown in the Table 13 below. In these three cases, the muhtars of the villages (in Lot 1) have refused to sign the Land Exit protocol and have demanded additional financial support from TANAP of their villages. Negotiations are ongoing to try to close these out, however TANAP described that there is also a process in place to agree internally that the Land Exit process can be treated as having been completed, under such circumstances.

Table 13 Project Land Exit

| | *Lot1* | *Lot 2* | *Lot 3* | *Lot 4* | *Total* |
|---|---|---|---|---|---|
| *Total number of villages* | 161 | 106 | 149 | 168 | **584** |
| *Completed Villages (Land Exit Close Out)* | 158 | 106 | 149 | 168 | **581** |
| *Remaining Village to be completed* | 3* | - | - | - | **3** |
| ***Overall Completion Rate*** | **98%** | **100%** | **100%** | **100%** | **99.5%** |

</td><td>**FC**</td><td></td></tr>
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| | resettlement to achieve outcomes consistent with the objectives of PS5.<br><br>Additional provisions apply to consultations with Indigenous Peoples, in accordance with PS7. | | | |
| 5.11 | Establish a grievance mechanism consistent with PS1 as early as possible in the Project development phase<br><br>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 grievance mechanism established for the Project also applies to PS5 related issues and is described in Grievance Management Procedure TNP-PCD-SOC-GEN-001-P3-2.<br><br>In the Project to date, 5,079 grievances have been registered. Of these, 97% are closed, 133 are open and 109 are overdue. As Land Exit meetings were carried out in Lot 4, grievances were recorded. The most frequently cited issues were improper reinstatement; damage to crops and land; overspill; recontouring | **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 | The ESIA considered resettlement and livelihood restoration planning and resulted in the preparation of RAP and LRPs. The current status of land acquisition is as follows:<br><br>Identification for additional land acquisition is ongoing based on the as-built documentation, in parallel to land consolidation works by local authorities for the pipeline, transmission lines and permanent facilities. Expropriation requests have been made for unviable land plots in 26 cases; 5 of these were accepted. | **FC** | |

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| | 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. | Total number of parcels subject to land acquisition is 28,937 (an increase of approximately 20 from the previous visit) from the pipeline, AGIs, Energy Transmission Lines (ETL), Access Roads, Ancillary Areas and Utilities, of which 21,238 are private. In total, 20,665 private parcels and 7,417 public parcels have been registered in the name of LRE with the total registration for private and public parcels at 97.05% (up from 95% at the previous visit). | | |
| 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.<br><br>Botas is currently undertaking internal monitoring (at TANAP's LRE department request) on how much money is still in escrow being held for eligible land owners/users. Botas described trends in how the balance of funds are being accessed, broadly:<br>• Where there is one landowner or up to approx. 5 shareholder landowners, this money has been withdrawn from escrow<br>• There are approx. 5-10 or more shareholder landowners, this money has not been withdrawn.<br><br>The explanation for the trend is that the cost/time/effort in accessing funds for shareholder owners can be higher than the amount of entitlement; or, that shareholder landowners may be absent/abroad, so a peak in access to the escrow account may occur in the summer, when landowners return for the season. For this reason, TANAP (and Botas) can notify villagers during the summer about the funds in escrow available to the relevant PAPs. | **FC** | This IFC PS was fully compliant, however this is only an observation:<br><br>The IESC recommends that the RAP Monitoring Plan is revised prior to the Completion Audit.<br><br>It is observed that TANAP can inform muhtars/post signs in relevant villages with Botas about the pending amounts in escrow, during the summer. |
| 5.14 | Establish procedures to monitor and evaluate the implementation of a RAP or livelihood restoration plan (LRP) (see paragraphs19-25) | | | |

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| | and take corrective action as necessary.<br><br>Retain competent resettlement professionals to provide advice on PS compliance and to verify the client's monitoring information for Projects with significant involuntary resettlement.<br><br>Persons will be consulted during the monitoring process. | The IESC notes that the update of the RAP Monitoring Plan is forthcoming; it is targeted for completion prior to the Completion Audit (scheduled for mid-2020).<br><br>Additional monitoring activity is forthcoming, including:<br>• LRAP 3rd round of monitoring (March 2020);<br>• Monitoring (post-delivery) of community-based livelihood and social support to 14 AGI-affected settlements (remaining 5);<br>• completion of the 6th and final External RAP Monitoring Report;<br>• completion of the 12th Internal RAP Monitoring Reports; and<br>• Completion Audit, to be conducted by an independent third party consultant.<br>• Land access in what was Lots 1, 2 and 3 is now managed by TANAP's Social Impact team, including support for households which need to implement crossings (e.g. by agricultural pipes) of the pipeline. Stakeholder interviews indicated that this was a straightforward process for the household with full support from TANAP. The IESC notes however that knowledge of the process requires that the PAP has participated in / is clear about the land use restrictions; those who have not participated in the land use disclosure meetings may not yet be so well informed. | | |
| 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.<br><br>Commission an external completion audit of the RAP and LRP if necessary (depending on scale and complexity of physical and economic displacement).<br><br>The completion audit should be undertaken once all mitigation measures have been substantially completed and | | | |

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| | once displaced persons are deemed to have been provided adequate opportunity and assistance to sustainably restore their livelihoods.<br><br>Competent resettlement professionals will undertake · the completion audit once the agreed monitoring period is concluded.<br><br>The completion audit will include, at a minimum, a review of the totality of mitigation measures 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 | | | |

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| | 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:<br>• Have formal legal rights to the land or assets they occupy or use;<br>• 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<br>• Have no recognisable legal right or claim to the land or assets they occupy or use.<br>• The census will establish the status of the displaced persons. | The distribution of all LRAP eligible PAPs by vulnerability types includes identification of disabled heads of households, poor, elderly and informal private land users to a new total of 133 LRAP beneficiaries.<br>Livelihood Restoration Assistance Packages are either individual based (Small-scale Agricultural and Animal Husbandry focused Livelihood Assistance; Cash support for incapable persons due to age/disability), or, community based Packages (Animal Health Care Support (AHCS) Program with Training; or Community Improvement Support for Common Benefits). Two of three rounds of monitoring has been carried out for this group.<br>During the visit, the IESC interviewed a sample of LRP beneficiaries, where cattle and an animal shelter had been purchased. Beneficiaries reported satisfaction with the process of both engagement and delivery of support to date. Additionally, the IESC was able to receive an indication from those landowners/users in ROW-affected parcels if they considered their livelihood was worse, the same or better pre-Project impacts. It is noted that in all cases PAPs responded that livelihoods were the same; they had been able to harvest pre-construction, then received compensation entitlements to cover 3 years of crop harvest, and that this is considered reasonable given crop productivity evident in the ROW so far (i.e. it has not yet returned to pre-disturbance yields, exactly as was anticipated). The IESC will follow up on outcomes of the study on the Livelihood restoration of temporarily affected landowners in the ROW, at the next visit. | **FC** | |
| 5.18 | Project-related land acquisition and/or restrictions on land use | | | |

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| | 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.<br><br>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).<br><br>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 | N/A | **NA** | |

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| | relocation activities will be documented. | | | |
| 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.<br><br>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.<br><br>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 | | | |

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| | tenure, equivalent or better characteristics and advantages of location or cash where appropriate.<br><br>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.<br><br>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.<br><br>Based on consultant with such displaced persons, provide relocation assistance sufficient for them to restore their | | | |

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| | 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 and offer other assistance that meets the objectives of this PS. | 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 inputs from the independent monitors and Lenders commencing from due diligence and disclosed in Project documentation. This is unchanged from the previous visit.<br><br>A field study is being undertaken, ready for completion in December 2020, identifying vulnerable people (see also PS1). This will be followed up at the next visit. | **FC** | |
| | 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 | | | |

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| | 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.<br><br>In cases where land acquisition or restrictions on land use affect commercial structures, | | | |

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| | 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.<br><br>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.<br><br>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 | | | |

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| | the land), at full replacement cost. The client is not required to compensate or assist opportunistic settlers who encroach on the Project area after the cut-off date for eligibility. | | | |
| 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:<br><br>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.<br><br>For persons whose livelihoods are natural resource-based and | | | |

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| | 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.<br><br>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. | | | |

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| 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 government capacity is limited, play an active role during resettlement planning, implementation, and monitoring, as described below. | Physical displacement not applicable. | **FC** | |
| 5.31 | In the case of acquisition of land rights or access to land through compulsory means or negotiated settlements involving physical | 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 above). | **FC** | |

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| | displacement, identify and describe government resettlement measures.<br><br>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).<br><br>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 regulations;(iii) the supplemental measures to achieve the requirements of this Performance Standard as | | | |

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| | 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.<br><br>If these measures do not meet the relevant requirements of this PS develop an Environmental and Social Action Plan to complement government action.<br><br>This may include additional compensation for lost assets, and additional efforts to restore lost livelihoods where applicable. | | | |

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

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| 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.<br><br>The reinstatement and bio-restoration of the RoW is prescribed using site-specific method statements including detailed bioremediation 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.<br><br>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 (CH) and priority biodiversity features (PBF) and the need for offsetting where bio-restoration of the RoW could not fully mitigate disturbance impacts. Golder, in collaboration with Çinar, developed a Biodiversity Offset Strategy (BOS) 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 (PBF) and Critical Habitats (CH).<br><br>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 that will guide TANAP towards the development and implementation | **FC** | |

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| | | of a detailed Biodiversity Offset Management Plan (BOMP) as a part of TANAP's Environmental and Social Management System. See 6.9-6.19 of this Table for detailed progress of the BOMP. | | |

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| 6.7 | Avoid impacts on biodiversity and ecosystem services. When not possible, implement measures to minimise impacts and restore biodiversity and ecosystem services. | In addition to the design modifications, the Project BAP defined construction activity restriction times for all Critical Habitat areas to avoid potential impacts to critical habitat species during sensitive times such as breading, migration or hibernation. Any construction activities needed to be done during the restricted period required additional studies and Management of Change approval from TANAP.<br><br>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 need 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. Outcomes of the prior construction ecological surveys are used to develop the Special Area Re-instatement Method Statement (SARMS) for each lots of the Project. The SARMS detail specific reinstatement and bio-restoration methods for identified special areas including the freshwater and terrestrial critical habitats.<br><br>Bio-restoration of temporary disturbance of the pipeline RoW is the key mitigation measure implemented where avoidance of disturbance is not achieved. As of November 2019, bio-restoration and reforestation works has been fully completed in all RoW areas, except the reforestation on LOT4, which was about 75% completion.<br><br>Findings and observations by the IESC team from the visit to some reinstated areas in LOT4 during this visit (November 2019) are summarised below.<br><br>**Development of Reinstatement, Bio-restoration and Monitoring Documents in LOT4**<br><br>TANAP has produced the following documents for reinstatement and bio-restoration in LOT4: | | **LOT 4 Biorestoration & reforestation recommendation:**<br><br>The LOT 4 Contractors' Aftercare Plan still needs to be developed by Contractor and approved by TANAP. Timely approval of the Aftercare Plan is important for the Lot Contractors can proceed with their inspections and take necessary corrective actions in a timely manner.<br><br>**OHL and anode bedlines recommendation:**<br><br>TANAP to make decision on OHL mitigation measures or additional monitoring based on the findings of Çinar's bird monitoring findings as required by the ESIA of OHLs and Anode Bed Lines. |

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| | | • Erosion, Reinstatement and Landscaping Plan (PLK-PLN-ENV-PL4-002-P4-5);<br>• PLKJV Reforestation Strategy (PLK-PLN-ENV-PL4-021-P4-0)<br>• Method Statement for Biorestoration Works in LOT 4-(PLK-MST-ENV-PL4-028-P4-0)<br>• Special Area Reinstatement Method Statement (SARMS) for Critical Habitats in Lot4 _(PLK-MST-ENV-PL4-030-P4-0)<br><br>The LOT4 Aftercare Management Plan was under TANAP review as it was confirmed by the TANAP environmental engineer during the site visit. It is important to have the Aftercare Plan approved soon especially before the winter season in LOT 4 as the December - February months are characterised by high rainfall in the region.<br><br>**Implementation of Mitigation Hierarchy in LOT4**<br><br>Biorestoration work is fully completed, while the reforestation work is about 75% complete in LOT 4 as it was informed by TANAP.<br><br>The IECS is satisfied with the good implementation of the Mitigation Hierarchy (Avoid, Minimise, Mitigate/Restore, Offset) and evidence of TANAP and its Contractors undertaking their roles adequately. For example, the IESC team observed successful re-instatement of RoW at KP1370+452 with full coverage of plants and new crops already planted in nearby rehabilitated agricultural plot overlapping with the reinstated RoW (see **Error! Reference s ource not found.**). | | |

Figure 21 Rehabilitated Agricultural Plot Overlapping With the Reinstated RoW

**Observations for LOT 4 Reforestation**

As stated in the LOT 4 Reforestation Strategy document (PLK-PLN-ENV-PL4-021-P4-0), the LOT4 Contractor and the Ministry of Agriculture and Forestry signed a protocol (dated 26 June 2019) for reforestation work in LOT4. As agreed, all reforestation activities in LOT4 will be undertaken by the Ministry's' subcontractors. The Ministry and its Contractors are fully responsible for all reforestation activities (i.e. soil preparation, tree species selection, plantation timing, care and maintenance and repair, and coordination etc.). The LOT4 Reforestation Strategy and other reforestation requirements were introduced to the regional Directorates of the Ministry before preparation of reforestation application projects. Based on TANAP's reforestation requirements, the regional Forestry Directorates specified the reforestation requirement

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| | | details for their Contractors. TANAP reviewed all the reforestation application projects if they are compliant with its reforestation requirements.<br><br>However, the IESC team observed some variations between the TANAP Reforestation Strategy document requirements and actual reforestation activities in the field such as tree planting timing (i.e. September to early December as stated in the Reforestation Strategy versus January in current reforestation schedule for Canakkale and Tekirdag provinces), tree planting method (planting in holes in the Strategy versus dug trenches, for example, at the CH58 site). These deviations from the approved ESIA / Management Plans are approved, as it was informed during the audit, by TANAP when TANAP reviewed the reforestation project applications. Overall risks from using the different reforestation approach may be low as all the activities are carried out by the professional entities.<br><br>Another observation by IESC that needs TANAP's attention is the potential gap in the supervision and oversight of the reforestation Contractors by TANAP. The LOT4 Reforestation Strategy states that the Ministry of Agriculture and Forestry is committed to maintain, repair and protect the forested areas for 3 years after tree plantation process is completed and during this period the LOT4 Contractor provides supervision to the process. Based on the current reforestation progress and completion schedule (i.e. January 2020), the maintenance period by the Ministry will be until end of 2022. On the other hand, the LOT4 Contractor's warranty period will be expired by end of 2021 based on the mechanical completion (December 2018) and current Provisional Acceptance progress of about 90% as of November 2019. The Ministry reports to the LOT4 Contractor once a year as agreed in the protocol and the LOT4 Contractor reports to TANAP. This potential lapse in TANAP's oversight for the reforestation care and maintenance period was raised during the audit and IESC got clarification from TANAP that TANAP's long term monitoring programmes will cover the reforestation success regardless of the agreed protocol between the LOT4 Contractor and the Ministry of Forestry.<br><br>Reforestation activities in LOT4 progressed well since the last IESC visit and no evident defects were noted by the IESC team during this time except the above observations. It is less value to revise the reinstatement and reforestation documents at this stage to address the noted observation as most of the reforestation activities have been completed, and TANAP has a plan | **PC** | |

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| | | to monitor the reforested areas through its long term monitoring. However, it is IESC's suggestion for improvement that review and approval of any biorestoration activities that needed to be carried out different to the specified methods, need to be timely amnd clearly provisioned in the relevant documents for clarity even though the activities are carried out by professional entities.<br><br>**OHL Impacts to Bird Species**<br><br>The updated OHLs and Anode Bed Lines ESIA included impacts on bird species. TANAP contracted with Çinar to undertake bird monitoring at areas where impacts are likely to occur.<br><br>IESC is satisfied with the TANAP's to date progress with the bird monitoring activities as required by the ESIA of OHLS and Anode Bed Lines (CIN-REP-ENV-GEN-026 Rev-P3-1). Cinar completed the required spring bird monitoring in all areas (i.e. MS4, DSW, DSE, CS7, BVS21, CS1) along the known for bird migration routes during the spring migration (April-May 2019) and post spring migration period (June -July 2019). Cinar's autumn bird monitoring is completed and report was under preparation during this IESC audit.<br><br>Aim of the bird monitoring study is to assess potential impacts of the OHL to migratory bird species flight behaviour and/or if the OHLs cause bird mortality due to collision/electrocution. During the post spring migration monitoring in July 2019, three carcasses of white stork were found in close vicinity of BVS21 OHL. It is believed, from the burn marks on the carcasses, that electrocution after collision with the OHL lines caused the mortality, indicating direct potential impacts to birds from the OHLs.<br><br>OHL mitigations and additional monitoring will be implemented based on the findings of Çinar's bird monitoring report.<br><br>**Budget allocation for biorestoration monitoring and maintenance and biodiversity offset implementation**<br><br>ESAP Item 1.2 requires provision of a cost estimate for the operational phase Biorestoration monitoring and maintenance sufficient for the length of the pipeline corridor and to ensure sufficient contingency budget allocations for any newly identified biodiversity remedial and | | |

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| | | offset activities.<br><br>There are separate Contracts designed to deal with the activities stated within this item.<br><br>Mainly, Contractors have the responsibility of "aftercare and monitoring" during the 2 years contractual maintenance period. In addition, as a preparation to operations phase, "ROW Restoration, Vegetation, Maintenance Management and Snow Removal Services" Contract was assigned, under which bio-restoration monitoring (as ROW patrolling) and minor maintenance requirements will be managed. During 2018 visit, the estimated costs were shared with IESC and deemed sufficient. These costs were not reviewed again during the November 2019 visit.<br><br>A cost was allocated under the Ecological Monitoring section of the Contract of "Environmental Third-Party Monitoring and Consultancy Services during Operation Phase". The IESC was provided with the Annual Ecological Monitoring Price Table developed by ENVY up to end of 2020. IESC considers the vegetation cover and density and flora monitoring and aquatic fauna monitoring costs to be low compared to the terrestrial fauna monitoring costs allocated per year. If additional contingency costs are required, currently not covered by the contract, there is a contractual mechanism that can be used for change orders.<br><br>The Biodiversity Offset Management Plan is being prepared and will be completed in January 2020. However, TANAP, who is willing to start the offset Projects this year, allocated an amount of $500,000.00 for the start-up of some of the offset Projects in 2019. The proposed activities for Q 2,3,4 of 2019 include: (a) preliminary habitat mapping studies, b) targeted species surveys on the potential offset sites to assess their suitability for offsetting residual impacts and c) on-going consultation with national and regional stakeholders). Based on IESC's understanding that the proposals cover three forest and three steppe habitat projects the IESC considers the budget adequate. Additional budget for studies to be undertaken in the remaining habitats comprising potential offset sites will be allocated for 2020 onwards once the BOMP is finalised in January 2020. The cost estimates for the BOMP implementation will be provided once the BOMP is finalised in 2020. | | |

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| 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 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. | TANAP has engaged competent national and international expertise, through Çinar and Golder, for the identification of impacts and development and implementation of appropriate mitigations to meet legislative requirements and the Project's biodiversity standards as outlined in the BAP.<br><br>IESC was satisfied with the specialist advisory services obtained from competent external professionals to identify potential Project impacts and risks prior to construction. IESC was convinced he appropriate professional advice was sought to assess the necessity for implementation of restriction periods and mitigations specified in the BAP. IESC was satisfied that experts with the appropriate regional experience were retained on site to monitor construction activities and assist in the development and implementation of the mitigation hierarchy where necessary.<br><br>Çinar is engaged for the third party construction environmental and social monitoring. Çinar has biodiversity experts and one biodiversity contact person. ENVY will be taking over from Çinar for on-going third party operations phase environmental monitoring of soil, water, waste water. They will not be required to report to the lenders since that activity will be the responsibility of the IESC.<br><br>TANAP has contracted Cinar/Golder (for Biodiversity Offset Management Plan Preparation), ENVY (for Environmental Monitoring and Consultancy) ACD (for Row Restoration Vegetation Maintenance Management and Snow Removal) for environmental monitoring, in addition to the IESC service with Sustainability to ensure its environmental performance is tracked and any issues are identified and fixed. Refer to Section 1.22 in Appendix A for environmental monitoring arrangements details. | **FC** | |
| **Protection and Conservation of Biodiversity** | | | | |
| | Habitat is defined as a terrestrial, freshwater, or marine geographical unit or airway that supports | The Biodiversity Action Plan (BAP) includes a critical habitat assessment. There are 67 Terrestrial and 27 Freshwater Critical Habitat areas have been identified along the Project RoW in the Biodiversity Action Plan (CIN-REP-ENV-GEN-017) for the Project. No Marine critical Habitat is identified for the Project. The BAP determined impact mitigation and reinstatement | **FC** | |

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| 6.9 | 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. | measures, monitoring methods/timing, and impact mitigation achievement including criteria for all identified Critical Habitats. As required by the BAP and the Reinstatement specifications all critical habitats, water crossings and areas prone to erosion are needed to be reinstated immediately after installations of the pipelines and monitored quarterly.<br><br>BAP requirements for critical habitat areas impact mitigation include preconstruction measures, (i.e. seeds collection, plants translocation, time period specified), topsoil stripping and storage, restricted timing for construction activities and reinstatement measures. Pre-construction ecological surveys for each critical areas are also required to support developing the reinstatement requirements (i.e. SARMS) for each critical habitat after construction. Post construction period monitoring for all critical habitats have been carried out by Cinar quarterly basis is extended until April 2020 as an independent third party monitoring. Starting 2019 TANAP contracted with ENVY for the monitoring at annual basis. During this visit the IESC team sighted and provided ENVY's monitoring reports in 2019.<br><br>**LOT 4 Critical Habitat**<br><br>There are 19 (10 terrestrial, 9 freshwater) Critical Habitats are identified within the Lot 4. During the November 2019 audit the IESC team visited CH58 and FCH26 sites to audit the reinstatement success.<br><br>IESC observed good implementation of the mitigation hierarchy at the two CH sites visited. IESC was satisfied that TANAP, and its Contractors, had undertaken the requisite specialist studies during pre-construction and construction to avoid measurable adverse impacts to CH triggering species in accordance with the BAP. Specific observations and findings from the five CH sites visited are described below.<br><br>**CH 58**<br><br>At CH 58 the plant species *Thymus leucostomus* (VU, Criterion 2, Tier 2 (b)) triggered Critical Habitat. At this site IESC observed excellent implementation of the mitigation hierarchy and conservation of biodiversity (SCC). In June and July 2016 seeds were collected (as per BAP requirements) and planted in three specified areas near the ROW with similar edaphic and | | |
| 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** | |

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| 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 primary ecological functions and species composition. | climatic conditions to their original growing locations i.e. steepness of slope, direction of slope.<br><br>During the May 2019 site visit, the IESC observed successful germination of these seedlings. The seedlings were being protected from livestock grazing and trampling by temporary wooden fences that had been installed. The previous IESC audit noted that topsoil had been stripped and stored according to the BAP specifications and re-contouring and replacement of topsoil had taken place. Jute matting application had been applied on the slope and slope breakers had been installed within the technical specification.<br><br>IESC was satisfied that all biodiversity conservation and biorestoration activities at this site were being undertaken in accordance with the relevant plans and procedures. ENVY's monitoring was not done at CH58 in 2019 due to some ongoing works at the site as it was reported in ENVY's Physical and Ecological Monitoring Report (ASE-REP-ENVIRONMENT-GEN-017 P4-C). However, the IESC team is satisfied with the overall vegetation coverage at the site (see **Error! Reference source not found.**). | **FC** | |
| 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 | | **FC** | |

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| | functions and species composition. | Figure 22 Overall Vegetation Coverage at CH58  It is observed during this IESC audit that certain plant species (for example *Chenopodium botrys*) dominated the RoW compared to the neighbouring undisturbed habitat. TANAP's Contractors ecologist explained that this was normal ecological process after heavy disturbance like fire and the dominant plants will gradually decrease when other plants started growing. Another observation noted by the audit team was that 'bridging' of jute matting over the soil surface by the dominant species growth (see **Error! Reference source not found.**). | | |
| 6.14 | Ensure no significant conversion or degradation of natural habitats, unless the following conditions are met:<br>• there are no viable alternatives within the region;<br>• the views of stakeholders with respect to the extent of conversion and degradation have been established; and<br>• 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** | |

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| | • Avoiding impacts on biodiversity through the identification and protection of set-asides;<br>• Implementing measures to minimise habitat fragmentation, such as biological corridors;<br>• Restoring habitats during operations and/or after operations;<br>• Implementing biodiversity offsets. | Figure 23 Bridging of Jute Matting over the Soil Surface by Dominant Species Growth<br>  | | |
| 6.16 | Critical habitats are areas with high biodiversity value, including:<br>habitat of significant importance to Critically Endangered and/or Endangered species; habitat of significant importance to endemic | The jute matting was placed in these slopes to control erosion as required by the Erosion, Reinstatement and Landscaping Plan, but the dominant species growth created the 'bridging' condition lifting up the hydro mulches over the soil surface. Effects of this 'bridging jute' on other plant species , especially for the target species, seed dispersal and regrowth is unknown during the jute matting period which is estimated to be about 2 years. This is not a compliance issue, but it is recommended that TANAP to monitor growth of the plant species under the lifted up jutes and take necessary actions if needed.<br>One negative observation noted during the May 2019 IESC audit was the absence of signage | **FC** | |

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| | and/or restricted-range species;<br><br>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. | stating there was CH on site. IESC was informed the villagers had stolen the signs. IESC team recommended to replace the stolen signs. However, during this audit the IESC did not observe the signage being replaced, but was informed verbally by the TANAP environmental staff that the area will be fenced to protect the newly planted trees. Restoration work was completed about a year ago at the CH58 site and the vegetation regrowth is well established as observed during this audit. Therefore, the needs of re-erecting the signage may be reduced now, however it is strongly recommended that TANAP to adhere to the critical habitat reinstatement requirements and act in a timely passion or assess the situation officially and respond when recommendations are provided by the independent monitoring parties.<br><br>**FCH 26**<br><br>At FCH 26 Critical Habitat (Criterion 1, Tier 2c; Criterion 3, Tier 2 b) was triggered by *Anguila anguila* (listed as CR on IUCN RED List) (European eel) potential habitat. The BAP impact mitigation requirements for FCH 26 included: closed construction period between 1 April and 1 June during the spawning season migration; use of silt screens and sediment traps to control sediment release into the river bed; and avoidance of removing gravels at the crossing. Post construction reinstatement requirements included restoration of channel bottom (materials and topography) and riparian vegetation (along river banks) to baseline conditions present prior to construction.<br><br>The IESC team visited the FCH 26 site in October 2018. During the initial visit in 2018, construction of the river crossing and reinstatement works were not completed. The IESC observed use of erosion and sedimentation protection measures in place including placement of straw bales, rock armouring and geo-fabric along the exposed riverbank at the shore crossing locations and the reinstated river diversion.<br><br>The IESC observed successful rehabilitation at the FCH 26 site during this visit. All reinstatement and restoration works completed and the riparian vegetation has fully grown and in most of the places the regrowth is almost identical to the same vegetation community conditions in the adjacent undisturbed sections of the river (see **Error! Reference source not found.**). | | |
| 6.17 | Ensure Project activities are not implemented in areas of critical habitat unless the following conditions are met:<br><br>• 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 | | | |

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| | supporting those biodiversity values;<br>• 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;<br>• a long-term biodiversity monitoring and evaluation program is designed and integrated into the overall management programme. | Figure 24 Successful Rehabilitation at the FCH 26<br>  <br>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.<br>**Biodiversity Offset Planning and Implementation:**<br>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 features as defined in EBRD PR6.<br>TANAP has contracted Golder to develop the Biodiversity Offset Management Plan (BOMP) to meet IFC PS 6 offsetting requirements. As mentioned in the IESC October 2018 audit report the legal and institutional framework was reviewed in 2018. Following this a list of potential biodiversity offset sites was identified through a process of screening and ranking potential | | |
| 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 | | | |

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| | critical habitat was designated. | sites.<br><br>Golder's December 2018 BOMP Quarterly Report continued to focus on refining the baseline value of degradation of natural habitats in the LSA and at potential offset sites and refining rehabilitation success at 20-yrs to provide a more accurate parameter in the offset equation and a targeted species survey of species of conservation concern (SSC) that may be at risk of extinction in the 20-yr rehabilitation strategy. Following the review of the legal and institutional framework necessary to contextualize the feasibility of the biodiversity offsets, described in the September 2018 Quarterly report, potential offset sites were screened according to principles outlined in the Biodiversity Offset Strategy (BOS) to provide a short-list of potential sites and these sites were then ranked according to four criteria identified in the BOS. Stakeholders were identified, a strategy of engagement defined, and consultations commenced.<br><br>The March 2019 BOMP Quarterly Report described continued progress on many of the abovementioned activities in addition to focusing on assessing habitat suitability for the SCC and undertaking final net loss calculations. Offset opportunities were identified and habitat mapping of the top-ranking potential offset sites was undertaken. Potential offset implementation activities were identified, and parametric costs of these activities defined. Stakeholder consultations at the national level and with national and regional stakeholders were undertaken.<br><br>TANAP held a workshop in April 2019 with an extensive list of stakeholders and potential NGO implementation partners were identified through a process of consultation with NGOs at the national level. In Q1 of 2019 final net loss calculations were defined for 2019 Project activity implementation only. The five short-listed NGOs provided TANAP with 13 proposed specific offset activities to be undertaken in 2019 accompanied by associated implementation costs. A formula has been established for total biodiversity net loss that takes cognizance of losses incurred to specific European Nature Information System (Eunis) Habitat types and ecoregions and target species. Appropriate criteria have been developed for ranking potential offset sites and a habitat map prepared for each of the 12 top-ranking offset sites.<br><br>The BOMP preparations progressed since the previous IESC team visit in May 2019. During this | | |
| 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. | | | |

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| | | period six potential offset projects has been identified with close collaboration with Nature Conservation Centre (DKM) and Anatolian Pastures (AP) NGOs.<br><br>The target species surveys and fine scale (1:10,000) habitat mapping also undertaken for the preliminary offset project areas with the aim of selecting the offset project sites and activities. Results of these surveys are used to improve the accuracy of the net gain calculations. Consultation and engagement with other parties, including government authorities and NGOs, has continued to date to ensure all parties to understand and agree the offset projects implementation while making sure the identified projects' implementation is legally and institutionally feasible. Based on the additional studies outcome, i.e. map of habitats and the distribution of the species of conservation concern, Golder calculated the Net Gains expected from each of the offsite sites.<br><br>Consultation with institutional stakeholders both at regional and with local level is continuing to discuss the feasibility and acceptance of the Preliminary Offset Projects proposed and guarantee a circular feedback, enabling TANAP to refine the selected proposal as needed.<br><br>Golder is currently undertaking feasibility studies of the selected offset projects and providing support to the NGO's to ensure that the offset projects implementation and outcomes are to align with the BOMP objectives and Net Gain Calculations.<br><br>As of November 2019, the final BOMP is under development and it is expected to be completed by January 2020. The final BOMP will include the final set of offset projects, plans, roles and responsibilities, key performance indicators and required budgets. TANAP plans to tender the offset projects in first quarter of the 2020.<br><br>IESC considers the scheduling and procedure for biodiversity offset implementation to be on track and in accordance with the requirements of PS6. | | |
| 6.20 | Where Project falls in legally protected and internationally recognised areas – comply with the | BAP and ESIA include the framework for compliance with regard to protected areas and internationally recognised areas. | **FC** | |

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| | requirements for natural and critical habitats and in addition:<br>• demonstrate that the proposed development is legally permitted in such areas;<br>• comply with any government recognised Management Plans for such areas;<br>• consult protected area sponsors and managers, Affected Communities, Indigenous Peoples and other stakeholders, as appropriate; and<br>• implement additional programmes to promote and enhance the conservation aims and effective | | | |

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| | 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 ESIA for OHLS and Anode Bed-lines states "if spreading of invasive species is observed, an appropriate eradication program should be developed and implemented". Contractor strips topsoil to 30cm at all construction sites. The topsoil is stockpiled, seeded and drained. The topsoil stockpile is checked for the presence of invasive flora species and around the site for fauna species. Monthly checking for invasive species takes place. If invasive species are found an invasive species plan would be prepared to remove them. The BRM and the Ecological Management Plan refer to how invasive species are dealt with.<br><br>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 control of invasive species (i.e. planting of native plants and trees, consideration of invasive potential and adverse impacts to native vegetation if new plant species are selected) and monitoring.<br><br>The IESC reviewed Cinar and ENVY's independent monitoring reports did not observe any invasive species in the reinstated RoW to date. | **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 | | **FC** | |

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| | unintended introductions. | | | |
| **Management of Ecosystem Services** | | | | |
| 6.24 | Conduct a systematic review to identify priority ecosystem services which are:<br>• those which Project operations are most likely to impact and which result in adverse impacts to Affected Communities;<br>• 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. | | | |

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| | Where unavoidable, minimise impacts and implement measures to maintain the value and functionality of priority ecosystem services.<br><br>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** | | | | |
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| **Protection of cultural heritage in Project design and execution** | | | | |
| 8.6 | Comply with applicable national laws.<br>Identify and protect cultural heritage by ensuring that internationally recognised practices are implemented for the protection, field-based study, and documentation of cultural heritage. | Not assessed (low risk at this stage of activities: note: compliance anticipated) | **NOP** | |
| 8.7 | Retain competent professionals to assist in identification and protection of cultural heritage. See also paragraphs 10 and 13 to 15. | Not assessed (low risk at this stage of activities: note: compliance anticipated) | **NOP** | |
| 8.8 | Siting and design to avoid significant adverse impacts to cultural heritage.<br>Determine whether the proposed location of a Project is in areas where cultural heritage is expected to be found, either during construction or operations | Not assessed (low risk at this stage of activities: note: compliance anticipated) | **NOP** | |

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| | as part of the environmental and social risks and impacts identification process.<br>Develop provisions in the ESMS for managing chance finds through a chance find procedure.<br>Do not disturb any chance find until an assessment by competent professionals is made and actions consistent with the requirements PS8 are identified. | | | |
| 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.<br>Incorporate into the decision-making process the views of the Affected Communities on such cultural heritage. | Not assessed (low risk at this stage of activities: note: compliance anticipated) | **NOP** | |

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| | Consult with relevant national or local regulatory agencies that are entrusted with the protection of cultural heritage. | | | |
| 8.10 | Allow continued access by Affected Communities to cultural sites or provide alternative access subject to overriding health, safety and security considerations. | Not assessed (low risk at this stage of activities: note: compliance anticipated) | **NOP** | |
| 8.11 | Apply mitigation measures that favour avoidance. Where avoidance is not feasible, apply a mitigation hierarchy as follows:<br>• 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; | Not assessed (low risk at this stage of activities: note: compliance anticipated) | **NOP** | |

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| | • 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;<br>• The permanent removal of historical and archaeological artefacts and structures is carried out according to the principles of paragraphs 6 and 7;<br>• 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 | | | |

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| | 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 | | | |

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| | 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 | | | |

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| | 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** | | | | |
| 8.16 | 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; | | | |

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| | the scope and nature of the proposed commercial development;<br>the potential consequences of such development. | | | |
| 8.17 | Do not proceed with commercialisation unless:<br>a process of ICP (see PS1) and which uses a good faith negotiation process that results in a documented outcome is undertaken;<br>fair and equitable sharing of benefits from commercialisation of such knowledge, innovation, or practice, consistent with their customs and traditions is provided. | Not applicable | **NA** | |

# Appendix B Assessment Table – Equator Principles

| Audit Criterion | | Detail | Findings / Comments | Compliance Category | Actions Required/Recommendations |
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| 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.<br><br>The ESIA was publicly disclosed on the TANAP website (22 June 2015). Turkey's Ministry of Environment and Urbanisation (MoEU) | **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 Guidelines (refer to Appendix B below) | The following Host Government Agreements and Inter-Government Agreements have been signed by TANAP in order to meet legal compliance with Turkish requirements and set the basis for the Projects implementation. | **FC** | |

| Audit Criterion | | Detail | Findings / Comments | Compliance Category | Actions Required/Recommendations |
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| | | The Assessment process in both cases should address compliance with relevant host country laws, regulations and permits that pertain to social and environmental matters. | "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."<br><br>"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. 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 | | |

| Audit Criterion | | Detail | Findings / Comments | Compliance Category | Actions Required/Recommendations |
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| | | | January 2013. Following approval by Council of Ministers, the Agreements were published in the Official Gazette on 19 March 2013 and entered into force."<br><br>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.<br>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 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. | **FC** | |

| Audit Criterion | | Detail | Findings / Comments | Compliance Category | Actions Required/Recommendations |
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| | | | 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 agreed resulting from the consultation. | | **FC** | |
| | | 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. | | **FC** | |

| Audit Criterion | | Detail | Findings / Comments | Compliance Category | Actions Required/Recommendations |
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| 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 borrower will covenant in financing documentation. | To be determined | Not Assessed | |
| 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 | Underway | FC | |

| Audit Criterion | | Detail | Findings / Comments | Compliance Category | Actions Required/Recommendations |
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| | | verify its monitoring information which would be shared with EPFIs. | | | |

# Appendix C 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 |
| | Emergency Preparedness and Response | See IFC PS1 | **PC** | See IFC PS1 |
| | Managing Contractors | See IFC PS1 | **FC** | |
| | Training | See IFC PS2 | **PC** | See IFC PS2 |
| | Stakeholder engagement, grievance and reporting | See IFC PS1 | **PC** | |
| | 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** | |

| Requirement | EBRD Performance Measure | Findings / Comments | Compliance Category | Actions Required/Recommendations |
|---|---|---|---|---|
| | Worker's Organisations | See IFC PS2 | **FC** | |
| | Retrenchment | See IFC PS2 | **FC** | |
| | Grievance Mechanism | See IFC PS2 | **FC** | |
| | Occupational Health and Safety | See IFC PS2 | **PC** | See IFC PS 2 |
| | 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 | **PC** | |
| | Wastes | See IFC PS3 | **FC** | |
| | Safe Use and Management of Hazardous Substances and Materials | See IFC PS3 | **FC** | |
| | Emergency Preparedness and Response | See IFC PS1 | **FC** | |
| | 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** | |

| Requirement | EBRD Performance Measure | Findings / Comments | Compliance Category | Actions Required/Recommendations |
|---|---|---|---|---|
| **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 in a manner commensurate with the identified risks and impacts. | Infrastructure and Equipment Safety | See IFC PS4 | **FC** | |
| | Hazardous Material Safety | See IFC PS4 | **FC** | See IFC PS4/PS2 |
| | Environmental and Natural Resource Issues | See IFC PS4 | **FC** | |
| | Community Exposure to Disease | See IFC PS4 | **FC** | |
| | Emergency Preparedness and Response | See IFC PS1 | **FC** | |
| | 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 | **FC** | |
| | 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** | |

| Requirement | EBRD Performance Measure | Findings / Comments | Compliance Category | Actions Required/Recommendations |
|---|---|---|---|---|
| | 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 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. | Appraisal of Issues and Impacts | See IFC PS6 | **FC** | |
| | Habitat Protection and Conservation | See IFC PS6 | **PC** | See IFC PS6 |
| | Invasive Species | See IFC PS6 | **FC** | |
| | Sustainable Management and Use of Living Resources | N/A | **N/A** | |
| | Fisheries | N/A | **N/A** | |
| | 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<br>Avoidance of Adverse Impacts<br>Information Disclosure, Consultation and Informed Participation | N/A | **N/A** | |

| Requirement | EBRD Performance Measure | Findings / Comments | Compliance Category | Actions Required/Recommendations |
|---|---|---|---|---|
| | Preparation of an Indigenous Peoples Development Plan<br><br>Compensation and Benefit Sharing<br><br>Impacts on Traditional or Customary Lands Under Use<br><br>Relocation of Indigenous Peoples from Traditional or Customary Lands<br><br>Cultural Resources<br><br>Grievance Mechanism and Prevention of Ethnically Based Discrimination | | | |
| **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 | **NOP** | Not assessed (low risk issue at this stage of activities; note: compliance anticipated) |
| | Screening for Risks or Impacts on Cultural Heritage (EBRD) | See IFC PS1 | **NOP** | |
| | Impacts on Intangible Heritage (EBRD) | | **NOP** | |
| | Avoiding Impacts | See IFC PS8 and PS1 | **NOP** | |
| | Assessing Impacts that Cannot be Avoided (EBRD) | See IFC PS8 and PS1 | **NOP** | |

| Requirement | EBRD Performance Measure | Findings / Comments | Compliance Category | Actions Required/Recommendations |
|---|---|---|---|---|
| | Managing Impacts on Cultural Heritage (EBRD) | See IFC PS8 and PS1 | **NOP** | |
| | Chance Find Procedures (EBRD) | See IFC PS8 | **NOP** | |
| | Consultation with Affected Communities (EBRD) | See IFC PS8 | **NOP** | |
| | 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 | **FC** | |
| | 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 | **FC** | |

# Appendix D 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. | **FC** |
| 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 modelling 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.<br>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). | **FC** |

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| 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:<br>• Equipment modifications;<br>• 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;<br>• Substitution of less volatile substances;<br>• Collection of vapours through air extractors and subsequent;<br>• Treatment with destructive control devices;<br>• Use of floating roofs on storage tanks. | **FC** |
| 1.8. Dust control methods should be implemented to prevent particulate matter (dust) emissions including the following:<br>• Covers, water suppression, or increased moisture content for open materials storage piles;<br>• 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** |
| Mobile Sources – Land-based | |

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| 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:<br>• Implementation of the manufacturer recommended engine maintenance programs;<br>• 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;<br>• 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;<br>• 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:<br>• Carbon financing;<br>• Protection and enhancement of sinks and reservoirs of greenhouse gases;<br>• Carbon capture and storage technologies;<br>• Limitation and / or reduction of methane emissions;<br>• 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.<br>The air quality monitoring program should consider the following elements: | **FC** |

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| • baseline calculations;<br>• 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);<br>• monitoring locations;<br>• sampling and analysis methods (monitoring programs should apply national or international methods for sample collection and analysis). | |
| 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.<br>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.<br>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).<br>Emission Monitoring:<br>• $SO_2$. Plants with $SO_2$ control equipment: Continuous.<br>• NOx: Continuous monitoring of either NOx emissions or indicative NOx emissions using combustion parameters.<br>• 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:<br>Annual Stack Emission Testing: NOx and $SO_2$ (NOx only for gaseous fuel-fired turbines).<br>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.<br>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: | **Not assessed** |

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| • Annual Stack Emission Testing: NOx, SO2 and PM (NOx only for gaseous fuel-fired diesel engines).<br>• 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.<br>• 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:<br>• Identification, and regular measurement and reporting of principal energy flows within a facility at unit process level;<br>• Preparation of mass and energy balance;<br>• Definition and regular review of energy performance targets, which are adjusted to account for changes in major influencing factors on energy use;<br>• Regular comparison and monitoring of energy flows with performance targets to identify where action should be taken to reduce energy use;<br>• 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:<br>• Demand/Load Side Management by reducing loads on the energy system; | **Compliance Anticipated** |

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| • Supply Side Management by reduce losses in energy distribution; improve energy conversion efficiency; exploit energy purchasing opportunities; use lower- carbon fuels. | |
| 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:<br>• Ensure adequate insulation to reduce heat losses through furnace/oven etc. structure;<br>• Recover heat from hot process or exhaust streams to reduce system loads;<br>• In intermittently-heated systems, consider use of low thermal mass insulation to reduce energy required to heat the system structure to operating temperature;<br>• Control process temperature and other parameters accurately to avoid, for example, overheating or overdrying;<br>• Examine opportunities to use low weight and/or low thermal mass product carriers, such as heated shapers, kiln cars etc.;<br>• Review opportunities to schedule work flow to limit the need for process reheating between stages;<br>• 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;<br>• Robust Scheduled maintenance programs. | **Compliance Anticipated** |
| 2.5. Losses in heat distribution systems should be reduced through the following actions:<br>• Promptly repair distribution system leaks;<br>• Regularly verify correct operation of steam traps in steam systems, and ensure that traps are not bypassed; | **Compliance Anticipated** |

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| • Insulate distribution system vessels, such as hot wells and de-aerators, in steam systems and thermal fluid or hot water storage tanks;<br>• 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. | |
| 2.6. The following efficiency opportunities should be examined for process furnaces or ovens, and utility systems, such as boilers and fluid heaters:<br>• Regularly monitor CO, oxygen or $CO_2$ content of flue gases to verify that combustion systems are using the minimum practical excess air volumes;<br>• Consider combustion automation using oxygen-trim controls;<br>• Minimise the number of boilers or heaters used to meet loads;<br>• Use flue dampers to eliminate ventilation losses from hot boilers held at standby;<br>• Maintain clean heat transfer surfaces;<br>• In steam boiler systems, use economisers to recover heat from flue gases to pre-heat boiler feed water or combustion air;<br>• Adopt automatic (continuous) boiler blowdown;<br>• Recover heat from blowdown systems through flash steam recovery or feed- water preheat;<br>• With fired heaters, consider opportunities to recover heat to combustion air through the use of recuperative or regenerative burner systems;<br>• Oxy Fuel burners;<br>• Fuel quality control/fuel blending and etc. | **Compliance Anticipated** |
| 2.7. Special measures to improve process cooling efficiency should be used including the following: | **Compliance Anticipated** |

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| Ensure adequate insulation;<br>• Control process temperature;<br>• Operate cooling tunnels at slight positive pressure and maintain air seals to reduce air in-leakage into the cooled system;<br>• Examine opportunities to pre-cool using heat recovery to a process stream requiring heating, or by using a higher temperature cooling utility;<br>• In cold and chill stores, minimise heat gains to the cooled space by use of air curtains, entrance vestibules, or rapidly opening/closing doors;<br>• Do not use refrigeration for auxiliary cooling duties, such as compressor cylinder head or oil cooling;<br>• 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** |
| <u>Compressed Air Systems</u> | |
| 2.11. Special energy conservation measures should be used including :<br>examination of each true user of compressed air to identify the air volume needed and the pressure at which this should be delivered;<br>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** |

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| 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:<br>• National and local standards as reflected in permit requirements and sewer system capacity to convey and treat wastewater if discharge is to sanitary sewer;<br>• Assimilative capacity of the receiving water for the load of contaminant being discharged wastewater if discharge is to surface water;<br>• Intended use of the receiving water body;<br>• Presence of sensitive receptors;<br>• GIIP for the relevant industry sector. | **FC** |
| Liquid Effluent Quality | |

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| 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.<br>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.<br>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:<br>• Meet the pre-treatment and monitoring requirements of the sewer treatment system into which it discharges;<br>• 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;<br>• 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.<br>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.<br>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.<br>When septic systems are the selected form of wastewater disposal and treatment, they should be: | **FC** |

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| • 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.<br>• Well maintained to allow effective operation.<br>• Installed in areas with sufficient soil percolation for the design wastewater loading rate.<br>• 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:<br>• Adoption of water conservation opportunities for facility cooling systems;<br>• 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;<br>• Minimising use of antifouling and corrosion inhibiting chemicals by ensuring appropriate depth of water intake and use of screens;<br>• 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: | **FC** |

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| • Segregation of wastewater streams to ensure compatibility with selected treatment option;<br>• Segregation and pre-treatment of oil and grease containing effluents prior to discharge into sewer systems;<br>• If sewage from the industrial facility is to be discharged to surface water, treatment to meet national or local standards for sewage discharges;<br>• 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;<br>• Sludge from sewage treatment systems should be disposed in compliance with local regulatory requirements. | |
| 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.<br>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:<br>• Identification, regular measurement, and recording of principal flows within a facility.<br>• Definition and regular review of performance targets, which are adjusted to account for changes in major factors affecting water use.<br>• Regular comparison of water flows with performance targets to identify where action should be taken to reduce water use.<br>• 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** |

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| 4.4. Measures for water saving should be implemented to reduce consumption of building and sanitary water, including:<br>• Regularly maintain plumbing, and identify and repair leaks;<br>• Install self-closing taps, automatic shut-off valves, spray nozzles, pressure reducing valves, and water conserving fixtures;<br>• Operate dishwashers and laundries on full loads, and only when needed;<br>• Install water-saving equipment in lavatories, such as lowflow toilets. | **FC** |
| 4.5. Water conservation opportunities in cooling systems should include:<br>• Use of closed circuit cooling systems with cooling towers rather than once-through cooling systems;<br>• Limiting condenser or cooling tower blowdown to the minimum required to prevent unacceptable accumulation of dissolved solids;<br>• Use of air cooling rather than evaporative cooling;<br>• Use of treated waste water for cooling towers;<br>• 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:<br>• Repair of steam and condensate leaks, and repair of all failed steam traps;<br>• Return of condensate to the boilerhouse, and use of heat exchangers (with condensate return) rather than direct steam injection where process permits;<br>• Flash steam recovery;<br>• Minimising boiler blowdown consistent with maintaining acceptably low dissolved solids in boiler water; | **FC** |

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| • 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:<br>• The types and amounts of hazardous materials present in the Project.<br>• Analysis of potential spill and release scenarios using available industry statistics on spills and accidents where available.<br>• Analysis of the potential for uncontrolled reactions such as fire and explosions.<br>• 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:<br>• Training of Operators on release prevention, including drills specific to hazardous materials as part of emergency preparedness response training;<br>• 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;<br>• 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; | **FC** |

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| • SOPs for the management of secondary containment structures;<br>• Identification of locations of hazardous materials and associated activities on an emergency plan site map;<br>• Documentation of availability of specific personal protective equipment and training needed to respond to an emergency;<br>• Documentation of availability of spill response equipment;<br>• Description of response activities in the event of a spill, release, or other chemical emergency. | |
| 5.5. Recommended practices to prevent hazardous material releases from transfer processes include:<br>• Use of transfer equipment that is compatible and suitable for the characteristics of the materials transferred and designed to ensure safe transfer;<br>• Regular inspection, maintenance and repair of fittings, pipes and hoses;<br>• 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. | **FC** |
| 5.6. Special measures should be implemented to prevent overfills of vessels and tanks, including:<br>• Prepare written procedures for transfer operations;<br>• Installation of gauges on tanks to measure volume inside;<br>• Use of dripless hose connections for vehicle tank and fixed connections with storage tanks;<br>• Provision of automatic fill shutoff valves on storage tanks to prevent overfilling;<br>• Use of a catch basin around the fill pipe to collect spills;<br>• Use of piping connections with automatic overfill protection; | **FC** |

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| • Pumping less volume than available capacity into the tank or vessel by ordering less material than its available capacity;<br>• Provision of overfill or over pressure vents that allow controlled release to a capture point. | |
| 5.7. Special measures should be implemented to avoid uncontrolled reactions or conditions resulting in fire or explosion, including:<br>• Storage of incompatible materials (acids, bases, flammables, oxidisers, reactive chemicals) in separate areas, and with containment facilities separating material storage areas;<br>• Provision of material-specific storage for extremely hazardous or reactive materials;<br>• Use of flame arresting devices on vents from flammable storage containers;<br>• Provision of grounding and lightning protection for tank farms, transfer stations, and other equipment that handles flammable materials;<br>• 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;<br>• 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;<br>• Prohibition of all sources of ignition from areas near flammable storage tanks. | **FC** |
| <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 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 litres. | **FC** |

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| 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 litres 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:<br>• Use of automatic pressure loss detectors on pressurised or long distance piping;<br>• Use of approved or certified integrity testing methods on piping or tank systems, at regular intervals;<br>• 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:<br>• Avoiding use of USTs for storage of highly soluble organic materials;<br>• Assessing local soil corrosion potential, and installing and maintaining cathodic protection (or equivalent rust protection) for steel tanks;<br>• 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; | **FC** |

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| • Monitoring the surface above any tank for indications of soil movement;<br>• 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;<br>• Testing integrity by volumetric, vacuum, acoustic, tracers, or other means on all tanks at regular intervals;<br>• 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. | |
| 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:<br>• 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;<br>• Procedures should be prepared for using, inspecting, testing, and maintaining the emergency response equipment;<br>• 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 behaviour 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 | |
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| 6.1. Facilities that generate and store wastes should practice the following:<br>• 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;<br>• Establishing a waste management hierarchy that considers prevention, reduction, reuse, recovery, recycling, removal and finally disposal of wastes;<br>• Avoiding or minimising the generation waste materials, as far as practicable;<br>• Where waste generation cannot be avoided but has been minimised, recovering and reusing waste;<br>• 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:<br>• 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;<br>• Definition of opportunities for source reduction, as well as reuse and recycling;<br>• Definition of procedures and operational controls for onsite storage;<br>• Definition of options / procedures / operational controls for treatment and final disposal. | **FC** |
| 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** |

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| 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:<br>• Substituting raw materials or inputs with less hazardous or toxic materials, or with those where processing generates lower waste volumes;<br>• Applying manufacturing process that convert materials efficiently;<br>• 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;<br>• Instituting procurement measures that recognise opportunities to return usable materials such as containers and which prevents the over ordering of materials;<br>• 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:<br>• Identification and recycling of products that can be reintroduced into the manufacturing process or industry activity at the site;<br>• Investigation of external markets for recycling by other industrial processing operations located in the neighbourhood or region of the facility;<br>• 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:<br>• On-site or off-site biological, chemical, or physical treatment of the waste material to render it nonhazardous prior to final disposal;<br>• Treatment or disposal at permitted facilities specially designed to receive the waste. | **FC** |

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| 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:<br>• Have the technical capability to manage the waste in a manner that reduces immediate and future impact to the environment;<br>• Installing on-site waste treatment or recycling processes;<br>• 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. | **FC** |
| <u>Waste storage</u> | |
| 6.9. Wastes should be stored in a manner that prevents the commingling or contact between incompatible wastes. | **FC** |
| 6.10. Different type of wastes should be stored in different closed containers away from direct sunlight, wind and rain. | **FC** |
| 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 litres. 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:<br>• Provision of readily available information on chemical compatibility to employees, including labelling each container to identify its contents;<br>• Clearly identifying (label) and demarcating the area, including documentation of its location on a facility map or site plan;<br>• Conducting periodic inspections of waste storage areas and documenting the findings;<br>• Preparing and implementing spill response and emergency plans to address their accidental release; | **FC** |

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| • Avoiding underground storage tanks and underground piping of hazardous waste. | |
| **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.<br>All waste containers designated for off-site shipment should be secured and labelled 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:<br>• 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.<br>• Regular audits of waste segregation and collection practices;<br>• 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;<br>• Regular monitoring of groundwater quality in cases of Hazardous Waste on site storage and/or pre-treatment and disposal. | **FC** |
| **7. Noise** | |
| Prevention and Control | |
| 7.1. Noise impacts should not exceed the following levels:<br>• 55 One Hour LAeq (dBA) at daytime for residential; institutional; educational receptors;<br>• 45 One Hour LAeq (dBA) at night time for residential; institutional; educational receptors; | **FC** |

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| • 70 One Hour LAeq (dBA) at daytime and night time for industrial; commercial receptors. | |
| 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:<br>• Selecting equipment with lower sound power levels;<br>• Installing silencers for fans;<br>• Installing suitable mufflers on engine exhausts and compressor components;<br>• Installing acoustic enclosures for equipment casing radiating noise;<br>• Improving the acoustic performance of constructed buildings, apply sound insulation;<br>• Limiting the hours of operation for specific pieces of equipment or operations, especially mobile sources operating through community areas;<br>• Reducing Project traffic routing through community areas wherever possible<br>• Developing a mechanism to record and respond to complaints. | **Compliance anticipated** |
| <u>Monitoring</u> | |
| 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** | |
| <u>Prevention of land contamination</u> | |
| 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** |

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| 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. | **Compliance Anticipated** |
| 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. | **Compliance Anticipated** |
| **Risk assessment** | |
| 8.5. Where there is potential evidence of contamination at a site, the following steps should be provided:<br>• Identification of the location of suspected highest level of contamination through a combination of visual and historical operational information;<br>• Sampling and testing of the contaminated media (soils or water);<br>• Evaluation of the analytical results against the local and national contaminated sites regulations;<br>• Verification of the potential human and/or ecological receptors and exposure pathways relevant to the site in question. | **Compliance Anticipated** |
| 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.<br>Appropriate risk reduction should be implemented as soon as practicable to remove the condition posing the imminent hazard. | **Compliance Anticipated** |
| 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. | **Compliance Anticipated** |
| 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. | **Compliance Anticipated** |
| **9. Occupational Health and Safety** | |
| 9. General Facility Design and Operation | |

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| Integrity of Workplace Structures | |
| 9.1. Permanent and recurrent places of work should be designed and equipped to protect OHS:<br>• Surfaces, structures and installations should be easy to clean and maintain, and not allow for accumulation of hazardous compounds;<br>• Buildings should be structurally safe, provide appropriate protection against the climate, and have acceptable light and noise conditions;<br>• Fire resistant, noise-absorbing materials should, to the extent feasible, be used for cladding on ceilings and walls;<br>• Floors should be level, even, and non- skid;<br>• Heavy oscillating, rotating or alternating equipment should be located in dedicated buildings or structurally isolated sections. | **PC** |
| 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.<br>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 present at any time, and there should be a minimum two exits from any work area.<br>Facilities also should be designed and built taking into account the needs of disabled persons. | **FC** |
| 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** |

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| 9.6. Facilities should be equipped with fire detectors, alarm systems, and fire-fighting equipment.<br>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** |
| <u>Lavatories and Showers</u> | |
| 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.<br>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.<br>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** |
| <u>Safe Access</u> | |
| 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** |

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| 9.13. Hand, knee and foot railings should be installed on stairs, fixed ladders, platforms, permanent and interim floor openings, loading bays, ramps, etc. | **FC** |
| 9.14. Openings should be sealed by gates or removable chains. | **FC** |
| 9.15. Covers should, if feasible, be installed to protect against falling items. | **FC** |
| 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** |

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| 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** | |
| <u>OHS Training</u> | |
| 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 colour 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 labour, are trained adequately before assignments begin. | **FC** |
| <u>Area Signage, Labelling of Equipment, Communicate Hazard Codes</u> | |
| 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** |

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| 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 labelled as to the contents and hazard, or appropriately colour coded.<br>Similarly, piping systems that contain hazardous substances should be labelled with the direction of flow and contents of the pipe, or colour coded whenever the pipe passing through a wall or floor is interrupted by a valve or junction device. | **FC** |
| 10.8. Copies of the hazard coding system should be posted outside the facility at emergency entrance doors and fire emergency connection systems. | **FC** |
| 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. | **FC** |
| 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.<br>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** |

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| 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** |
| <u>Vibration</u> | |
| 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** |
| <u>Electrical</u> | |
| 11.10. All energised electrical devices and lines should be marked with warning signs. | **FC**<br>**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**<br>**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**<br>**Electrical Safety Procedure TNP-PCD-HSM-GEN-051** |

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| 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**<br>**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**<br>**Electrical Safety Procedure TNP-PCD-HSM-GEN-051** |
| 11.15. Use of appropriate labelling of service rooms housing high voltage equipment ('electrical hazard') and where entry is controlled or prohibited. | **FC**<br>**Electrical Safety Procedure TNP-PCD-HSM-GEN-051** |
| 11.16. "No Approach" zones should be established around or under high voltage power lines. | **FC**<br>**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**<br>**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**<br>**Electrical Safety Procedure TNP-PCD-HSM-GEN-051** |
| <u>Eye Hazards</u> | |
| 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** |

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| 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** |
| <u>Welding / Hot Work</u> | |
| 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** |
| <u>Industrial Vehicle Driving and Site Traffic</u> | |
| 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.<br>Restrict the circulation of delivery and private vehicles to defined routes and areas, giving preference to 'one-way' circulation, where appropriate. | **FC** |
| <u>Working Environment Temperature</u> | |

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| 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 | |

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| 11.37. Provide installation of guardrails with mid-rails and toe boards at the edge of any fall hazard area. | **FC** |
| 11.38. Ladders and scaffolds should be properly used by trained employees. | **FC** |
| 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. | **FC** |
| 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, vapours 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** |

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| 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.<br>Where work shifts extend beyond eight (8) hours, calculating adjusted workplace exposure criteria recommended by the ACGIH. | **FC** |
| <u>Fire and Explosions</u> | |
| 12.4. Flammables should be stored away from ignition sources and oxidising materials. Further, flammables storage area should be:<br>• Remote from entry and exit points into buildings;<br>• Away from facility ventilation intakes or vents;<br>• Have natural or passive floor and ceiling level ventilation and explosion venting;<br>• Use spark-proof fixtures;<br>• Be equipped with fire extinguishing devices and self-closing doors. | **FC** |
| 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** |
| <u>Corrosive, oxidising, and reactive chemicals</u> | |

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| 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.). | **FC** |
| 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 remodelling 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 | **Not Assessed** |

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| 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. | |
| **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:<br>• Five consecutive year average – effective dose– 20 mSv/year for workers (min. 19 years of age);<br>• Single year exposure– effective dose– 50 mSv/year for workers (min. 19 years of age);<br>6 mSv/year for apprentices and students (16-18 years of age);<br>• 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);<br>• 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** |

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| 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:<br>• Process or feed lines into the space should be disconnected or drained, and blanked and locked-out;<br>• Mechanical equipment in the space should be disconnected, de-energised, locked-out, and braced, as appropriate;<br>• 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);<br>• 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** |

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| 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:<br>• regular inspection and testing of all safety features and hazard control measures;<br>• surveillance of the working environment: Employers should document compliance using an appropriate combination of portable and stationary sampling and monitoring instruments;<br>• surveillance of workers health;<br>• 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: | **FC** |

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| • Occupational accidents and diseases;<br>• Dangerous occurrences and incidents.<br>• 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:<br>• Occupational injuries and near misses;<br>• Suspected cases of occupational disease;<br>• Dangerous occurrences and incidents. | |
| 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. | **FC** |
| **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 modelling techniques, accounting for seasonal variability and Projected changes in demand in the Project area. | **FC** |
| 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** | |

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| 19.1. The following issues should be considered and incorporated as appropriate into the planning, siting, and design phases of a Project:<br>• 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;<br>• 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:<br>• 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;<br>• Regular maintenance of vehicles and use of manufacturer approved parts to minimise potentially serious accidents caused by equipment malfunction or premature failure.<br>• 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:<br>• Minimising pedestrian interaction with construction vehicles; | **FC** |

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| • Collaboration with local communities and responsible authorities to improve signage, visibility and overall safety of roads;<br>• Coordination with emergency responders to ensure that appropriate first aid is provided in the event of accidents;<br>• Using locally sourced materials, whenever possible, to minimise transport distances;<br>• Employing safe traffic control measures. | |
| **22. Transport of Hazardous Materials** | |
| 22.1. The procedures for transportation of hazardous materials (Hazmats) should include:<br>• Proper labelling of containers, including the identify and quantity of the contents, hazards, and shipper contact information;<br>• 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;<br>• Ensuring adequate transport vehicle specifications;<br>• Training employees involved in the transportation of hazardous materials regarding proper shipping procedures and emergency procedures;<br>• Providing the necessary means for emergency response on call 24 hours/day. | **FC** |
| 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.<br>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** | |

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| Communicable Diseases | |
| 23.1. Recommended interventions at the Project level include:<br>• Providing surveillance and active screening and treatment of workers;<br>• 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;<br>• Training health workers in disease treatment;<br>• Conducting immunisation programs for workers in local communities to improve health and guard against infection;<br>• Providing treatment through standard case management in on-site or community health care facilities;<br>• Promoting collaboration with local authorities to enhance access of workers families and the community to public health services and promote immunisation. | **FC** |
| 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:<br>• Prevention of larval and adult propagation through sanitary improvements and elimination of breeding habitats close to human settlements;<br>• Elimination of unusable impounded water;<br>• Increase in water velocity in natural and artificial channels;<br>• Considering the application of residual insecticide to dormitory walls; | **FC** |

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| • 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. | **FC** |
| 24.5. Emergency information should be communicated to the media through:<br>• 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;<br>• Written press releases with accurate information, appropriate level of detail for the emergency, and for which accuracy can be guaranteed. | **FC** |
| 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. | **FC** |

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| 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:<br>• Maintaining a list of external equipment, personnel, facilities, funding, expert knowledge, and materials that may be required to respond to emergencies;<br>• Providing personnel who can readily call up resources, as required;<br>• Tracking and managing the costs associated with emergency resources;<br>• Considering the quantity, response time, capability, limitations, and cost of these resources, for both site-specific emergencies, and community or regional emergencies;<br>• 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. | **FC** |
| 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. | **PC** |

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| 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:<br>• Identifying replacement supplies or facilities to allow business continuity following an emergency;<br>• Using redundant or duplicate supply systems as part of facility operations to increase the likelihood of business continuity;<br>• Maintaining back-ups of critical information in a secure location to expedite the return to normal operations following an emergency. | **FC** |

# Appendix E 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** |

| Reference / Paragraph No. | Compliance Requirement | Assessment Methodology for IESC | Compliance Category |
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| 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 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. | 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** |
| OP401.01/5 | 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, | Assess compliance to requirement for any new EA undertaken; i.e. | **Not assessed** |

| Reference / Paragraph No. | Compliance Requirement | Assessment Methodology for IESC | Compliance Category |
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| | 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. | Project changes or supplementary assessments. | |
| | **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.<br><br>(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 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.<br><br>(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 | 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 |
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| | improve environmental performance. The findings and results of Category B EA are described in the Project documentation (Project Appraisal Document and Project Information Document).<br><br>(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.<br><br>(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><br><br>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 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. | 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** |
| OP401.01/10 | <u>Projects Involving Financial Intermediaries</u><br><br>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 | Not Assessed during IESC monitoring. It is assumed that the Project ESIA compliance with OP4.01 was | **Not assessed** |

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| | 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. | completed during the due diligence phase. | |
| 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<br><br>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,<br><br>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** | | | |

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| 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<br><br>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. | **FC** |
| 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** |

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| 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 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. | 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** |
| **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 | | **FC** |

| Reference / Paragraph No. | Compliance Requirement | Assessment Methodology for IESC | Compliance Category |
|---|---|---|---|
| | 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. | | |
| 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 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<br><br>capacity of national and local institutions. | | **FC** |
| 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** |

| Reference / Paragraph No. | Compliance Requirement | Assessment Methodology for IESC | Compliance Category |
|---|---|---|---|
| | | | |
| 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**<br>**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**<br>**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 | **FC**<br>**See Appendix 1 PS3.17** |

| Reference / Paragraph No. | Compliance Requirement | Assessment Methodology for IESC | Compliance Category |
|---|---|---|---|
| | | Plans and other specific ESMP's. | |
| | **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 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<br>pesticides in Bank-financed Projects:<br>(a) They must have negligible adverse human health effects.<br>(b) They must be shown to be effective against the target species.<br>(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.<br>(d) Their use must take into account the need to prevent the development of resistance in pests. | 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**<br>**See Appendix FC**<br>**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**<br>**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 region 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:<br>(a) Projects that have or may have impacts on the health and quality of forests;<br>(b) Projects that affect the rights and welfare of people and their level of dependence upon or interaction with forests; and<br>(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** | | |

| Reference / Paragraph No. | Compliance Requirement | Assessment Methodology for IESC | Compliance Category |
|---|---|---|---|
| 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 substantially outweigh the environmental costs, the Bank may finance the Project provided that it incorporates appropriate mitigation<br>measures. | Assessed through review of BAP implementation (Section 4) and compliance PR6 in Appendix 1. | **FC** |
| OP4.36/6 | 6. The Bank does not finance Projects that contravene applicable international environmental agreements.<br>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** | | |

| Reference / Paragraph No. | Compliance Requirement | Assessment Methodology for IESC | Compliance Category |
|---|---|---|---|
| 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<br>a) be certified under an independent forest certification system acceptable to the Bank as meeting standards of responsible forest management and use; or<br>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:<br>a) compliance with relevant laws;<br>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;<br>c) measures to maintain or enhance sound and effective community relations;<br>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.<br><br>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. | Not Assessed (low risk issues at this stage of activities: note: compliance anticipated) | **NOP** |
| 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 | | **NOP** |

| Reference / Paragraph No. | Compliance Requirement | Assessment Methodology for IESC | Compliance Category |
|---|---|---|---|
| | conservation of physical cultural resources are individually reviewed, and are normally classified as Category A or B. | | |
| 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. | | **NOP** |
| 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. | | **NOP** |
| 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. | | **NOP** |
| 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. | | **NOP** |
| 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. | | **NOP** |
| | **Consultation** | | |

| Reference / Paragraph No. | Compliance Requirement | Assessment Methodology for IESC | Compliance Category |
|---|---|---|---|
| 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. | | **N/A** |
| OP4.11/13 | Projects in Situations of Urgent Need of Assistance or Capacity Constraints under OP 10.00<br><br>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 necessary corrective measures be built into either the emergency operation or a future lending operation. | | **N/A** |
| | **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** | | |

| Reference / Paragraph No. | Compliance Requirement | Assessment Methodology for IESC | Compliance Category |
|---|---|---|---|
| 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.<br><br>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:<br><br>(a) Involuntary resettlement should be avoided where feasible, or minimized, exploring all viable alternative Project designs.<br><br>(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. | Review Project implementation of RAP/LRP as assessed in Section 4. | **FC**<br><br>**See PS5 Discussion** |

| Reference / Paragraph No. | Compliance Requirement | Assessment Methodology for IESC | Compliance Category |
|---|---|---|---|
| | (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. | | |
| OP4.12/3 | 3 . This policy covers direct economic and social impacts that both result from Bank-assisted investment Projects, and are caused by<br>(a) the involuntary taking of land8 resulting in<br>(i) relocation or loss of shelter;<br>(ii) lost of assets or access to assets; or<br>(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. | | |
| 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<br>(a) directly and significantly related to the Bank-assisted Project,<br>(b) necessary to achieve its objectives as set forth in the Project documents; and<br>(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** | | |

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| 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:<br><br>(a) The resettlement plan or resettlement policy framework includes measures to ensure that the displaced persons are<br><br>(i) informed about their options and rights pertaining to resettlement;<br><br>(ii) consulted on, offered choices among, and provided with technically and economically feasible resettlement alternatives; and<br><br>(iii) provided prompt and effective compensation at full replacement cost for losses of assets attributable directly to the Project.<br><br>(b) If the impacts include physical relocation, the resettlement plan or resettlement policy framework includes measures to ensure that the displaced persons are<br><br>(i) provided assistance (such as moving allowances) during relocation; and<br><br>(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.<br><br>(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<br><br>(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<br><br>(ii) provided with development assistance in addition to compensation measures described in paragraph 6(a);<br><br>(iii) such as land preparation, credit facilities, training, or job opportunities. | Review Project implementation of RAP/LRP as assessed in Section 4. | **FC**<br><br>**See IFC S5 discussion** |

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| 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 implementation of the Project. In such cases, the borrower prepares a process framework acceptable to the Bank, describing the participatory process by which<br><br>(a) specific components of the Project will be prepared and implemented;<br><br>(b) the criteria for eligibility of displaced persons will be determined;<br><br>(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<br><br>(d) potential conflicts involving displaced persons will be resolved.<br><br>The process framework also includes a description of the arrangements for implementing and monitoring the process | | **N/A** |
| 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 | | **FC** |

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| | 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<br><br>Project (see para. 30). | | **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 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. | | **FC**<br><br>**See IFC S5 discussion** |
| 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 labour 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**<br><br>**See IFC S5 discussion** |
| OP4.12/13 | 13. For impacts covered under para. 3(a) of this policy, the Bank also requires the following:<br><br>(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. | | **FC**<br><br>**See IFC S5 discussion** |

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| | (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).<br><br>(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 pre-existing communities and groups are honoured. | | |
| | **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<br><br>appropriate, nongovernmental organizations (NGOs), and it specifies grievance mechanisms. | Review Project implementation of RAP/LRP as assessed in Section 4. | **FC**<br><br>**See IFC S5 discussion** |
| OP4,12/15 | 15. Criteria for Eligibility. Displaced persons may be classified in one of the following three groups:<br><br>(a) those who have formal legal rights to land (including customary and traditional rights recognized under<br><br>the laws of the country);<br><br>(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<br><br>(c) those who have no recognizable legal right or claim to the land they are occupying. | | **FC**<br><br>**See IFC S5 discussion** |

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| 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**<br>**See IFC S5 discussion** |
| | **<u>Resettlement Planning, Implementation, and Monitoring</u>** | | |
| OP4.12/17 | 17. To achieve the objectives of this policy, different planning instruments are used, depending on the type of Project:<br>(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);<br>(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<br>(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**<br>**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**<br>**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 | | **FC**<br>**See IFC S5 discussion** |

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| | and on relevant community-based organizations and NGOs. The 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**<br>**See IFC S5 discussion** |
| OP4.12/21 | 21. The borrower ensures that the Project Implementation Plan is fully consistent with the resettlement instrument. | | **FC**<br>**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**<br>**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**<br>**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 | | **FC**<br>**See IFC S5 discussion** |

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| | 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). | | |
| | **Resettlement Instruments** | | |
| OP4.12/25 | Resettlement Plan<br><br>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 agreed with the borrower (see Annex A, para. 22). The information disclosure procedures set forth in para. 22 apply. | Not applicable: RAP/LRP are already developed and implemented | **FC**<br><br>**See IFC S5 discussion** |
| OP4.12/26 | Resettlement Policy Framework<br><br>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**<br><br>**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** |

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| 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 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. | | **N/A** |
| OP4.12/31 | Process Framework<br><br>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** |
| | **<u>Assistance to the Borrower</u>** | | |

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| 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<br><br>(a) assistance to assess and strengthen resettlement policies, strategies, legal frameworks, and specific plans at a country, regional, or sectoral level;<br><br>(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;<br><br>(c) financing of technical assistance for developing resettlement policies, strategies, and specific plans, and for implementation, monitoring, and evaluation of resettlement activities; and<br><br>(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** |