SUSTAINABILITY
FUTURE GROWTH

EUROPEAN BANK FOR RECONSTRUCTION AND DEVELOPMENT

Independent Environmental and Social Due Diligence and Monitoring Assignment for TANAP Pipeline Construction Pre-Completion Phase – 2nd Monitoring Visit Report

August 2018

Final Report

Revision	Author	Review	Approval	Date
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1. INTRODUCTION

1.1 Background

The TANAP Project (TANAP or the Project) involves a 1,850 km pipeline to facilitate the transport of natural gas produced from the Shah Deniz Phase II development in Azerbaijan to Turkey and Europe. The TANAP Project will connect the South Caucasus Pipeline Expansion Project (SCPx) in Georgia to the Trans Adriatic Pipeline (TAP) Project, which commenced construction in March 2015 and extended through Greece and Albania and across the Adriatic Sea to southern Italy.

The TANAP 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 TANAP Project, in conjunction with the South Caucasus Pipeline (SCP) and the Trans-Adriatic Pipeline (TAP) form the elements of the Southern Gas Corridor.

TANAP will transfer gas from the Georgia border, beginning in the Turkish village of Türkgözü in the Posof district of Ardahan, passing through 20 provinces and ending at the Greek border in the Ipsala 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. A section of the TANAP pipeline crosses the Dardanelles Strait in the Sea of Marmara and is referenced to as the offshore section. The Offshore section is approximately 17.6 km long.

The aboveground facilities (AGI's) included in the TANAP Project include:

- 4 compressor stations;
- 4 measuring stations;
- 11 pigging stations;
- 49 block valve stations; and
- 2 off-take stations to supply Turkey's national natural gas network.

In addition to the AGIs, temporary camps to accommodate workers, pipe storage areas and access roads necessary during the construction phase have been built.

The construction works associated with the pipeline were been split into four Lots, with a separate Construction Contractor (CC) appointed for each Lot.

The Project is currently transitioning from the completion of construction to commencement of operations and introduction of gas. The Phase 0 construction works, for the component of pipeline up to the domestic offtake achieved mechanical completion in December 2017, and Phase 1 construction, for the remaining western section of pipeline through to the border with Greece, is due for mechanical completion in December 2018. The Phase 0 component of the TANAP has formally commenced operations in June 2018, while Phase 1 is expected to reach operations by 30 June 2019. The Phase 0 pipeline and AGI components that have achieved mechanical completion have been handed over from the construction contractors to the TANAP operations team and the operational permit to work system has been implemented to manage the additional risk posed by the introduction of gas during commissioning.

1.2 Purpose

Sustainability Pty Ltd (Sustainability) was engaged by the European Bank for Reconstruction and Development (EBRD) as the Independent Environmental Social Consultant (IESC) to conduct a pre-completion environmental and social due diligence review and monitoring of the TANAP Project prior to the material completion of construction of the Phases 0 and 1 of the Project.

The objective of this Assignment is to monitor and review:

- Project compliance with specific provisions and the overall objectives of the ESIA, RAPs, BAP, SEP, ESAP and other project documents;
- Implementation of mitigation measures, as documented in the Commitments Register and Environmental and Social Management Plans to address material E&S risks and issues associated with the Project;
- Key documents not already finalised but relevant to Project and due prior to the completion of construction and Board consideration of the Project by EBRD as specified in the EBRD ESAP;
- Material changes in Project design and operations since E&S due diligence was undertaken; and
- General E&S performance and the extent to which the Project is in compliance with the EBRD Performance Requirements, IFC Performance Standards including relevant sector specific EHS Guidelines of the World Bank Group and the Equator Principles.

The monitoring assignment is commensurate with, and proportional to, the potential risks, aspects and impacts of the Project. As part of this role, a site audit was conducted by the Sustainability Independent Consultant team. The site visit included the following tasks:

- Inspection of selected Project site locations representing construction, reinstatement and commissioning works for Lot 3, Lot 4 and the offshore European Landfall;
- Interviews with Project Health, Safety, Environment and Social (HSES) and other personnel and key stakeholders as relevant to the scope of work;
- Review of the implementation of the Environmental and Social Management System for the Project including the development of operational HSES management plans and procedures and a review of material E&S risks and issues; and
- Meetings with relevant project affected persons & stakeholders, including communities along the pipeline RoW in Lots 3 and 4.

The purpose of this report is to detail the findings of the Monitoring Assignment against the requirements of the EBRD Performance Requirements (PRs), IFC Performance Standards including relevant sector specific EHS Guidelines of the World Bank Group and the Equator Principles. This report represents the findings from the information obtained from the site visit itself and pre-and post-site visit documents provided by TANAP.

The EBRD's Performance Requirements relevant to this scope of work are PRs 1-6, 8 and 10 (PR 7 requirements are not triggered, and PR 10 is not relevant).

1.3 Site Visit Details

The site visit was conducted from the 4 to 8 June 2018 by the Independent Consultant team and EBRD members. The team members included:

- John Miragliotta: Independent Consultant Team Project Director/Project Manager, Biodiversity Specialist;
- Claire Penny: Independent Consultant Team Environmental & OHS Specialist;
- Amy Sexton: Independent Consultant Team Social Specialist;
- Bossan Annayeva: EBRD Senior Environmental Adviser; and
- Freddy Shaoul: EBRD Principal Social Adviser;

The itinerary for the site visit is located in Appendix A and was subject to slight modification as operational constraints or opportunities became apparent.

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

Day 1. TANAP Head office in Ankara

- Opening meeting
- TANAP Commissioning and Line-filling Team with focus on commissioning phase environmental and social management plans and procedures.

- TANAP environmental and social teams with focus on operations phase environmental and social management plans.
- Meeting with TANAP environment team with focus on environmental organisation and resources, non-conformances, Biodiversity Offset Management Plan (BOMP), Groundwater Sustainability Reports, Offshore works, Compliance and reinstatement of RoW.
- Meeting with Lot 3 Contractor to discuss employment/retrenchment related issues.
- Meeting with TANAP social team

Day 2. Lot 3, Spread 6

- Inspection of reinstated RoW, re-contouring and biorestoration
- Block Valve Station 35
- Terrestrial Critical habitat CH 54 , KP1144-1145
- Archaeological area at KP 1149
- River crossing at KP 1204 including scour and erosion protection.
- Steep Slope and River Crossing at Kp 1257
- Visits with local communities.

Day 3. Lot 4 Spread 8

- Discussion with Construction Contractor on OHS management and performance
- Discussion with construction contractor on labour issues, including retrenchment
- Visit construction sites examples of river crossings, tie ins, civil works at AGI Compressor Station (CS) 7.
- Visit affected communities at CS7 and RoW near Biga.

Day 4 Offshore Construction Site – European landfall and Lot 4 Pigging Station

- HSE management and implementation of controls
- Hazardous materials management
- Reinstatement of completed RoW
- Inspection of construction activities including lifting, welding, excavations
- Discussions with contractor workers and inspection of working conditions

Day 5 IESC Close Out Meeting with TANAP Management Representatives in Ankara.

- Presentation by IESC of summary of key findings
- Discussion of next steps

2. SUMMARY OF MAJOR FINDINGS AND OBSERVATIONS

The intent of this Monitoring Assignment Report is to document the findings and observations resulting from the site visit as they were noted during the various activities undertaken while on-site. This report also factors in the review of recently drafted operational environmental and social management plans and procedures. The summary discussion included in this section is derived from the detailed audit tables included in Section 3 below.

No material non-compliances against EBRD Performance Requirements were identified, but some areas of partial compliance and were identified and are detailed in the following sections and section 3 of the report (Audit Tables).

2.1 Performance Requirement 1

2.1.1 Environmental and Social Assessment

The Construction Phase of the Project is now 84.3% complete (88% complete onshore, 74.2% complete stations, 95.5% complete offshore) and the Operations Phase is due to commence in Lot 1 at the end of June 2018. Consequently there is an on-going focus within TANAP on operational readiness and the process of transitioning into the operational ESMS. This includes the preparation of Operational Management Plans and ensuring that all required operational permits are in place.

The current form of the TANAP Company, which has delivered the construction phase of the Project, will hand over to a new Operations Company at the end of the Phase 0 Commissioning. This new Company is also expected to be called TANAP and comprise the same functional departments. The planning process and strategy for implementing the operational phase ESMS should be described in the Management System and this should include the human resources and organisational requirements for implementation of E&S commitments and compliance during the Operational Phase of the Project. The ESMS operational framework should also reflect the project schedule and include a consideration of the human resources required following reinstatement, and to address ongoing land exit and community grievances. It is recommended that TANAP should continue to ensure the effective transfer of knowledge and experience from the construction phase of the Project through to the operational phase, especially given the number of grievances raised and addressed. This should be achieved by retaining key individuals within the operational company.

TANAP has prepared 6 Operational OHS Plans as follows:

- Emergency Response Procedure;
- Operations H&S Management Plan;
- H&S Risk Assessment and Management Procedure;

- Operations Permit to Work Procedure;
- Health Plan; and
- Incident Management Plan

The Operations H&S Management Plan is focused only on operational H&S management and does not reflect any transitional arrangements that are anticipated to be needed as the Project moves from construction/commissioning into operations. The Plan states that operational environmental management will be covered by a separate document, but does not provide a cross-reference.

TANAP has shared 4 Draft Environmental Operational Management Plans with the IESC for review as follows:

- Environmental Monitoring Plan;
- Pollution Prevention Plan;
- Ecological Management Plan; and
- Waste Management Plan.

These documents are considered to be fit for purpose. The intention is to finalise these Plans by the end of June, to ensure they can be implemented by the start of Operations. In most cases, TANAP is assuming that the existing management plans and procedures are still applicable and only minor updates, including to roles and responsibilities and the organisational structure, will be required. It is intended that the CEO of the current TANAP Company will approve the Operational Management Plans.

To support the delivery of environmental commitments during the operations Phase, the tendering processes for third party environmental monitoring including bio-restoration and biodiversity monitoring (currently performed by CINAR) and for the IESC monitoring role (currently performed by Sustainability) are on-going.

The existing construction contractors' ESMSs are comprehensive and well established with regular monitoring, reporting and inspections taking place across the construction Lots. Construction contractor environmental and social responsibilities are well understood, which is reinforced by adequate numbers of skilled staff to maintain high levels of implementation and management. In response to the September 2017 IESC visit TANAP had undertaken considerable efforts to increase the consistency of HSE and social performance through more effective monitoring and oversight of contractors. The IESC recognises the substantial improvements that were evident in the majority of sites visited since the previous site visit. However, the monitoring site visit still identified a number of examples (as outlined further in PR3 and PR4 discussions) where there was inconsistent implementation of HSE and social

controls by construction contractors (OHS, waste segregation, inadequate spill kits etc.). The observed inconsistent implementation of mitigation measures indicates the need for ongoing review and vigilance in the internal and third party E&S monitoring conducted across Lots 3 and 4. Further improvement in monitoring and additional refresher training and communication between TANAP, Construction Contractors and third party monitors is required to ensure gaps in E&S commitments are adequately identified, and corrective actions are implemented.

Operational E&S commitments will be tracked and implemented through the Commitments Register, where they have already been centrally recorded, and which will continue to be implemented and monitored by the existing TANAP Company, overseen by the QHSSE Director, during the transition phase.

2.1.2 Environmental and Social Policy

TANAP has a current documented Environmental and Social Policy. TANAP contractors and subcontractors also have documented Environmental and Social policies. TANAP must ensure that their Environmental and Social Policies are updated as necessary to reflect details of the new operating Company, and that construction contractors and subcontractor Policies are revised to reflect this if required during the transition period from construction to operations.

2.1.3 Environmental and Social Management Plans

TANAP has developed and implemented a detailed suite of Environmental and Social Management Plans (ESMPs) for the Project. Construction contractor ESMPs have been reviewed and approved by TANAP and are aligned with TANAP ESMPs.

The Offshore Environmental ERP has been prepared by SPK/SKEAS. The IESC previously noted that the Plan failed to identify environmental emergency response team (EERT) members and raised concerns that in the event of an emergency situation this may cause issues and time delays in notification and responsive action. It was recommended that the ERP was revised to include EERT members' details. The IESC has reviewed a revised version of the Environmental ERP (Rev 4-4) and Onshore EERT members names and contact details are now included.

Refer to Section 2.4 for commentary on the TANAP Operations Emergency Response Procedure that has been provided to and reviewed by the IESC.

2.1.4 Organisational Capacity and Commitment

As outlined above, the current TANAP Company will hand over to a new Operational Company at the end of the Phase 0 Commissioning. There will be a need to ensure that the organisational structure and capacity remain adequate for the operational phase of the Project. This may be facilitated by ensuring the transfer of experienced personnel from the construction and commissioning phases of the Project.

Please refer to Section 2.4 for commentary on changes to the organisational structure in terms of the appointment of a dedicated QHSSE Director in response to poor health and safety performance and the need to have HSE represented at the highest level of management within the Company.

2.1.5 Project Monitoring and Reporting

TANAP has documented and is implementing the following monitoring activities as part of their ESMS:

- Environmental Action Plan;
- Environmental Monitoring Plan;
- Social Action Plan;
- Social Monitoring Plan;
- Resettlement Action Plan; and
- Biodiversity Action Plan.

In addition, TANAP has been monitoring and assuring safety performance at both an organisational and individual process level through an action tracking register that was developed following an independent audit conducted by reputable safety professionals. Open actions are monitored by the recently appointed TANAP QHSSE Director and H&S Manager to ensure satisfactory closure. To supplement this overarching process, TANAP conducts site audits/reviews in line with a Health and Safety Assurance Verification Schedule, which is owned by Site Safety Leads and assured by the TANAP H&S Manager. An example of a Road Safety Audit Report for SP7 dated May 2018 has been reviewed. This contains a number of findings and associated recommended actions. TANAP HSE personnel were undertaking a vehicle safety audit during the IESC visit and the inspection of project vehicles by TANAP was observed. TANAP has an action tracking system that captures any adverse findings from the combined H&S system, which are noted in the action tracking register. Each action is assigned to a specific individual along with a date by which the relevant corrective action should be implemented.

A re-instated RoW and river crossing were visited in Lot 3, Spread 6 (KP 1257). The RoW at this site has been reinstated to a high standard, with slope breakers in-situ and successful re-vegetation in evidence, assisted by the use of hydro mulching. However, an area of overspill was observed adjacent to the reinstated RoW, where erosion control measures have not been implemented and there is still a lack of vegetation. Consequently, erosion of the steep slopes is evident and rocks are migrating down onto cultivated farmland at the foot of one slope, which is impacting the farmer by making ploughing more difficult. The reinstatement of

overspill areas is included within the specifications for reinstatement of the RoW. Therefore, TANAP should ensure that all overspill areas are reinstated in parallel with the RoW to an adequate standard, with erosion control measures such as slope breakers, implemented where required.

Erosion / scour of the reinstated riverbed and bank protection works was also observed at the river crossing at the same site. It is assumed that this is due to recent heavy rains and repair works are now necessary to prevent exacerbation of the erosion during further high flow events.

The IESC has not seen any evidence that this issue has been identified as a result of TANAP or third party environmental monitoring and site inspection activities to date. Monitoring and reporting of the condition of the reinstated RoW was observed and a daily monitoring checklist from 07.02.2018 were provided for review. However, these had not identified the problem and the heavy rainfall is likely to have occurred more recently. Monitoring must be maintained by TANAP at regular intervals to ensure that any maintenance and repair requirements along the RoW, or additional works (including in overspill areas) are identified as soon as possible. It is recommended that monitoring of river crossing sites that are known to be susceptible to erosion is undertaken on a targeted basis following heavy rainfall events to ensure that any required repairs are detected and addressed before they are exacerbated by further high flow events. Further discussion of the third party ecological monitoring is included in Section 2.6 below in regard to the inclusion of site visit locations in each of the quarterly monitoring reports so that the sufficiency of site sampling can be assessed.

The implementation of HSES requirements against stated Key Performance Indicators (KPIs) was observed. However, opportunities for improvements to overall monitoring have been identified considering the observations noted above.

2.2 Performance Requirement 2

2.2.1 Human Resource Policies and Working Relationships

As at April 2018, the total workforce on the TANAP project is 9,777 people, with the majority now engaged in work on stations (6,035 workers and currently increasing) and Lot 4 (2,390 workers). This is a drop of 3,756 total workers (from 13,533) from December 2017.

TANAP continues to support, manage and monitor implementation of Construction Contractors human resources performance through their Social Management Plans including Management Plans for Employment and Training, Retrenchment and Fatigue. Efforts by TANAP and CCs to strengthen gaps in understanding of worker rights and responsibilities since the previous audit were evident, demonstrating compliance with Employment and Training MPs, and associated Worker Engagement Plans. Efforts to strengthen safety, environmental and social performance, as well as working relationships (knowledge of labour rights, contract terms and working conditions) is evident following worker Stand Downs, in addition to ongoing induction processes with new staff and refresher training for existing workers.

2.2.2 Retrenchment

In line with mechanical completion activities in Lots 1, 2 and 3, implementation of Retrenchment MPs continues, with quarterly third party monitoring additionally undertaken to determine compliance with national and Project standards. December 2017-February 2018 was the peak period for retrenchment and third party monitoring undertaken at that time indicates no non-conformances with Retrenchment MPs; use of and resolution through the grievance process by workers; and exceedance of Turkish national requirements in labour management, including through payment of both advance notice payment and severance payments on retrenchment, advance information disclosure on plans, finding alternatives to dismissal where possible. The PLK (Lot 4) Construction contractor also has a Retrenchment MP in place, which provides for PLK's policy and plans for retrenchment, and defines access to the Grievance Mechanism for workers.

One collective grievance was received regarding unpaid notice and overtime payments of Site Plus workers on Lot 2 in January 2018. The IESC recommends that this should be investigated to ensure that subcontractors' dismissal processes are conducted in compliance with Retrenchment MPs. Noting that Lot 4 will be undertaking retrenchment from August 2018, preparations by TANAP should be considered to support PLK and their subcontractors to ensure all workers are retrenched in line with Project standards.

2.2.3 Grievance Mechanism

As at year-end 2017, 126 complaints were received for the year, with 121 closed, 4 waiting (i.e. pending a scheduled action), and 1 open. Grievances are lodged in OSID for action by CCs /TANAP as required, with formalisation of complaint closure through upload of documentary evidence to OSID During the audit, support from TANAP to the Construction Contractor CLOs was notably appreciated, with Lot 4 interviewees describing active improvement processes in place. An example grievance related to food quality in the Lot had been raised, prompting ongoing internal auditing and corrective actions undertaken by Lot 4 CLO, TANAP and the subcontractor. As a result, the CLO worked with the subcontractor to implement and maintain improvements to food on the site, this issue has since been closed out.

Twenty-two grievances were received from within the workforce in Q1/2018, relating to Wage, Overtime, Severance and Notice payments. Lot 4 grievances figures exceed those of other Lots; the workforce size is comparable, however grievance numbers are higher. Interviews with TANAP described efforts being made to improve workforce efficiency and engagement, including provision of social programs, recognising that the construction contractor's performance was a key contributor to the grievance figures.

2.3 Performance Requirement 3

2.3.1 Pollution Prevention and Control

A Pollution Prevention Management Plan has been developed by TANAP and its Construction Contractors to minimise and manage pollution risks and impacts. To improve consistency in the management of risks, TANAP has also increased the number of spreads in Lot 4 from 2 to 3 (7, 7a and 8) and have implemented smaller management units.

Waste Water

As per commitments made in the ESIA, wastewater from domestic facilities is captured and treated in water treatment facilities prior to being discharged to the environment. Prior to discharge, water quality is tested to ensure compliance with Project Standards. The CINAR quarterly monitoring report (02.03.2018) covering the months of November 2017 to January 2018, outlined 8 non-compliances with Project Standards relating to treated wastewater effluent quality. In most cases, it was recommended that more frequent sampling and analysis be performed to achieve the required quality standards. All but one of the non-compliances were subsequently closed.

The outstanding non-compliance was relating to the discharge of effluent from the Harmancık Fly Camp wastewater treatment plant into the receiving environment without a provisional operation certificate being in place (non compliance PE-38). The CC (PLK) is required to have obtained a provisional operation certificate from the Bursa Provincial Directorate of Environment and Urbanisation, prior to commencing discharge. However, despite having a conformity letter, the certificate was not in place before treated wastewater was being discharged.

TANAP personnel have further explained that during the application process for the provisional operation certificate application, there was an error with the Ministry system that resulted in disruptions to the application process. Consequently they liaised with the Bursa Provincial Directorate of Environment and were given verbal approval to discharge treated waste water whilst the application process was still ongoing, to prevent any unfair reprisals and delays as a result of errors with their system. However, TANAP would not allow the discharge of wastewater before the certificate was in place. Therefore, treated wastewater was temporarily transferred to the municipality wastewater treatment plant by tanker. The IESC has reviewed copies of the wastewater transfer forms to verify this. The operational certificate is now in place and this non-compliance was closed out in the next CINAR monitoring report (31.05.2018).

Turbidity

During the previous monitoring exercise, the IESC reviewed the Pollution Prevention Management Plan and recommended that it should be updated to include turbidity monitoring trigger values and details relating to how exceedances in trigger values are reported. The latest revision of the (SPK) Offshore Pollution Prevention Management Plan (Rev P4-4) now includes details of the marine turbidity conditions that will trigger specified mitigation measures, and includes water pollution control measures relevant to both surface water and marine water.

Regular water quality samples have been taken and analysed for 4 stations in the Anatolian landfall area and 5 stations in the European Landfall area. For both Anatolian and European landfall monitoring locations, crude oil, ammonia and phenol concentrations were greater than the Water Pollution Control Regulation (WPCR) limit values for every monitoring period. The limit values for ammonia and phenol are 0.024 mg/L and 0.002 mg/L, respectively. However, the baseline concentrations of these parameters also exceeded the limit value.

The turbidity (NTU) values as a result of the analysis of water quality samples taken showed that in some cases, e.g. at the A-1 monitoring location, the TSS levels were greater than the WPCR limit value, but lower than the baseline concentration. In other locations, the baseline levels were again already higher than the WPCR limiting value. However, there were a number of occasions when the NTU levels were greater than the observed baseline level.

Continuous turbidity monitoring has also been conducted during construction activities in both the Anatolian and European Landfall areas using continuous turbidity monitoring devices installed at previously identified monitoring locations (based on studies undertaken by SPK's environmental consultant; taking into consideration physical receptors such as sea grass and the general marine environment, prevailing weather conditions, plume dispersion results and the topography of the construction area).

The reported monitoring period was from 14/07/2017 to 15/01/2018 on the European side and 23/07/2017 to 11/12/2017 on the Anatolian side. There were no turbidity values recorded during the continuous monitoring on the Anatolian side during construction that reached the trigger value of 13.48 NTU. On the European side, there were 6 instances in September and 10 in November 2017.

In some cases (September 13th and 14th, 7th – 17th November and 23rd November) there were no construction activities on-going at the time of the high readings, so it was assumed the results were due to bad weather or adverse sea conditions. For September 17th to 23rd, manual readings were observed as being lower than the readings being obtained by the installed device. Consequently, the device was subject to maintenance and the readings returned to the normal expected range.

CC SPK personnel reported that there were only two instances of a delay of a few hours due to increased turbidity on the Anatolian side. This had occurred when the earthen plug was removed from the shore crossing construction area and work was stopped until turbidity metres showed NTU readings within the acceptable limits.

Daily averages of turbidity levels are 0.96 and 1.15 NTU for the Anatolian and European landfalls, respectively (both of which are below the NTU threshold value in the Pollution Prevention Plan). The report therefore concludes and the IESC agrees that marine turbidity levels were not significantly increased as a result of construction activities. This is further supported by the lack of identified impacts to seagrass and other benthic habitats other than those areas directly disturbed from pipe-lay, trenching and backfill as discussed in Section 2.6 below.

Topsoil

In the majority of cases, topsoil was observed to be in full compliance with the requirements of the Erosion, Reinstatement and Landscaping Plan. However, at the pigging station at CS7 (Lot 4, Spread 8), it was observed that vehicles were parking right up to the foot of the topsoil stockpile and in one case a lorry had reversed up onto the soil, which could result in compaction and contamination of the topsoil (from vehicle oil leaks). It is recommended that barricading be used where necessary to protect the area at the foot of topsoil piles by preventing vehicle parking.

Soil Contamination

Secondary containment of hydrocarbons through the use of bunds and drip trays was observed to be consistently excellent at all construction sites. Spill kits were observed to be present at all construction sites visited. However, at the CS7 Pigging Station, the contents of the spill kit was observed to be inadequate.

The IESC also observed the temporary bulk storage of concrete coating tins located next to the excavation area at the Lot 4, Spread 7a West Dardanelles pigging station construction site. The tins appeared to have been recently delivered and were still on wooden pallets and wrapped in cellophane, so were not considered to present a high risk of contamination. However, it is recommended that the storage of large volumes of coating is avoided in an unprotected work area. Additional refresher training and a focus on pollution prevention, specifically on maintaining spill kits and storage of hazardous materials on site is required via the monthly meetings with CC environment managers and toolbox talks etc. to ensure that commitments made in the Pollution Prevention Plan are being met.

Water

The quarterly monitoring report produced by CINAR for November 2017 to January 2018 identified a number of non-compliances relating to mains potable water quality in some of the camp sites and hotels used for worker accommodation. Some of these non-compliances remained open in the latest CINAR quarterly monitoring report for February to April 2018, for example non-compliances PE-36 (relating to potable water samples taken by TEKFEN from MS1 Camp Site) and PE-39 (relating to high Boron levels at the Karoman fly camp site).

In response, it has been determined by TANAP that where there are issues with tap water quality in hotels and accommodation camps, bottled drinking water will be provided as an alternative. The IESC did not have the opportunity to inspect any workers accommodation in detail to be able to verify this. Frequent potable water quality sampling at workers accommodation (hotels and camps) should be continued to identify any issues as soon as possible and enable bottled water to be provided as an alternative where necessary.

Waste

CCs have developed individual waste management plans that align to TANAPs. PLK's Waste Management Plan (PLK-PLN-ENV-PL4-006) outlines that solid wastes should be disposed of to the nearest licensed disposal facility. The quarterly monitoring report produced by CINAR (02.03.2018) covering the months of November 2017 to January 2018 identified an issue with domestic solid wastes from the Harmancık Fly Camp site being disposed of to the unsanitary area of the Harmancık municipality rather than a licensed landfill site. Following inquiries, the IESC was informed that the CC was issued with a fine and the solid waste is now being disposed to the relevant licensed facility. The root cause of the non-compliance was identified as a new sub-contractor driving the waste lorry who did not know where to take the waste and therefore transported it to the wrong location. TANAP must ensure that all CC and Sub-contractor staff are adequately trained and instructed prior to commencing work. It is recommended that there is a focus on meeting training requirements in the TANAP management meetings with CCs.

During the previous monitoring visit in September 2017, the IESC observed some waste mixing in waste segregation bins on sites, such as oily rags in general waste bins and poor segregation of recyclable materials. A refresher on recycling and waste segregation was recommended via tool box talks etc. to ensure that waste is segregated as per commitments made in ESIA and MPs. However, during this site visit, similar observations were made at a number of sites; whereby the wrong waste type was being put into the wrong bin. Environmental tool box is required to provide a further, more dedicated refresher session on waste segregation and recycling commitments across all sites.

2.4 Performance Requirement 4

2.4.1 Occupational Health and Safety

The trend in all recordable OHS statistics is decreasing. As of the end of May, in 2018 there have been 27 near misses, 0 fatalities (with a total of 8 since the commencement of the Project), 0 lost time incidents (LTIs) (with 33 on the Project to date) and 5 high potential incidents (out of 34 on the Project to date). The IESC has reviewed HiPO reports for incidents that occurred in April 2018. In both cases, appropriate root causes and corrective actions were identified, and lessons learned were planned to be shared through tool box talks.

This shows a significant improvement in performance since the previous IESC monitoring visit and reflects that detailed incident analyses of each event have been undertaken, a range of corrective and preventative actions implemented as a result of these and lessons have been learned. There are a number of other contributing factors. TANAP introduced a dedicated QHSSE Director position in June 2017, with the intention of increasing direct leadership in this area. More visible management and closer policing of contractors has had a positive impact on general Project OHS culture, which was evident during the monitoring visit. In addition, TANAP has introduced an 'incentives programme' which provides financial rewards to both individuals and H&S managers for good OHS practice. The mechanism of the reward encourages everyone to participate, as if a site meets its OHS targets, all the workers will receive a share. The number of Hazard Observation Cards being completed (e.g. around 35 per week at the Dardanelles West pigging station) also indicates a culture of OHS awareness and that workers are comfortable to report any issues they see to managers without fearing repercussions.

Comprehensive risk assessments have been conducted for all Project activities with the risk assessments informing subsequent control actions. Travelling was identified by TANAP personnel as on on-going H&S issue on Lot 4 and there have been 27 road traffic accidents. As a result, the risk assessment has been revised to incorporate the findings of these accidents as well as experience gained across the other Lots. Findings are communicated to road safety teams throughout the Project area and toolbox talks are being used as a mechanism to raise awareness of road safety, especially fatigue.

A range of safety systems have been implemented by TANAP and the Construction Contractors including Method Statements and Safe Work Procedures. TANAP operates a permit to work system and permits are issued by an independent Department. There are two main overarching permit stages during construction. A site can be classified as a 'Controlled area' before gas has been introduced and where hot work is possible subject to a permit being issued; or as a 'restricted area' once gas has been introduced. The IESC has been provided with the Operational Permit to Work Procedure, which specifies that all work undertaken on

any TANAP facility must have a valid permit to work or appropriate authorisation in place. All tasks or activities are allocated to a specified category, under which most will require a permit to work (hot work – naked flame, hot work – spark potential, breaking containment etc.). Certain regular activities do not need to be covered by a permit, however, they must be undertaken by competent individuals operating under an Application to Work that is only valid for one shift and must be authorised by the Area Authority (the person responsible for ensuring a safe place of work is maintained within a defined area of the facility).

The IESC observed current permits to work in place for all required activities at all active construction sites, including hot work, excavation and confined spaces permits. At the Dardanelles West pigging station (Lot 4, Spread 7a) there was also an additional lifting specialist on the ground to provide continuous advice and supervision during a high risk work activities, showing a beyond compliance and diligent approach to OHS.

Excellent and consistent use of PPE (hard hats, high visibility vests, safety boots, and dust masks) and safety signage was observed at all active construction sites visited during the monitoring visit. PPE included specialist welding equipment that was observed being worn by welders at the Dardanelles West pigging station site (fire retardant long sleeve jacket and head cover as well as a full face mask).

The IESC observed consistent evidence of tool box talks being given at the Lot 4 sites and the offshore site. These are given at least daily, before work starts, and at the Dardanelles West pigging station also after the lunch break as a refresher. The talks are being targeted according to the scheduled activities for the day, for example with a focus on lifting activities, or the flagman's duties (because concrete lorries were due to arrive on site).

CCs ensured that as site visitors, the IESC monitoring team was managed in accordance with site security; induction procedures were followed and IESC team members were required to sign to acknowledge receipt of the OHS information.

Inconsistencies were observed during the monitoring visit with regard to a number of OHS indicators across Lot 4.

It was expected that all workers would be aware of the TANAP Golden Rules as a result of a greater management focus on OHS, and feedback given following the previous monitoring site visit, and that these would be displayed at all sites, or that workers would have been provided with summary Golden Rules cards. At the river crossing site (KP 1661) and Dardanelles West pigging station there was an obvious awareness amongst workers of the Golden Rules and they were also displayed within the facilities provided on site. However, at the CS7 pigging station, when asked about Golden Rules, workers seemed unaware of them and they were not displayed anywhere. It is recommended that TANAP ensure the golden rules are fully understood and implemented prior to tasks being performed, through refresher

training and toolbox talks etc. and issue Golden Rules cards to all workers as well as displaying them around the site.

Despite having 4-5 first aid trained individuals on site (who had passed the Ministry of Health examinations) and the acknowledgement of the need to have 1 first aid trained individual for every 10 on site, the wall mounted first aid box at the CS7 pigging station was empty. In contrast, at the KP 1661 and Dardanelles West pigging station sites, there were ambulances on site and the first aid kits were fully stocked. CCs must ensure that appropriate first aid provision is available on site at all times and that first aid kits are maintained. The status of each first aid kit should be checked and signed off as fully stocked daily by first aid trained CC individuals. Where there are items missing, this should be immediately rectified. The TANAP Health and Safety team should also check the status of first aid kits during their monthly site audits.

Designated smoking areas were provided at all Lot 4 and the offshore sites. At the Lot 4 CS7 pigging station site, however, there were no toilets available. The IESC were informed that the toilets had been removed that day for repair, however no replacement toilets had been provided prior to that. Toilets were provided all other sites. The workers also go off-site for lunch from the CS7 pigging station and there were no eating facilities provided. At all other active construction sites there were dedicated cabins provided for eating and drinking that were well stocked with bottled water. An improvement in the provision of on-site facilities (toilets, eating areas) is needed to ensure that all workers are treated in line with good international industry practice.

TANAP reports that trench registers are being kept for the entire route, including the barricading status of open trenches. In many cases, all open excavations and trenches were observed to be barricaded effectively. However, at the Dardanelles West pigging station, an area of unstable bank at the edge of an excavation site was not adequately barricaded.

Furthermore, at the river crossing site at KP 1661, there was no evidence of barricades being used along the trench. The IESC was informed that the barriers had all been removed as work to remove piles and tie in activity was on-going immediately before the monitoring team arrived on site. However even towards the top of the slopes on either side of the river where work was not ongoing, no barricading was observed.

More stringent standards of safety with regard to barricading of open excavations and trenches should be applied across Lot 4 and implemented by the on-site safety officers. It is recommended that more stringent monitoring is undertaken by TANAP to ensure satisfactory and comparable standards of protection for workers (and members of the community) and the management of open trenches and excavations.

Owing to time constraints, distances required to be travelled and the size of the Project area, it was not possible to visit more than 3 active construction sites across Lot 4. Whilst two of these sites (KP 1661 and Dardanelles West pigging station) demonstrated excellent, in some cases beyond compliance performance, the CS7 pigging station site demonstrated multiple issues. The IESC can therefore not verify that OHS performance across Lot 4 is consistently compliant. It is noted the following the IESC's feedback on site, TANAP senior management indicated that the OHS observations have been shared with all H&S Managers and will be fed back to the on-site managers with the intention of taking immediate corrective actions to address all OHS complacency issues.

2.4.2 Infrastructure, Building, and Equipment Design and Safety

Construction is complete at block valve station (BVS) 35 (Lot 3) and this station is now a restricted area as the gas within the pipe is under pressure (at 65 bar). The AGI is an unmanned, automated station with no on-site security. A fence (topped with barbed wire) and building intrusion detection system (CCTV cameras linked to an internal control centre) are in place. There are also speakers installed to broadcast warnings if required. However, it was observed that there is no external safety signage at the station. The station is located near to an urban area and the intention was to avoid attracting unwanted attention through the addition of signs. It is planned to install safety signage prior to operations, however it is recommended, given the lack of on-site security and risks resulting from the pipeline being under pressure, that appropriate safety signage is installed as soon as possible.

2.4.3 Community Health and Safety

Third party monitoring by CINAR of TANAP's Construction Contractors' Community health and safety performance noted no non-conformances for Lots 1 - 4. Following mechanical completion, communities have been notified that hydrotesting is being undertaken and to continue to avoid activity in the area. In order to minimise any potential deliberate or malicious damage to the line, TANAP is generally emphasising the potential danger of the line, rather than raise discussions of live gas.

However specifically with landowners and land users, communications regarding line filling is carried out at the Land Exit procedure stage. At that point, TANAP confirms emergency contact details with the landowners, and once as-built alignment is confirmed, will install line pole marker plates (displaying KP numbers emergency contact details) for easy reference for stakeholders.

2.4.4 Emergency Preparedness and Response

Environmental Emergency Response Plans have been developed by Construction Contractors based on the requirements of the Guidelines for Contractors specification developed by TANAP. See Section 2.1.3 for commentary on the Emergency Response Plan.

TANAP has provided the Emergency Response Procedure (dated October 2017) for IESC Review. The Procedure includes scenarios that will be relevant to operational pipelines and AGIs (except stations). The purpose of the Procedure appears to be focused on protecting TANAP personnel, plant and equipment and does not specifically address the protection of local communities. There are roles with specific responsibilities for liaising with Police/Military/Jandarma, the media and general public but not for communicating with local community representatives in the event of an emergency. It is not clear from this Procedure how local communities would be notified of an emergency or what the procedure for local community evacuation would be or how this would be managed e.g. in the case of a loss of containment or fire/explosion. Despite the Procedure stating that one of the purposes is the protection of the environment, there are no specific details on how this would be achieved within the document. The document also does not include any contact names, roles or telephone numbers in Appendix 1 or 2. As an active document, these contact details should be include in the Procedure. In the event of an emergency situation, the lack of identified roles and telephone numbers may cause issues and time delays in notification and responsive action.

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.

The Security and Emergency Response departments of TANAP have undertaken training with relevant emergency response agencies and Construction Contractors on site, initiated by TANAP. Major incidents are to be prevented and contained by security systems including pipeline intrusion inspection system, which can be operated on any station or route (this will be moved to the Main Control Centre functions during the operations phase), as documented in the Security Management Plan. Fence and Building Intrusion Detection systems are in place on all AGIs, and regular walkovers and flyovers are in place of the pipeline for the construction phase. Unannounced emergency response drills and evacuation occur across the Lots on a regular basis. Emergency contact cards are given to all workers and visitors (including the IESC) upon site entry.

2.4.5 Exposure to Disease

In March 2018, TANAP has completed a public health training programme with communities living in the vicinity of camp-sites, in line with ESAP requirements. In a lost opportunity, limited success was had in meaningfully engaging with or reaching particular groups along the alignment, through delivery of the activity. The seasonality of the training (held in winter) influenced a low turnout and method of delivery/testing for impact was not well received. However, participants did report improved knowledge on health issues.

2.5 Performance Requirement 5

2.5.1 Grievance Mechanism

The online tracking system, OSID, has been used to collect all complaints from September 2017 to April 2018. Throughout this period, a total of 1,839 complaints have been received from 1,557 stakeholders, of which 473 are currently open, 1,347 are closed, and 19 are waiting (i.e. a solution has been agreed but is pending delivery greater than 30 days). The average response time takes 9.8 days while 7.3 days taken to close. Issues raised using the Grievance Mechanism relate to impacts on agricultural-based livelihoods, at one quarter (24.6%) of grievances; 22% relate to damage to land and crops (including extra land); and about reinstatement (19.5%). The majority of registered complaints are located in Lot 4.

Previous monitoring revealed instances where complaints were not registered into OSID, and further, that while grievances had declined, the number of grievances closed within 30days was well below target (4% closure against a KPI of 90%). TANAP confirmed during the audit visit that both unregistered grievances and late grievances had been a focus of improvement. TANAP has been able to reassign some social specialists in order to provide additional support to CCs to close out outstanding grievance issues. The IESC commends this approach, however, closure of grievances greater than 30days needs to remain a focus area, especially for Lot 2 and the Stations. These work areas remain active but as at December 2017, had an average close out time of 44 days and 51 days respectively.

The Appeals Committees have been active in resolving escalated grievances as per their original intention. As of the end of March 2018, 23 complaints, four of which were escalated to the Appeals Committee in Q1 of 2018, have been received. Of all grievances escalated to the Appeals Committee:

- Four new grievances were escalated to the AC.
- Seven grievances were resolved
- Eleven remain open (not resolved by mutual agreement); and
- One escalated to the Supreme Court.

2.5.2 RAP/LRP documentation

The Offshore Fisheries Livelihoods Restoration Plan (Offshore FLRP), and an addendum, were developed and implemented, which identified different fishing areas used by local fishing vessels with an overlay of the project's construction activity areas. Potential impacts and mitigation measures were additionally presented, along with a revised project schedule. Both the FLRP and the Addendum were locally disclosed.

The Livelihood Restoration Plan (LRP) for AGIs, available in and English with translation into Turkish forthcoming, has additionally been prepared. Meetings were held with 24 villages, reaching 114 individuals, on LRP assistance packages, following disclosure meetings held in December 2017 consultation. Stakeholders were engaged using telephone, if not in person. Brochures and phone calls were used to reach those not available. In total 201 AGI affected PAPs were informed via village visits or telephone interviews.

2.5.3 RAP/LRP implementation

Accommodation at a number of camps has concluded with mechanical completion achieved in Lots 1, 2 and 3. Three of the remaining campsites across the Project (Erzurum/Pasinler, Erzincan/Cadirkaya and Yozgat/Dogankent) are expected to be handed back to owners at the end of June 2018.

However, TANAP indicated during the site visit that camps may be subject to rental or purchase by the Government once use by the Project is concluded. Where the plans for the sites differ to what is disclosed in the ESIA, the IESC notes that this constitutes a material change in the Project and so, must be subject to the Management of Change process with Lenders.

The Offshore Fisheries Livelihoods Restoration Plan (FLRP) has been implemented, with livelihood support based on fuel payments made to affected fishermen, as per an agreed process with the affected group. Interviews with affected fishermen during the site visit highlighted broad satisfaction with process, along with qualitative monitoring of the FLRP that had been used at the project's conclusion. Affected fishermen were supportive of the program, except 2 of 8 who remained neutral about it. The IESC recommends that 2 additional key informant interviews are held (one upstream and one downstream of Kemer village), to inform whether fish catch was considered to be higher, lower or neutral in comparison to previous years. Being able to respond to the assertion that lower fish catch was due to the construction activities will enable TANAP to consider the FLRP completed.

Disclosure and consultation meetings have been carried out in 21 AGI-affected settlements with 114 PAPs, to prepare the LRP for AGIs and deliver the disclosure brochure. The IESC notes this document has yet to be disclosed on the TANAP website. Critically, this stakeholder engagement work shared with PAPs the Livelihood Restoration assistance packages. A brochure on LRAP for AGIs was also distributed to PAPs in Turkish language, and a hotline established to facilitate access to TANAP with any queries or comments. The IESC commends this approach in reaching affected stakeholders through targeted, rather than ad hoc, engagement.

2.5.4 Monitoring

The RAP Monitoring Plan has been amended and finalised and the Summary of the 2nd External RAP Monitoring Report both in English and Turkish was disclosed on the TANAP website. RAP commitments are being regularly monitored, through; quarterly internal RAP Monitoring by TANAP Social team; and semi-annually External RAP Monitoring by an independent party, in a process that enables continuous program improvement.

TANAP has developed a LRAP database that includes identification of vulnerable people in response to previous audit outcomes. Snowball monitoring and the Vulnerable Group Checklist are two tools being applied to assist in identifying and reaching the vulnerable people who are not self-identifying to the Project.

TANAP RAP Fund Team and Social Team have been able to provide special assistance mainly for elderly PAPs and female land users in the application process for transitional allowance and LRAP. Identification of vulnerable people is an ongoing task. The IESC notes that Livelihoods support may need to continue through the transition/operations phases in the case where livelihood restoration has not yet been achieved and as such, 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.

2.6 Performance Requirement 6

The IESC found that TANAP's management of biodiversity aspects of the Project was in general compliance with the standards and commitments established in the ESIA and the Biodiversity Action Plan (BAP). Bio-restoration of the pipeline RoW and critical habitat management was observed at selected locations in Lots 3 and 4. Monitoring reports and operational inspection records were also reviewed by the IESC. No material non-compliances against Project standards were observed. There were, however, a number of areas of partial compliance and opportunities for improvement relating to protection of restored critical habitats, assessment of changes to BAP controls for critical habitat, bioremediation of RoW overspill areas and the monitoring frequency and sampling undertaken by TANAP and third parties.

2.6.1 Biodiversity Offset Management

TANAP Biodiversity Offset Strategy (BOS) dated September 2017 was developed by Golder Associates and has been publicly disclosed in accordance with TANAP's ESAP obligation. The BOS is strategic in that its stated purpose is to provide a practical and achievable offset scheme for TANAP and to create a framework to direct actions required to offset Project related residual impacts to biodiversity in accordance with the specific requirements and standards of EBRD's PR6 and the IFC's PS6. The BOS presents a methodology for calculation of the residual impacts and the biodiversity offset requirements to achieve a net gain in Critical Habitat and

no net loss of Priority Biodiversity Features and Natural Habitats. The strategy does not identify specific biodiversity management actions, which are addressed through the Biodiversity Action Plan (BAP), but rather identifies potential offsets and additional conservation actions in accordance with good international practice to achieve No Net Loss or Net Gain outcomes relative to the residual affects identified for Natural Habitats, Priority Biodiversity Features and Critical Habitats. The BOS provides a conceptual framework that will guide TANAP towards the development and implementation of a detailed Biodiversity Offset Management Plan (BOMP) as a part of TANAP's Environmental and Social Management System.

TANAP has engaged consultants to collect further biodiversity data including degradation levels on the natural habitats found along the pipeline. The collection of this data is required to define the Biodiversity Offset Management Plan (BOMP) methodology and 180 sample plots were identified to cover all EUNIS habitat types found in the ecoregions crossed by the TANAP project. The May 2018 BOMP field preliminary report includes the description of surveys undertaken along the 500m wide corridor subject to the sampling completed from 23-26 April 2018. The field assessments determined the baseline degradation values for terrestrial and freshwater habitats. Initial results indicate that freshwater habitats sampled were found to be degraded, mainly due to adverse effects from nearby agricultural land use. Forested areas showed a range of degradation due to timber harvesting and firewood collection through to high degradation from land clearing.

The work program for the BOMP includes an initial task involving collection of additional data from desktop and field studies. This initial task extends till mid-2019. The next task identifies offset opportunities including quantification and planning of offset implementation and is scheduled for completion at the end of 2019. The BOMP schedule proposes a final Plan being developed in the first quarter of 2020. The work plan for the BOMP includes substantial stakeholder engagement.

2.6.2 Operational Biodiversity Management

TANAP has developed and commenced implementation of the Operations Phase Ecological Management Plan. The document describes processes that will be used to manage biodiversity, reinstatement, and landscaping activities during operations, while the Construction Impacts Management Plan will continue to be used to manage biodiversity impacts during any ongoing construction activities. The plan include minimising disturbance during operations, ongoing monitoring and management of the restored RoW, biodiversity offsetting activities, protection of identified conservation values and critical habitat and the requirements for biodiversity assessment and mitigation of impacts from operational related disturbance activities.

The construction phase restoration measures, including erosion, sediment control and biorestoration are implemented and monitored for the construction contractors for a 24 month guarantee period following technical completion. Following completion of the guarantee period, the monitoring and maintenance of restoration will be conducted by TANAP in accordance with the BAP, operational plans and procedures. TANAP propose to use a RoW Patrol and Maintenance Contractor to undertake the RoW monitoring and maintenance following the completion of construction contractor guarantee period.

During operations, TANAP has committed to implement Biodiversity Offsetting activities to offset residual impacts and achieve net biodiversity gains within critical habitats identified within the BAP. The Construction Phase Ecological Management Plan outlines the process to be undertaken to further define the offset requirements and to identify and assess offset opportunities so as to achieve the Strategy.

2.6.3 Critical Habitat

The IESC visited critical habitat CH54 located at KP 1144 located on open grazing area on a reinstated section of Lot 3 Spread 6. The critical habitat triggering species is *Cousinia halysensis*, which is listed as an endemic species in the Red Data Book of Turkish Plants resulting in a Medium Priority Tier 2 (b) assessment in the TANAP BAP. The RoW had been seeded with *Cousinia halysensis* with seed collected 12 months prior to the construction commencing. The restored RoW had been subject to vehicle access with multiple tracks traversing the gentle slope. The vehicle tracks are likely to increase the risk of erosion following rainfall and will increase compaction and therefore the success of bio-remediation. The restored Critical Habitat had a temporary fence constructed along the sides of the RoW, which abuts grazing land, but no fence or other barrier was present to prevent vehicles from entering the restored critical habitat from the access road.

TANAP restoration and ecological management plans recognise that third parties may seek to use some sections of the pipeline as a through route and TANAP is committed to apply measures that seek to limit unauthorised access. These mitigation measures are not prescribed as such, but are determined on a case by case basis. The approach recognises that TANAP has limited control over third party access after RoW reinstatement and that fencing and signs are often ignored. Landholders will often prefer to drive over the RoW as the lack of vegetation provides easy visibility of obstacles.

Further opportunities to reduce the risk to critical habitat restoration from third party vehicle access should be pursued by TANAP. These additional control actions should include consideration of alternative vehicle access to avoid restored RoW areas prior to habitat re-establishment; additional temporary fencing; placement of rocks or other materials to discourage vehicle access from roads onto the RoW; additional awareness raising with landholders and additional signage. The BAP and associated plans and procedures should include discussion of additional measures to prevent third party vehicle access in critical habitats temporary fencing is ineffective.

2.6.4 Biodiversity Monitoring

TANAP's third party monitoring consultant, CINAR, continues to undertake quarterly environmental monitoring against the Project's environmental and social commitments for the construction phase. CINAR's monitoring objective is to verify the implementation of TANAP Project commitments stated in the Environmental and Social Impact Assessment (ESIA) Report, the ESMPs of the project and individual contractors and supporting documents such as associated procedures and method statements. The monitoring site visits were completed by a team of three CINAR consultants between 17 April and 4 May. The quarterly monitoring report does not specify the locations visited by the monitoring team and it is, therefore, difficult to assess the sufficiency of monitoring being completed and the extent to which CINAR rely on documentation provided by the contractors.

The quarterly third party monitoring reports are very comprehensive and clearly presented, but can be improved with the inclusion of some details regarding the sites visited by the monitoring team for each quarterly period and some justification for the site sampling and frequency.

The most recent third party monitoring report being the February- April 2018 report presents the findings from meetings with TANAP and Construction Contractor's Environmental Teams in all Lots and AGIs, review of documentation and interviews with the personnel responsible in implementing the environmental and social commitments and monitoring construction activities. CINAR visited several construction sites including the activities along the ROW, major river crossings, additional land take and several AGIs.

CINAR assessed the performance of Construction Contractors against the mitigation requirements established in the BAP for the protection of Critical Habitats including the application of restricted construction periods, proper topsoil stripping and storage, seed collection and translocation for flora SCCs etc.

The invasive species monitoring performed by the Contractors had been developed and monitoring of invasive species was being appropriately implemented. However, CINAR noted the presence of *Sinapis arvensis*, as a natural invasive species on areas where reinstatement was performed in Lot 3, Lot 4 and around the construction sites of MS3 and MS4. CINAR advised that additional controls be implemented for management of this species to ensure biorestoration objectives can be achieved.

A non-compliance had been reported by CINAR during the November 2017 to January 2018 quarterly monitoring period regarding the Lot 1 Construction Contractor's lack of documentation of action undertaken for invasive species monitoring and control although actions that should be implemented were stated in the Lot 1 Construction Impact Management Plan. CINAR was provided with additional documentation during the most recent monitoring period that demonstrated that invasive species monitoring had been undertaken at Lot 1 and occurrences of invasive species had been recorded within the restored RoW. However, the contractor had not included any information on the actions to control observed invasive species, thus the reported non-compliance Non-Compliance-BIO-1, has not been closed.

In earlier quarterly third party monitoring reports completed by CINAR, a non-compliance had been reported on the lack of implementation of the sediment control measures at Lot 1 freshwater critical habitats. Deficiencies were identified with the installation of silt fences or sediment traps prior to initiating construction crossing activities and maintaining the screens and traps to prevent or minimise downstream sedimentation during construction activities at FCH2 (RVX3A_0194, KP-167+564) in Spread 1 and FCH3 (RVX8_5000, KP-221+205) in Spread 2.

CINAR's latest quarterly monitoring report closed this non-compliance (BIO-2) on the basis of critical habitat monitoring checklists completed after restoration works had found no negative impact observed in these areas.

CINAR's monitoring of biorestoration of Lot 2 and Lot 3 observed that the relevant contractors had no specific documentation for "Aftercare and Monitoring Plan", which describes how the monitoring and maintenance of the project sites in Lot 2 will be done during the post-construction period. There was no plan, procedure or record of post restoration monitoring and maintenance for critical habitat sites. CINAR strongly recommended that a specific "Aftercare and Monitoring Plan" should be prepared by the Lot 2 and Lot 3 contractors and submitted to TANAP for approval and all the post-construction monitoring activities and necessary corrective actions, if needed, should be conducted according to that plan.

The third party monitoring completed for the period from February –April 2018 did not include a review of compliance with deviation request conditional approvals related to activities being undertaken during BAP mandated constraints periods. Third party environmental monitoring

of biorestoration and critical habitat protection should include assessment of compliance with additional mitigation measures approved through approved deviation requests where relevant.

2.6.5 Offshore Monitoring of Biodiversity

The offshore construction has substantially progressed since the last IESC visit with the completion of pipe laying of the 2 x 36" offshore pipelines and laying of the fiber optic cables. The monitoring of biodiversity related aspects of the offshore construction works included monitoring during construction by the offshore construction contractors and third party monitoring undertaken by CINAR. The IESC reviewed the contractor environmental monitoring undertaken for the pipeline and fiber optic cable which monitoring included a range of environmental parameters and marine ecological monitoring. Benthic habitat surveys were completed with remote operated vehicle (ROV) which collect data along pre-determined transects. The results of the monitoring indicated no observed impacts to the benthic habitats including seagrass, except where the habitat was directly disturbed from trenching and backfilling. The surveys also recorded no introduction of marine invasive species due to the dredging and trenching activities.

The third party monitoring by CINAR of the offshore construction determined that the construction contractor had successfully implemented the monitoring activities required in the Environmental & Social Monitoring Plan.

CINAR also reviewed the offshore contractor's compliance with the Invasive Species Management Plan, which was approved by TANAP. The plan includes the actions to control and monitor the invasive species especially the management of ballast water. CINAR observed that a quarantine risk assessment process has been undertaken for all vessels and equipment entering Turkish waters from foreign waters. No project related injured/dead fauna were recorded; no incident/damage to sensitive areas was observed; and no non-compliances were raised by TANAP for the offshore construction during the reporting period.

2.6.6 Biorestoration of RoW

The IESC observed a very high standard of reinstatement in most areas visited. Especially noted were excellent re-contouring, erosion control of steep slopes, topsoil management and revegetation. A re-instated RoW and river crossing was visited in Lot 3, Spread 6 (KP 1257). The RoW at this site has been reinstated to a high standard, with slope breakers in-situ, use of jute matting, drainage and successful re-vegetation in evidence, assisted by the use of hydro mulching to stabilise the final landform. However, an area of overspill was observed adjacent to the reinstated RoW, where erosion control measures have not been implemented and there is still a lack of vegetation. Consequently, erosion of the steep slopes is evident and rocks are spilling down onto cultivated farmland at the foot of one slope, which is impacting the farmer by making ploughing more difficult. The reinstatement of overspill areas is included

within the specifications for reinstatement of the RoW. Therefore, TANAP should ensure that all overspill areas are reinstated in parallel with the RoW to an adequate standard, with erosion control measures such as slope breakers, implemented where required.

2.6.7 Freshwater Critical Habitat Deviation Requests

The construction of the Gonen River crossing was observed being undertaken at FCH26, KP 1661 on Lot 4 Spread 8. The area is identified as critical habitat due to the potential habitat of the European Eel, *Anguilla anguilla*, which is identified as a high priority in the BAP with conservation status as IUCN Red List Critical.

The key controls established in the BAP includes the limitation on construction to avoid the spawning period from April – June. The Lot 4 Construction Contractor (PLK JV) initiated a Deviation Request as part of the Change Management process requesting approval from TANAP to undertake construction work at the Gönen River crossing, FCH 26, within the exclusion period specified in the BAP. The deviation request was not limited to FCH 26 and included five other critical habitat sites that would require works, hydrotesting and/or construction during specified exclusion periods specified in the BAP. These activities included hydrotesting and construction at FCH20 and FCH 27, construction at FCH 26 and hydrotesting at FCH 21 and FCH25. All of these FCH sites triggered critical habitat due to the habitat value to conservation significant aquatic fauna.

Surveys were undertaken from 7-10 March 2018 by an independent aquatic biologist who was engaged by PLK JV, to assess the potential impacts at each FCH site from proposed activities during the exclusion period and to define appropriate mitigation measures should activities be allowed to occur. The surveys were designed to support the deviation request to TANAP. The assessment outcome for FCH26 found that the BAP specified constraint period was not applicable to the European Eel in the Gonen River since the species does not spawn in Turkish rivers. However, mitigation measures were defined for the construction period to ensure protection of immature eels that may be present in the waterways during construction.

The IESC notes that the Deviation Request relevant to FCH26 has identified incorrect assessment and mitigation measures in the BAP due to the assumption that European Eels spawn in the Gonen Rover, which is refuted in subsequent studies. It is reasonable for TANAP to therefore amend the BAP and the mitigation controls associated with this species, including a review of the constraints periods in place. The assessment also recommended that the river crossing on the Gonen River include a deviation so as to minimise impacts to natural flow regime and this method was applied for the construction.

The IESC notes that the assessments that supports the deviation request for the other species that trigger critical habitat and the mitigation measures within the BAP, does not provide a clear justification. The independent assessment for the freshwater critical habitat triggering species (*Cobitis punticlata, Cobitis fahirae and Oxynoemacheilus simavicus*) does not challenge the validity of the constraints period and, in the case of *Cobitis punticlata*, the assessment reiterates that this endangered species is severely impacted by water abstraction and pollution.

The IESC found that the documented process for assessing the deviation request to undertake work on Lot 4 FCH sites during the constraints period identified in the BAP did not fully apply the mitigation hierarchy as there is no documented consideration of alternatives, including delay of works until after the constraints period. TANAP should ensure documented assessment of any approved deviations from the BAP that demonstrates how the mitigation hierarchy was applied including consideration of the option to not carry out the work during the period.

Following the request for deviation from PLK JV, TANAP engaged CINAR to undertake an Ecological Monitoring Site Visit, completed from 13-15 April 2018, and Report for FCH20, 21, 26, 26 and 27. The report objective was to determine if it was appropriate to undertake construction works in the restriction period specified in the BAP and to propose additional mitigation measures. The report findings state that construction had commenced at FCH 20, FCH 21, FCH 25, FCH26 and FCH27 during the CINAR site visit and it was noted that construction of the crossing was occurring using appropriate mitigation controls and that no negative effects had occurred. The River Crossing Completion reports show that construction had commenced prior to the constraints period, 1 April. TANAP advised that construction and hydrotest water abstraction activities were not permitted at these locations until the deviation request was approved. However, it is unclear from the CINAR's report the extent of activities being undertaken at the time of the visit.

Both the contractor's biologist report and TANAP's third party monitoring contractor reports describe the construction related disturbance at each of the FCH sites subject to deviation request that had occurred prior to the constraints period. The works had not been completed and it is unclear the extent to which mitigation measures have been effectively implemented to prevent impacts during the constraints period from activities that had occurred prior to that period, i.e. removal of riverbank vegetation, construction of upstream dams and stream diversions.

TANAP's third party monitoring, in addition to contractor monitoring should record compliance to these additional mitigation controls approved through the deviation request and the

effectiveness of these controls. The frequency of monitoring and reporting should be increased during the high-risk periods associated with the constraints period.

Other controls identified in the BAP include the requirement to manage construction activities to avoid or minimise soil erosion, sedimentation and impacts to aquatic and riparian vegetation at the crossing. At the time of the IESC site visit to FCH 26, the construction of the pipeline below the river bed had been completed and the river had been temporarily diverted around the crossing area. The tie-ins at each side of the river were yet to be completed. There was no evidence of sedimentation, excess erosion or excess disturbance of the river bank and vegetation. Piling was being removed from the work area during the site visit and sediment-laden water was contained and isolated from the diversion.

The construction contractor's ecologist was present at the construction site. The ecologist stated that all active construction activities were observed at FCH sites to ensure mitigations were being completed and to observe for any negative impacts.

2.7 Performance Requirement 8

2.7.1 Assessment and Management of Impacts on Cultural Heritage

TANAP continues to manage its cultural heritage obligations with on-site archaeologists working at times of land clearance and excavation, and initiating investigation by the Ministry of Culture and Tourism, as is required under the Chance Find procedure, and instituting route variations if required by the Ministry. Archaeological specialist oversight is undertaken during all works, including the offshore construction works undertaken at the landfall. Construction Contractors additionally reported provision of training by the Environment team on Cultural Heritage, which is reported on to TANAP in line with reporting requirements.

2.8 Performance Requirement 10

2.8.1 Stakeholder Engagement

Stakeholder engagement activities are ongoing and adapt to the changing project context. External monitoring highlighted the need to update the SEP Annex 2 (RAP-Specific Stakeholder Engagement Implementation Guideline) to address the rollout of the RAP Fund and other key activities for 2018. The IESC recommends that as the transition phase activities (i.e. between construction and operations phases) become clear, that such an update include the engagement activities of the transition phase. It is considered that this will be significant as there may be requirements to close out of specific engagement responsibilities, or enhance others to provide continuity for stakeholders.

The IESC notes the success of the FLRP delivery but also that some stakeholders articulated their 'consultation fatigue' regarding the process. While they also stated their support for the process and that they were always aware of program activities, they noted that there was too much rather than too little information shared. The IESC notes that this appears to be due to the very specific target group for this livelihood restoration program and the strong participatory process to determine and implement the livelihood restoration measures. On balance the IESC considers the level of information provision as appropriate rather than too little, to affected fishermen, and their ongoing participation is acknowledged.

2.8.2 Operational Grievance Mechanism

In order to strengthen use of the online stakeholder database, incentives are to be implemented to improve the use of OSID by CLOs and Construction Contractor CLOs. Construction Contractor CLOs appear to be already sensitised to the pending program, which will implement a points system to encourage better use of OSID by CCs, as well as points and reward system for contractor employees who raise the grievances. The IESC anticipates strengthened results with regards to grievance closure at the next audit.

Grievance management appears to be improving based on evidence identified during the site visit. CCs have implemented improvements to try to avoid generation of grievances, or reduce the number of grievances that would potentially be raised by construction activities. Attention is drawn to proactive work in Lot 4 with the irrigation association to avoid possible impacts to canals during the economically critical irrigation season. Secondly, the CC avoided use of a village road for construction traffic, instead opting for a small diversion road to reduce potential road accidents/incidents with the public.

The most common community grievances remain damage to roads and property, crops and reinstatement is, however emerging issues with new contractors coming online have generated new categories (e.g. manhole covers missing with telecoms, use of reinstated land to do telecoms work). The IESC notes that disclosure of the grievance mechanism is evidently effective, given that TANAP and CCs are readily receiving and resolving complaints. Further, the IESC notes that, in line with ESAP requirement for disclosure of common grievances, the grievance follow-up and actions taken/to be taken by TANAP and/or CCs are commonly discussed during community meetings (in particular, during the land exit meetings now being undertaken).

2.8.3 Information Disclosure

Disclosure is continuing for key documents including RAP documentation and on their implementation:

367 disclosure and consultation meetings were held in Lots 2 and 4 during Q1/2018. In parallel, 57 RAP Fund meetings were held, with posters and brochures on RAP Fund are being disclosed with 10 days advance notice.

In Q1/2018, disclosure meetings were held in 24 villages across 11 provinces regarding the LRP for AGIs, engaging with a total of 114 AGI affected PAPs and disclosing the brochure including the application form for Small-Scale Livelihood Assistance Packages under LRP for AGIs. Ongoing engagement with affected stakeholders must also be ongoing alongside information disclosure, to ensure all eligible, AGI-affected households are identified and engaged during the LRP process.

TANAP Social Investment Program (SEIP), as a direct grant funding mechanism, announced two Calls for Proposals in 2017. The first call for Proposals covered 11 eastern provinces while the 2nd Call for Proposals covered the 9 in the west. Calls have now closed and announcements are imminent following assessment through the Administrative and Technical Evaluation Process. It became very clear during the audit site visit, that expectations of all community members are extremely high expectations of the SEIP and its available funding. Of concern is that some community feedback included that grievances hadn't been raised during the course of construction because their expectation was that SEIP funding would be received. TANAP has a duty to clearly communicate that grievances should be raised and any impacts mitigated, regardless of any separate grant funding.

As such, IESC advises close attention is paid to information disclosure regarding announcements of successful calls. The potential is high for further misinformation to spread within communities about applications, especially given that only 10% of applications are expected to be approved. TANAP may also anticipate a new phase of grievances to be raised. Depending on the timing for such events, appropriate processes to manage SEIP legacy issues will also be required in the Transition Plan.

3. EBRD AUDIT TABLE – DETAILED SITE VISIT FINDINGS

Annex 2- Environmental and Social Assessment: Compliance Summary Table

Introduction

The Compliance Summary provides a systematic review of project compliance with the EBRD Environmental and Social Policy, as defined through the applicable Performance Requirements (PRs). Scope of compliance is all PRs applicable to non-FI projects. The review is intended to provide a baseline against which to judge future performance of projects through the annual environmental and social reporting process.

Between 2 and 10 indicators are identified for each of the applicable PRs: 1, 2, 3, 4, 5, 6, 7, 8 and 10.

Guidance

For all PRs (Indicators with whole number references) provide a summary of overall compliance with the PR. Justification for any derogation from a PR should be summarised and supporting documents referenced. For each indicator within a PR, please complete the 3 steps below:

1) Decide whether the indicator is applicable. For Category A and B projects the starting point is that all indicators are applicable unless the project has no significant aspects relevant to the indicator (i.e. no risks), in which case the indicator should be scored "NA" and a brief summary of the reason given. For Category C projects, the starting point is all indicators are NA unless the project has a significant aspect relevant to the indicator (i.e. there is a material risk).
2) Decide whether an opinion is possible. If not (for example if the indicator will apply, but it is too early in the project) score as "NOP" and provide a brief summary of why. Where lack of opinion represents a material omission to the review refer to where this is addressed in the report and summarise any recommendations.

3) Score the indicator as follows and provide brief justification.

EC	Exceeding Compliance: The project has gone beyond the expectations of EBRD's PR requirements. EBRD 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 EBRD's requirements, and EU and local environmental, health and safety policies and guidelines.
PC	Partial Compliance: The project is not in full compliance with EBRD's requirements, 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 EBRD's requirements, and the systems, processes and mitigation measures in place are not working towards addressing the deficiencies.

4) Comments/Issues: Provide a brief commentary on the relevance of this requirement for the project and an explanation of the chosen score.

5) Actions Required: Where applicable, briefly describe any actions required by the client to achieve full compliance with each requirement. Where a relevant action is included in the ESAP for this project, please provide a reference to the ESAP.

Note: The Material Non-compliance score (at both Indicator and PR level) has significant implications for Project approval and requires particular care. In judging whether the measures sufficiently address deficiencies the consultant should consider in a structured way both the level of residual (post-approval) risk and the level of confidence that the Project can successfully bring the issue into compliance with the Policy through the ESAP. The table below illustrates the approach to be taken.

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

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
1	**Assessment and Management of Environmental and Social Impacts and Issues**			
1.1	Environmental and Social Assessment	FC	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.	
1.2	Environmental and Social Management Systems	PC	The operations phase for Lot 1 is due to commence at the end of June 2018 and for a period of time Lots 1-3 will be operational in parallel with continuing construction activities in Lot 4. There is consequently an on-going focus on operational readiness, transitioning into the Operational ESMS, preparing Operational E&S Management Plans and ensuring operational permits are all in place. TANAP has prepared 6 Operational OHS Plans as follows: • Emergency Response Procedure; • Operations H&S Management Plan; • H&S Risk Assessment and Management Procedure; • Operations Permit to Work Procedure; • Health Plan; and • Incident Management Plan The Operations H&S Management Plan has been reviewed by the IESC and is fit for purpose. This Plan is focused only on	• The planning and strategy for implementing the operational phase ESMS should be described in the Management System and include the human resources and organisational requirements for implementation of E&S commitments and compliance during the Operational phase. • The ESMS operational framework should include transitional arrangements to reflect the project schedule and include consideration of the human resources required following reinstatement and to address ongoing land exit and community grievances.

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			operational H&S management and does not reflect any transitional arrangements that are anticipated to be needed as the Project moves from construction/commissioning into operations. The Plan states that operational environmental management will be covered by a separate document, but does not provide a cross-reference. TANAP has shared 4 Draft Environmental Operational Management Plans with the IESC for review as follows: • Environmental Monitoring Plan; • Pollution Prevention Plan; • Ecological Management Plan; and • Waste Management Plan. These documents are considered to be fit for purpose. The intention is to finalise these Plans by the end of June 2018, to ensure they can be implemented by the start of Operations. In most cases, TANAP is assuming that the existing management plans and procedures are still applicable and only minor updates, including to roles and responsibilities and the organisational structure, will be required. It is intended that the CEO of the current TANAP Company will approve the Operational Management Plans. The tendering processes for third party environmental monitoring including bio-restoration and biodiversity monitoring (currently performed by CINAR) and for the IESC	• Further improvement in monitoring and additional refresher training and communication between TANAP, Construction Contractors and third party monitors is required to ensure gaps in E&S commitments are adequately identified, and corrective actions are implemented.

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			monitoring role (currently performed by Sustainability) are on-going. The existing TANAP Company, which has delivered the construction phase of the Project, will hand over to a new Operations Company (which is also expected to be called TANAP, with the same functional departments) at the end of the Phase 0 commissioning. The planning and strategy for implementing the operational phase ESMS should therefore be described in the Management System and this should include the human resources and organisational requirements for implementation of E&S commitments and compliance during the Operational phase. The ESMS operational framework should reflect the project schedule and include consideration of the human resources required following reinstatement and to address ongoing land exit and community grievances. It is recommended that TANAP should continue to ensure the effective transfer of knowledge and experience from the construction phase through to the operational phase, especially given the number of grievances raised and addressed. This should be achieved by retaining key individuals within the operational company. The existing construction contractors' ESMSs are comprehensive and well established with regular monitoring, reporting and inspections taking place across the construction Lots. Construction contractor environmental and social responsibilities are well understood, which is reinforced by	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			adequate numbers of skilled staff to maintain high levels of implementation and management. In response to the September 2017 IESC visit TANAP had undertaken considerable efforts to increase the consistency of HSE and social performance through more effective monitoring and oversight of contractors. The IESC recognises the substantial improvements that were evident in the majority of sites visited since the previous site visit. However, the monitoring site visit identified a number of examples (as outlined further in PR3 and PR4 discussions) where there was inconsistent implementation of environmental and social controls by construction contractors (OHS, waste segregation, inadequate spill kits etc.). The inconsistent implementation of mitigation measures indicates potential deficiencies in the internal and third party E&S monitoring conducted across Lots 3 and 4 and Offshore. Additional refresher training and communication between TANAP, Construction Contractors and third party monitors is required to ensure that gaps in commitments are adequately identified and corrective actions are implemented when gaps in commitments are observed. Operational E&S commitments will be tracked and implemented through the Commitments Register, where they have already been centrally recorded, and which will continue to be implemented and monitored by the existing TANAP	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			Company, overseen by the QHSSE Director, during the transition phase.	
1.3	Environmental and Social Policy[1]	FC	TANAP has a current documented Environmental and Social Policy. TANAP contractors and subcontractors also have documented Environmental and Social policies. TANAP must ensure that their Environmental and Social Policies are updated as necessary to reflect details of the new operating Company, and that construction contractors and subcontractor Policies are revised to reflect this if required during the transition period from construction to operations.	• Ensure that the Environmental and Social Policies are updated as necessary to reflect the transition from the existing TANAP Company to the new Operating Company.
1.4	Environmental and Social Management Plans	PC	TANAP has developed and implemented a detailed suite of Environmental and Social Management Plans (ESMPs) for the Project. Construction contractor ESMPs have been reviewed and approved by TANAP and are aligned with TANAP ESMPs. The Offshore Environmental ERP has been prepared by SPK/SKEAS. Further to a previous review, the IESC noted that the Plan failed to identify environmental emergency response team (EERT) members. As the offshore construction activities had commenced at the time of the previous monitoring visit (September 2017), these team members should have been identified and included within the ERP. The IESC raised	

[1] Where the project represents a substantial extension to the client activities, confirm that Policy and supporting management systems and plans are appropriate for the new activities.

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			concerns that in the event of an emergency situation, the lack of identified EERT members may cause issues and time delays in notification and responsive action. It was recommended that the ERP was revised to include EERT members' details. The IESC has reviewed a revised version of the Environmental ERP (Rev 4-4) and Onshore EERT members names and contact details are now included. Please refer to 4.9 for commentary on the TANAP Emergency Response Procedure that has been provided to and reviewed by the IESC.	

1.5	Social Management Plans	PC	TANAP has prepared Operational Management Plans for social performance as follows:
			• Stakeholder Engagement Plan
			  ○ Annex 1 Stakeholder Engagement Implementation Guideline For Construction Phase
			  ○ Annex 2 RAP specific SE Implementation Guideline
			  ○ Annex 3 SE Implementation Guideline for Operations
			• Social Action Plan for Operations
			• Social Monitoring Plan for Operations
			• Grievance Management Procedure
			
			These are generally fit for purpose, however gaps include provisions for local content, and emergency response with communities during the operations phase. Additionally,
				• Address community safety in the OSMPs
				• Include transitional arrangements to manage social performance construction legacy issues prior to full handover to operations.

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			Transitional phase arrangements (i.e. between construction and operations) should also be included, in particular, for the management of ongoing RAP-related commitments during this phase of change in business structure.	
1.6	Organisational Capacity and Commitment	FC	TANAP has a defined organisation structure which is suitable to implement a Project of this size and magnitude. Sufficient environmental and social personnel have been employed to implement the ESMS and manage environmental and social issues that are present on the Project. As outlined in 1.2 above, the current TANAP Company will hand over to a new Operational Company at the end of the Phase 0 Commissioning. There will be a need to ensure that the organisational structure and capacity remain adequate for the operational phase of the Project. This may be facilitated by ensuring the transfer of experienced personnel from the construction and commissioning phases of the Project. Please refer to 4.1 for commentary on changes to the organisational structure in terms of the appointment of a dedicated QHSSE Director in response to poor health and safety performance and the need to have HSE represented at the highest level of management within the Company.	• 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.

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
1.7	Project Monitoring and Reporting[2]	PC	TANAP has documented and is implementing the following monitoring activities as part of their current ESMS: • Environmental Action Plan; • Environmental Monitoring Plan; • Social Action Plan; • Social Monitoring Plan; • Resettlement Action Plan; and • Biodiversity Action Plan. In addition, TANAP has been monitoring and assuring safety performance at both a high and individual process level through an action tracking register (a customised version of the register applicable to Lot 4 was observed) that was developed following an independent audit conducted by reputable safety professionals. Open actions are monitored by the TANAP QHSSE Director and H&S Manager to ensure satisfactory closure. To supplement this overarching process, TANAP conducts site audits/reviews in line with a Health and Safety Assurance Verification Schedule, which is owned by Site	• TANAP must ensure that overspill areas are reinstated in parallel with the RoW in accordance with the relevant specification, to an adequate standard. • Opportunities for improvements to overall monitoring have been identified considering the observations noted in 1.2 above.

[2] At appraisal stage there will be limited information. Compliance assessment should address specific plans for monitoring and reporting (against for example ESAP requirements) and also consider whether there is evidence of weak monitoring/reporting by client on other relevant projects - which may reduce confidence in future performance.

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			Safety Leads and assured by the TANAP H&S Manager. The register has been observed to cover a range of processes involved in pipeline construction (pipe bending, trenching etc.) as well as associated requirements (emergency response, first aid, housekeeping etc.) and indicates on a monthly basis when the audit of each identified item should be undertaken. Although the schedule observed does not indicate that planned audits have been completed for any items up to May 2018, an example of a Road Safety Audit Report for SP7 dated May 2018 has been observed by the IESC. This contains a number of findings and associated recommended actions. TANAP has an action tracking system that captures any adverse findings from the combined H&S system, which are noted in the action tracking register. Each action is assigned to a specific individual along with a date by which the relevant corrective action should be implemented. The IESC observed a very high standard of reinstatement in most areas visited. Especially noted were excellent re-contouring, erosion control of steep slopes, topsoil management and revegetation. A re-instated RoW and river crossing was visited in Lot 3, Spread 6 (KP 1257). The RoW at this site has been reinstated to a high standard, with slope breakers in-situ and successful re-vegetation in evidence, assisted by the use of hydro mulching. However, an area of overspill was observed adjacent to the reinstated RoW, where erosion control measures have not been implemented and there is still a lack of vegetation (see plate 1). Consequently,	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			erosion of the steep slopes is evident and rocks are migrating down onto cultivated farmland at the foot of one slope, which is impacting the farmer by making ploughing more difficult. The reinstatement of overspill areas is included within the specifications for reinstatement of the RoW. Therefore, TANAP should ensure that all overspill areas are reinstated in parallel with the RoW to an adequate standard, with erosion control measures such as slope breakers implemented where required.  Plate 1. Lot 3, Spread 6 (KP 1257).Erosion / scour of the reinstated river bed and bank protection works was also observed at the river crossing at the same site. It is assumed that this is due to recent heavy rains (see plate 2) and repair works are now necessary to prevent exacerbation of the erosion during further high flow events.	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			 Plate 2 Rivercrossing at Lot 3, Spread 6 (KP 1257). The IESC has not seen any evidence that this issue has been identified as a result of TANAP or third party environmental monitoring and site inspection activities to date. Monitoring and reporting of the condition of the reinstated RoW was observed (the soil experts' weekly report covering Lot 3 Spread 6 (**W17**- 30/04/2018 Monday to - 07/05/2018 Monday) and a daily monitoring checklist from 07.02.2018 were provided for review. However these had not identified the problem and the heavy rainfall is likely to have occurred more recently). Monitoring must be maintained by TANAP at regular intervals to ensure that any maintenance and repair requirements along the RoW, or additional works (including in overspill areas) are identified as soon as possible. It is recommended that monitoring of river crossing sites that are known to be susceptible to erosion is undertaken on a targeted basis following heavy rainfall events to ensure that any required	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			repairs are detected and addressed before they are exacerbated by further high flow events. The implementation of HSES requirements against stated Key Performance Indicators (KPIs) was observed. However, opportunities for improvements to overall monitoring have been identified considering the observations noted in 1.2.	
2	**Labour and Working Conditions**			
2.1	Human Resource Policies and Working Relationships	FC	TANAP has in place human resources policies and procedures. Construction Contractors continue to implement Social MPs including the Employment and Training MP, as evidenced by TANAP and during visits to Lots 3 and 4 during the audit. Retrenchment MPs are in place across all Lots and are being implemented in line with the achievement of mechanical completion activities in Lots 1, 2 and 3 (see also 2.6). Third party monitoring of human resources requirements, including both national and Project standards compliance, are undertaken by CINAR, highlighting areas of non-conformance for monthly action. Evidence from interviews with workers showed clear understanding of worker contract terms and conditions compared to the previous audit. Workers described their understanding of the grievance mechanism and resolution process. Efforts by TANAP and CCs to strengthen gaps in understanding of worker rights and responsibilities were also	

<table>
<tr><th>KPI Ref.</th><th>Performance Requirement</th><th>Score</th><th>Comments/ Issues</th><th>Actions Required</th></tr>
<tr><td></td><td></td><td></td><td>evident, demonstrating compliance with Employment and Training MPs, and associated Worker Engagement Plans.

Site interviews with Lot 4 management additionally described ongoing induction processes with new staff and stand downs to strengthen safety, environmental and social performance, as well as working relationships (knowledge of labour rights, contract terms and working conditions).

As at April 2018, the total workforce is 9,777 people, with the majority now engaged in work on stations (6,035 workers and currently increasing) and Lot 4 (2,390 workers), as follows:

<table>
<tr><th>LOT 1</th><th>LOT 2</th><th>LOT 3</th><th>LOT 4</th><th>STATIONS</th><th>OFFSHORE</th><th>TELECOM/SCADA</th></tr>
<tr><td>433</td><td>247</td><td>432</td><td>2390</td><td>6035</td><td>79</td><td>161</td></tr>
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<tr><td>433</td><td>247</td><td>432</td><td>2390</td><td>6035</td><td>79</td><td>161</td></tr>
</table>

This is a drop of 3,756 total workers (from 13,533) from December 2017. See also 2.6 regarding retrenchment. At the end of 2017, 31% of direct employees and 7% of contractors were women.</td><td></td></tr>
</table>

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			Implementation of measures to improve fatigue management are being undertaken through Fatigue MPs for each CC, with fatigue management training having been delivered to more than 2,500 workers and more than 1,000 employees work analysed in 2017 using the Fatigue Management Tool. The IESC notes TANAP's efforts in improving workplace safety including fatigue management and using tools such as the workplace safety recognition program to acknowledge and encourage safe work practices.	
2.2	Child and Forced Labour	FC	TANAP and, through its contracting arrangements, the CCs, ensure no child or forced labour is in use in the Project through employment procedures; identification (proof of age) is required at recruitment, and all workers are provided social security.	
2.3	Non-Discrimination and Equal Opportunity	FC	Turkey has ratified the core ILO conventions including on non-discrimination; TANAP requires compliance of the Project through HR policies and procedures, and regular third party reporting to government. There was no evidence of non-conformance during the site visit.	
2.4	Workers Organizations	FC	Workers Organisations are present for parts of the Project (typically TANAP blue-collar workers) with formalised arrangements with unions in Lots 2 and 3 that are in line with national legal requirements. All workers are able to join labour unions by paying subscription fees.	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
2.5	Wages, benefits, and conditions of work and accommodation	PC	The site visit included interviews with workers at the sample sites and interviews conducted including regarding payments and accommodation arrangements with no issues raised to the IESC during the visit. Camp facilities were not inspected during this site visit. However, the most recent CINAR monitoring (March 2018) included that AGIs camp workers had raised issues with accommodation conditions. In line with Employment and Training MPs, the IESC reiterates the need to continue monitoring all contractors' performance, including stations and telecoms contractors, for the duration of their activities, including where workers may be accommodated in hotel/non-camp environments. (See also 2.8).	• Monitor labour practices of stations and telecoms contractors, including camp management
2.6	Retrenchment[3]	PC	As required by the ESAP, retrenchment plans have been developed by the CCs and are operational, including for Lot 4 (PLK-PLN-SOC-PL4-007). These provide for the CCs policy and plans for retrenchment, and define access to the CCs Grievance Mechanism. At the previous audit it was raised that the Plans provide limited detail on any other means of receiving additional support prior/during the retrenchment process. However, interviews and other evidence at this audit shows that retrenchment has been undertaken in Lots 1, 2 and	• Investigate practices of subcontractors in fully investigating the collective grievance received from SitePlus workers regarding unpaid notice and overtime payments. Provide specific preparatory support to Lot 4 and Stations workforces prior to retrenchment in these work areas,

[3] Will not be applicable to many projects at appraisal stage. However, evidence, within the last 3 years of client approach to retrenchment which is not compatible with the Policy should be taken into consideration.

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			3, with December 2017-February 2018 the peak period for retrenchment. Third party monitoring undertaken at this time indicates no non-conformances with Retrenchment MPs, and use of and resolution through the grievance process by workers. CC interviews and third party monitoring by CINAR stated that compliance with Project standards and exceedance of Turkish national requirements is being achieved in labour management, including through payment of both advance notice payment and severance payments on retrenchment, advance information disclosure on plans, finding alternatives to dismissal where possible. However, one collective grievance was received regarding unpaid notice and overtime payments of Site Plus workers on Lot 2 in January 2018; this should be investigated to ensure that subcontractors' dismissal processes are conducted in compliance with Retrenchment MPs, and noting that Lot 4 will be undertaking retrenchment from August 2018, preparations could be considered to support this CC and their subcontractors to ensure all workers are retrenched in line with Project standards.	which is anticipated from August 2018.
2.7	Grievance Mechanism	PC	As at year end 2017, 126 worker complaints had been received, 97.6% of which were from male complainants. As at the close of 2017, 126 complaints were received for the year, with 121 closed, 4 waiting (i.e. pending a scheduled action), and 1 open. Grievances are lodged in OSID for action by CCs /TANAP as required. Complaint closure requires sign off and upload of documentary evidence to OSID (for example,	• See 2.6

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			receipts for payment related issues or inspection reports for any grievances regarding living or working conditions). Lot 4 interviews described active improvement processes in place and effective use of OSID, for example, instances of worker grievances regarding food quality in the Lot had been raised, prompting ongoing internal auditing and corrective actions undertaken by Lot 4 CLO, TANAP and the subcontractor. Following ongoing work by the CLO with the subcontractor to implement and maintain improvements to food on the site, this issue has since been closed out. TANAP continues to use OSID (the Online Stakeholder Interaction Database) to track both internal and external grievances. The total number of grievances received from within the workforce is 22 (of the 497 top ten grievances categories recorded) in Q1/2018. The 22 grievances relate to Wage, Overtime, Severance and Notice payments. Grievances from the workforce were stated to be higher in Lot 4; the workforce size is comparable to other Lots, however grievance numbers are higher. TANAP described efforts being made to improve workforce efficiency and engagement, including provision of some social programs; future audits will track outcomes and whether these measures have decreased grievances and improved workforce performance. See also 2.6 above regarding a collective grievance follow up action.	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
2.8	Non-Employee Workers	FC	Engagement of non-employee workers carried out by CCs is undertaken in accordance with the contractor management processes and procedures that are in place. Notification to communities of job opportunities continue to be provided by CCs, however Lot 4 lower local workforce participation low due to the nature of existing work types in this region. Stakeholder interviews in the area during the audit confirmed low interest in taking up short term employment opportunities with the Project in preference to existing agricultural and other employment, as had been predicted during the ESIA. In Lots 1,2 and 3, mechanical completion achievement means that a lower number of roles are now available with CCs however Stations roles remain active in hiring local labour, with 3,822 new hires engaged across Stations (CS and MS) in the period January-March 2018. The requirement to manage and monitor conditions of non-employee workers in line with contractors' Employment and Training MPs remains active.	
2.9	Supply Chain	FC	Health, Safety, Social and Environmental Requirements for Suppliers and Vendors (ILF·SPC-HSE-GEN-001, Rev P2-0, 07.03 .2014) requires supplier compliance with Turkish laws and regulations including the Regulation on the Procedures and Principles of the Employment of Children's and Young Workers (#25425, 06.04.2004). In a similar mode to engagement of local workers in a declining project in Lots 1, 2 and 3, local supply chain	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			opportunities are also declining in those areas. CINAR noted in the most recent Third Party Monitoring report (March 2018) of Procurement and Supply MPs, that Lots 1 and 3 both had non-conformance in securing local suppliers has been downgraded to not applicable, as there is no more local procurement being undertaken in those Lots. In contrast, Lot 2 in January maintained its local procurement KPIs with 70% of the goods and 60% of services have been procured locally. In Lot 4, the IESC notes the KPIs for local procurement were recorded as increasing, with 29.7% of the goods and 69,8% of services having been procured locally over the monitoring period. The IESC urges TANAP to maintain the focus on increasing this performance, as local supply can be maintained for the duration of the contract (as demonstrated in Lot 2). Further, Lot 4 has limited local content achieved through local employment so local supply chain participation is the dominant opportunity for direct, local economic contribution to the project.	
2.10	Security Personnel Requirements	FC	CCs continue to provide training on the Voluntary Principles and Human Rights in line with TANAP requirements. The planned second round of training identified at the previous audit was delivered from September to November 2017, as evidenced through training records. SitePlus provides onsite security services and works with CCs to carry out periodic risk assessments as required by	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			Community Safety MP, and have identified the top security risks and mitigation measures.	
3	**Resource Efficiency and Pollution Prevention and Control**			
3.1	Resource Efficiency	FC	The principles of resource efficiency were suitability identified during the ESIA process.	
3.2	Pollution Prevention and Control	PC	A Pollution Prevention Management Plan has been developed by TANAP and its Construction Contractors to minimise and manage pollution risks and impacts. To improve consistency in the management of risks, TANAP have also increased the number of spreads in Lot 4 from 2 to 3 (7, 7a and 8) and have implemented smaller management units. <u>A. Waste Water</u> The Project generates two main streams of wastewater from its construction activities; these being effluent water generated from Project camps/facilities and hydrotest wastewater. As per commitments made in the ESIA, wastewater from domestic facilities is captured and treated in water treatment facilities prior to being discharged to the environment. Prior to discharge, water quality is tested to ensure compliance with Project Standards. The CINAR quarterly monitoring report (02.03.2018) covering the months of November 2017 to January 2018, outlined 8 non-compliances with Project Standards relating to treated	• Barricading should be used where necessary to protect the area at the foot of topsoil stock piles by preventing vehicle parking. • Additional refresher training and a focus on pollution prevention, specifically on maintaining spill kits and storage of hazardous materials on site is required via the monthly meetings with CC environment managers and toolbox talks etc. to ensure that commitments made in the Pollution Prevention Plan are being met.

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			wastewater effluent quality. In most cases, it was recommended that more frequent sampling and analysis be performed to achieve the required quality standards. All but one of the non-compliances were subsequently closed. The outstanding non-compliance was relating to the discharge of effluent from the Harmancık Fly Camp wastewater treatment plant into the receiving environment without a provisional operation certificate being in place (non compliance PE-38). The CC (PLK) are required to have obtained a provisional operation certificate from the Bursa Provincial Directorate of Environment and Urbanisation, prior to commencing discharge. However, despite having a conformity letter, the certificate was not in place before treated wastewater was being discharged. TANAP personnel have further explained that during the application process for the provisional operation certificate application, there was an error with the ministry system that resulted in disruptions to the application process. Consequently, they liaised with the Bursa Provincial Directorate of Environment and were given verbal approval to discharge treated waste water whilst the application process was still ongoing, to prevent any unfair reprisals and delays as a result of errors with their system. However, TANAP would not allow the discharge of wastewater before the certificate was in place. Therefore, treated wastewater was temporarily transferred to the municipality wastewater treatment plant by tanker. The IESC has reviewed copies of the wastewater transfer forms to verify this. The operational certificate is now in place and this non-compliance	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			was closed out in the latest CINAR monitoring report (31.05.2018). Hydrotesting activities commenced in June 2018. Hydrotesting in Lot 1 was around 50% complete at the time of the monitoring site visit with the aim to complete 70% by the end of July 2017. Offshore hydrotesting is also on-going. Onshore hydrotest water has been sourced from surface water bodies. Where hydrotesting has been completed, the hydrotest water is recharged from section to section. It was reported by TANAP personnel that across 13,000 km of pipeline a maximum of 20 litres of water has been used for cleaning and hydrotesting purposes. Hydrotest wastewater is discharged to the closest surface water course. The IESC is not aware of any non-conformances with regard to the quality standards of hydrotest waste water. Hydrotesting of the Offshore pipeline (European side) was due to commence on 9th June 2018. The pipe has been flushed and pigging has been performed twice. Following the first pigging, the wastewater was transferred by tanker for disposal to a licensed waste water treatment plant. Following the second pigging, if the quality of the wastewater tested was of an adequate standard, it was discharged off-shore. The CC (SPK) reported that around 480m^3 of pigging wastewater has been discharged off-shore to date. The rate of discharge, and the distance and depth of discharge off-shore have been calculated to prevent or minimise pollution from turbidity. The IESC has reviewed hydrotest water quality analysis data for	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			the Anatolian and European offshore areas on 10.03.2018, 19.04.2018, 29.05.2018 and 01.06.2018 and noted that levels for sulphate were consistently above the WCRP limit and for chloride consistently above the IFC/EIA guideline limits. <u>B. Turbidity</u> During the previous monitoring exercise, the IESC reviewed the Pollution Prevention Management Plan and recommended that it should be updated to include turbidity monitoring trigger values and details relating to how exceedances in trigger values are reported. The IESC has reviewed the latest revision of the (SPK) Offshore Pollution Prevention Management Plan (Rev P4-4). This Plan now includes details of the marine turbidity conditions that will trigger specified mitigation measures and includes water pollution control measures relevant to both surface water and marine water. The trigger value used for marine turbidity in the Pollution Prevention Management Plan is 13.29 NTU (with actions to be taken if this value is exceeded over a range of time periods). The IESC has reviewed the Environmental Monitoring Report (During Construction) (Rev P4-C) that presents the results of the environmental monitoring activities undertaken by sub-consultants ENCON. The aim of the work is to monitor the status of environmental conditions during construction; to	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			determine appropriate mitigation measures should baseline conditions be exceeded over a certain limit value. Regular water quality samples have been taken and analysed for 4 stations in the Anatolian landfall area and 5 stations in the European Landfall area. For both Anatolian and European landfall monitoring locations, crude oil, ammonia and phenol concentrations were greater than the Water Pollution Control Regulation (WPCR) limit values for every monitoring period. The limit values for ammonia and phenol are 0.024 mg/L and 0.002 mg/L, respectively. However, the baseline concentrations of these parameters also exceeded the limit value. The turbidity (NTU) values as a result of the analysis of water quality samples taken showed that in some cases, e.g. At the A-1 monitoring location, the TSS levels were greater than the WPCR limit value, but lower than the baseline concentration. In other locations, the baseline levels were again already higher than the WPCR limiting value. However, there were a number of occasions when the NTU levels were greater than the observed baseline level. Continuous turbidity monitoring has also been conducted during construction activities in both the Anatolian and European Landfall areas using continuous turbidity monitoring devices installed at previously identified monitoring locations (based on studies undertaken by SPK's environmental consultant; taking into consideration physical receptors such as	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			sea grass and the general marine environment, prevailing weather conditions, plume dispersion results and the topography of the construction area). The turbidity monitoring limit value used in the Construction Environmental Monitoring Report is 13.48 NTU, which is different from and higher than the trigger value used in the SPK Pollution Prevention Plan. It is therefore not easy to directly compare the results of the ENCON NTU monitoring during construction with the NTU threshold values set in the Pollution Prevention Plan. The reported monitoring period was from 14/07/2017 to 15/01/208 on the European side and 23/07/2017 to 11/12/2017 on the Anatolian side. There were no turbidity values recorded during the continuous monitoring on the Anatolian side during construction that reached the trigger value of 13.48 NTU. On the European side, there were 6 instances in September and 10 in November 2017. In some cases (September 13th and 14th, 7th – 17th November and 23rd November) there were no construction activities on-going at the time of the high readings, so it was assumed the results were due to bad weather or adverse sea conditions. For September 17th to 23rd, manual readings were observed as being lower than the readings being obtained by the installed device. Consequently, the device was subject to maintenance and the readings returned to the normal expected range. CC SPK personnel reported that there were only two instances of a delay of a few hours due to increased turbidity on the	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			Anatolian side. This had occurred when the plug was removed, and work was stopped until turbidity metres showed NTU readings within the acceptable limits. Daily averages of turbidity levels are 0.96 and 1.15 NTU for the Anatolian and European landfalls, respectively (both of which are below the NTU threshold value in the Pollution Prevention Plan). The report therefore concludes and the IESC agrees that marine turbidity levels were not significantly increased as a result of construction activities. The river crossing at KP 1661 (Lot 4, Spread 8) has required a 300m diversion of the watercourse, and two dams have been installed at intervals upstream of the RoW to mitigate for the impact of any high flows. The river is classified as Freshwater Critical Habitat (for eel) (FCH 26). Both an ecologist and soil expert were present on site, and have been visually monitoring turbidity downstream of the construction area, with the authority to stop work if turbidity levels are too high. It was explained that water quality samples are also regularly taken before, during and after construction. The IESC was informed that hydraulic modelling has been undertaken of the watercourse at this location using a methodology for international waterways, to establish the flow regime and to enable an appropriate, gradual approach to river re-instatement to be planned. It is intended to employ sediment traps and hay bales downstream to minimise turbidity (for a distance of up to 20m).	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			C. Topsoil At all active construction sites visited in Lot 4 and the off-shore section, it was observed that stripped topsoil had been mainly stored in stockpiles that appeared to be not more than 2.5m in height, which were covered where the soil was exposed and were labelled as topsoil both in Turkish and English. There were also soil experts on site at all locations. However, at the pigging station at CS7 (Lot 4, Spread 8), it was observed that vehicles were parking right up to the foot of the topsoil stockpile and in one case a lorry had reversed up onto the soil (see Plate 3). This does not align with the requirements of the Erosion, Reinstatement and Landscaping Plan for Lot 4 (PLK-PLN-ENV-PL4-002: Rev P4-2) and could result in compaction and contamination of the topsoil (from vehicle oil leaks). It is recommended that barricading be used where necessary to protect the area at the foot of topsoil piles by preventing vehicle parking.	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			 Plate 3. Lot 4 Spread 8 CS7 <u>D. Soil Contamination</u> Secondary containment of hydrocarbons through the use of bunds and drip trays was observed to be consistently excellent at all construction sites (see Plate 4).	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			 Plate 4. Containment on small compressor at CS7. Spill kits were observed to be present at all construction sites, however at the CS7 Pigging Station, the contents of the spill kit was observed to be inadequate. A refresher on maintaining spill kits is recommended via the monthly meetings with CC environment managers and toolbox talks etc. to ensure that spill kits are provided as per commitments made in the Pollution Prevention Plan. The IESC observed the temporary bulk storage of concrete coating tins located next to the excavation area at the Lot 4, Spread 7a West Dardanelles pigging station construction site. The tins appeared to have been recently delivered and were still on wooden pallets and wrapped in cellophane, so were not considered to present a high risk of contamination. However, it	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			is recommended that the storage of large volumes of coating be avoided in an unprotected work area.	
3.3	Greenhouse Gases[4]	FC	The EBRD requires that for projects that currently, or are expected to produce, more than 25,000 tonnes CO2-eq annually, a GHG assessment be produced and GHG emissions quantified annually, in accordance with the EBRD Methodology for Assessment of Greenhouse Gas Emissions. TANAP were required as per ESAP Item 3.1, to issue the first annual GHG Report (for 2017 GHG emissions) to Lenders by Q1 2018. The GHG Emissions Report, 2017 has been shared with the IESC and was submitted to the EBRD in February 2018 in accordance with the ESAP requirement.	
3.5	Water	PC	The quarterly monitoring report produced by CINAR (02.03.2018) covering the months of November 2017 to January 2018, identified a number of non-compliances relating to mains potable water quality in some of the camp sites and hotels used for worker accommodation. Some of these non-compliances remained open in the latest CINAR quarterly monitoring report for February to April 2018, for example non-compliances PE-36 (relating to potable water samples taken by TEKFEN from MS1 Camp Site) and PE-39 (relating to high Boron levels at the Karoman fly camp site).	• Frequent potable water quality sampling at workers accommodation (hotels and camps) should be continued to identify any issues as soon as possible and enable bottled water to be provided as an alternative where necessary.

[4] Particular attention should be given to client demonstration of consideration of alternatives. Projects expected annually to produce more than 25,000 tonnes of Co2 equivalent should provide an emission inventory and plans for annual reporting.

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			In response, it has been determined by TANAP that where there are issues with tap water quality in hotels and accommodation camps, bottled drinking water will be provided as an alternative. The IESC did not have the opportunity to inspect any workers accommodation in detail to be able to verify this.	
3.6	Waste	PC	CCs have developed individual waste management plans that align to TANAPs. PLK's Waste Management Plan (PLK-PLN-ENV-PL4-006) outlines that solid wastes should be disposed of to the nearest licensed disposal facility. The quarterly monitoring report produced by CINAR (02.03.2018) covering the months of November 2017 to January 2018 identified an issue with domestic solid wastes from the Harmancık Fly Camp site being disposed of to the unsanitary area of the Harmancık municipality rather than a licensed landfill site. Following inquiries, the IESC was informed that the CC was issued with a fine and the solid waste is now being disposed to the relevant licensed facility. The root cause of the non-compliance was identified as a new sub-contractor driving the waste lorry who did not know where to take the waste and therefore transported it to the wrong location. TANAP must ensure that all CC and Sub-contractor staff are adequately trained and instructed prior to commencing work. It is recommended that there is a focus on meeting training requirements in the TANAP management meetings with CCs. During the previous monitoring visit in September 2017, the IESC observed some waste mixing in waste segregation bins	• TANAP must ensure that all CC and sub-contractor staff have received adequate and appropriate training prior to commencing work. It is recommended that there is a focus on meeting training requirements in the TANAP management meetings with CCs. • Environmental tool box is required to provide a further refresher session on waste segregation and recycling commitments across sites.

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			on sites, such as oily rags in general waste bins and poor segregation of recyclable materials. A refresher on recycling and waste segregation was recommended via tool box talks etc. to ensure that waste is segregated as per commitments made in ESIA and MPs. However, during this site visit, similar observations were made at a number of sites; whereby the wrong waste type was being put into the wrong bin (see Plate 5).  Plate 5. Example of mixed waste placed in recycling bins. A more dedicated focus on waste segregation is therefore recommended in the daily toolbox talks. General housekeeping on all the sites appeared to be good however. The volumes of waste recycled in each Lot are reported in the CINAR quarterly monitoring reports. The IESC noted that there is inconsistency in the volumes of waste recycled in each Lot	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			across each month. For example, 0 kg of waste was recycled in December 2017 for the Offshore section, compared to 1,120kg in November 2017. TANAP personnel stated that the volumes of waste recycled are only reported when they are taken to the recycling centre. When there are no recycling activities, waste is stored on site, which accounts for the variation in reported volumes of recycling.	
3.7	Hazardous Substances and Materials	PC	As per the requirements of both Turkish and EU legislation, TANAP utilises licenced contractors to transport and dispose of hazardous waste. Evidence has been previously reviewed by the IESC during the visit which confirms that TANAP has conducted site verification audits of licenced waste disposal facilities along the pipeline route to ensure that Project generated waste is being disposed of appropriately by the contractor. See 3.2 D regarding the bulk storage of concrete coating on site.	
4	**Health and Safety**			
4.1	Occupational Health and Safety (OHS)	PC	The trend in all recordable OHS statistics is decreasing. As of the end of May, in 2018 there have been 27 near misses, 0 fatalities (with a total of 8 since the commencement of the Project), 0 Lost time incidents (LTIs) (with 33 on the Project to date) and 5 high potential incidents (out of 34 on the Project to date). The IESC has reviewed HiPO reports for incidents	• An improvement in the awareness of the TANAP Golden Rules is required to ensure all fundamental HSE measures are fully understood and being effectively implemented. It is recommended that workers be

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			that occurred in April 2018. In both cases, appropriate root causes and corrective actions were identified, and lessons learned were shared through toolbox talks. This is a significant improvement since the previous IESC monitoring visit and reflects that detailed incident analyses of each event have been undertaken, a range of corrective and preventative actions implemented as a result of these and lessons have been learned. There are a number of other contributing factors. TANAP introduced a dedicated QHSSE Director position in June 2017, with the intention of increasing direct leadership in this area. More visible management and closer policing of contractors has had a positive impact on general Project OHS culture, which was evident during the monitoring visit. In addition, TANAP has introduced an 'incentives programme' which provides financial rewards to both individuals and H&S managers for good OHS practice. The mechanism of the reward encourages everyone to participate, as if a site meets its OHS targets, all the workers will receive a share. The number of Hazard Observation Cards being completed (e.g. around 35 per week at the Dardanelles West pigging station) also indicates a culture of OHS awareness and that workers are comfortable to report any issues they see to managers without fearing repercussions. Comprehensive risk assessments have been conducted for all Project activities with the risk assessments informing subsequent control actions. Travelling was identified by TANAP personnel as on on-going H&S issue on Lot 4 and there have	issued with summary Golden Rules cards for quick reference. • The status of on-site first aid kits should be checked and signed off as fully stocked on a daily basis by CC first aid trained individuals. • Ensure the provision of toilets and dedicated eating facilities at all construction sites. • More stringent standards of safety with regard to barricading of open excavations and trenches should be applied across Lot 4 and implemented by the on-site safety officers. It is recommended that more stringent monitoring is undertaken by TANAP to ensure satisfactory and comparable standards of protection for workers (and members of the community) and the management of open trenches and excavations.

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			been 27 road traffic accidents. As a result, the risk assessment has been revised to incorporate the findings of these accidents as well as experience gained across the other Lots. Findings are communicated to road safety teams throughout the Project area and toolbox talks are being used as a mechanism to raise awareness of road safety, especially fatigue. A range of safety systems have been implemented by TANAP and the Construction Contractors including Method Statements and Safe Work Procedures. TANAP operates a permit to work system and permits are issued by an independent Department. There are two main overarching permit stages during construction. A site can be classified as a 'Controlled area' before gas has been introduced and where hot work is possible subject to a permit being issued; or as a 'restricted area' once gas has been introduced. The IESC has been provided with the Operational Permit to Work Procedure, which specifies that all work undertaken on any TANAP facility must have a valid permit to work or appropriate authorisation in place. All tasks or activities are allocated to a specified category, under which most will require a permit to work (hot work – naked flame, hot work – spark potential, breaking containment etc.). Certain regular activities do not need to be covered by a permit, however, they must be undertaken by competent individuals operating under an Application to Work which is only valid for one shift and must be authorised by the Area Authority (the person responsible for ensuring a safe	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			place of work is maintained within a defined area of the facility). The IESC observed current permits to work in place for all required activities at all active construction sites, including hot work, excavation and confined spaces permits. At the Dardanelles West pigging station (Lot 4, Spread 7a) there was also an additional lifting specialist on the ground to provide continuous advice and supervision during a high risk work activities, showing a beyond compliance and diligent approach to OHS. Excellent and consistent use of PPE (hard hats, high visibility vests, safety boots, and dust masks) and safety signage was observed at all active construction sites visited during the monitoring visit. PPE included specialist welding equipment that was observed being worn by welders at the Dardanelles West pigging station site (fire retardant long sleeve jacket and head cover as well as a full face mask). (See Plate 06)	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			 Plate 6. Welder PPE use at Lot 4 Spread 7a Welding was being conducted in two dedicated welding tents (see Plate 7).	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			 Plate 7 Lot4 Spread 7a The IESC was not permitted to enter the tents but was informed that there was an air extraction system in place and that each welding session was limited to 20 minutes per individual. Air quality is monitored regularly and the tent doors are opened between sessions to refresh the air. The IESC was not able to verify this. The IESC observed consistent evidence of tool box talks being given at the Lot 4 sites and the Offshore site. These are given at least daily, before work starts, and at the Dardanelles West pigging station also after the lunch break as a refresher. The talks are being targeted according to the scheduled activities for the day, for example with a focus on lifting activities, or the flagman's duties (because concrete lorries were due to arrive on site).	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			CCs ensured that as site visitors, the IESC monitoring team was managed in accordance with site security; induction procedures were followed and IESC team members were required to sign to acknowledge receipt of the OHS information. Inconsistencies were observed during the monitoring visit with regard to a number of OHS indicators across Lot 4. It was expected that all workers would be aware of the TANAP Golden Rules as a result of a greater management focus on OHS, and feedback given following the previous monitoring site visit, and that these would be displayed at all sites, or that workers would have been provided with summary Golden Rules cards. At the river crossing site (KP 1661) and Dardanelles West pigging station there was an obvious awareness amongst workers of the Golden Rules and they were also displayed within the facilities provided on site. However, at the CS7 pigging station, when asked about Golden Rules, workers seemed unaware of them and they were not displayed anywhere. It is recommended that TANAP ensure the golden rules are fully understood and implemented prior to tasks being performed, through refresher training and toolbox talks etc. and issue Golden Rules cards to all workers as well as displaying them around the site. Despite having 4-5 first aid trained individuals on site (who had passed the Ministry of Health examinations) and the acknowledgement of the need to have 1 first aid trained	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			individual for every 10 on site, the wall mounted first aid box at the CS7 pigging station was empty. (See Plate 8).  Plate 8. Lot 4 CS7 In contrast, at the KP 1661 and Dardanelles West pigging station sites, there were ambulances on site and the first aid kits were fully stocked. CCs must ensure that appropriate first aid provision is available on site at all times and that first aid kits are maintained. The status of each first aid kit should be checked and signed off as fully stocked daily by first aid trained CC individuals. Where there are items missing, this should be immediately rectified. The TANAP Health and Safety team should also check the status of first aid kits during their monthly site audits. Designated smoking areas were provided at all Lot 4 and the Offshore sites. At the Lot 4 CS7 pigging station site, however,	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			there were no toilets available. The IESC were informed that the toilets had been removed that day for repair, however no replacement toilets had been provided prior to that. Toilets were provided all other sites. The workers also go off-site for lunch from the CS7 pigging station and there were no eating facilities provided. At all other active construction sites there were dedicated cabins provided for eating and drinking. An improvement in the provision of on-site facilities (toilets, , eating areas) is needed to ensure that all workers are treated in line with good international industry practice. TANAP reports that trench registers are being kept for the entire route, including the barricading status of open trenches. In many cases, all open excavations and trenches were observed to be barricaded effectively. However, at the Dardanelles West pigging station, an area of unstable bank at the edge of an excavation site was not adequately barricaded. (See Plate 9). Although one entry point to the slumped embankment has been barricaded (as can be seen), another access point was not barricaded.	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			 Plate 9 Dardanelles West Pigging Station Furthermore, at the river crossing site at KP 1661, there was no evidence of barricades being used along the trench. The IESC was informed that the barriers had all been removed as work to remove piles and tie in activity was on-going immediately before the monitoring team arrived on site. However even towards the top of the slopes on either side of the river where work was not ongoing, no barricading was observed. (See Plate 10).	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			 Plate 10 Lot 4 KP1661 More stringent standards of safety with regard to barricading of open excavations and trenches should be applied across Lot 4 and implemented by the on-site safety officers. It is recommended that more stringent monitoring is undertaken by TANAP to ensure satisfactory and comparable standards of protection for workers (and members of the community) and the management of open trenches and excavations. Owing to time constraints, distances required to be travelled and the size of the Project area, it was not possible to visit	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			more than 3 active construction sites across Lot 4. Whilst two of these sites (KP 1661 and Dardanelles West pigging station) demonstrated excellent, in some cases beyond compliance performance, the CS7 pigging station site demonstrated multiple issues. The IESC can therefore not verify that OHS performance across Lot 4 is consistently compliant. It is noted the following the IESC's feedback on site, TANAP senior management indicated that the OHS observations have been shared with all H&S Managers and will be fed back to the on-site managers with the intention of taking immediate corrective actions to address all OHS complacency issues.	
4.2	Community Health and Safety	FC	Construction Contractors have developed their own management tools and procedures (pursuant to contracts, ESIA commitments and TANAP's ESMP), which have been approved by TANAP. The Community Safety MP includes awareness of communities and preparedness of Project staff in managing potential community H&S risks. The selection of Project routes has based on a risk assessment process and in collaboration with the local authority. Where possible, existing access roads have been used and improved where necessary to accommodate Project vehicles safely rather than constructing new access roads. Good road access and safety signage was consistently observed by the IESC and all sites reported no issues with unauthorised access. Security was observed to be good, with security guards posted on-site	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			at least overnight and at the European landfall site, 24 hours a day. Medical facilities are provided at CC camps and were inspected during the site visits. Camp doctors and health professionals are providing care to workers, while additionally providing support to local communities using the Project ambulances (of which there are 9 on Lot 4), where these are closer than public health services. Construction Contractors have developed their own management tools and procedures (pursuant to contracts, ESIA commitments and TANAP's ESMP), which have been approved by TANAP. The Community Safety MP includes awareness of communities and preparedness of Project staff in managing potential community H&S risks. TANAP conduct periodic monitoring of the Construction Contractors' Community Safety Management Plan implementation. CINAR additionally undertakes third party independent monitoring, which in the most recent report, noted no non-conformances for Lots 1 - 4 (2 March 2018). Community engagement on health and safety issues described that hydrotesting was to be carried out and to continue to avoid activity in the area. Now, following line filling activity and presence of gas in the line, wider community engagement focuses on discouraging community activities on or near the line and describes that it is potentially dangerous, rather than discuss the presence of gas, to minimise any potential	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			deliberate or malicious damage to the line which would cause a community health and safety risk. Communications with landowners and users about line filling is carried out at the Land Exit procedure stage. At Land Exit, TANAP confirmed that emergency contact details are provided and once as-built alignment is confirmed, line pole marker plates (displaying KP numbers emergency contact details) are printed and installed on the line marker poles for easy reference by the community. (See also 4.9)	
4.3	Infrastructure, Building, and Equipment Design and Safety	PC	Block valve station (BVS) 35 (Lot 3) was visited during the monitoring visit. Construction is complete and this station is now a restricted area, as the gas within the pipe is under pressure (at 65 bar). The AGI is an unmanned, automated station with no on-site security. A fence (topped with barbed wire) and building intrusion detection system (CCTV cameras linked to an internal control centre) are in place. There are also speakers installed to broadcast warnings if required. It was observed that there is no external safety signage at the station. (See Plate 11).	• Install external safety signage at all restricted area AGIs as soon as possible to ensure public awareness of safety risks.

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			 Plate 11 BVS 35 The station is located near to an urban area and the intention was to avoid attracting unwanted attention through the addition of signs. It is planned to install safety signage prior to operations, however it is recommended, given the lack of on-site security and risks resulting from the pipeline being under pressure, that appropriate safety signage is installed as soon as possible. The mechanical integrity of the pipelines is being systematically checked via intelligent pigging systems. Across the 13,000 km of pipeline where hydrotesting has been completed, no leaks were identified. A small number of dents were observed but there were only 2 locations where a cut out was required with the remainder being within the acceptable limit range. There have also been only minor leakages detected at BVS and pigging stations that has resulted in the	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			tightening of flanges and subsequent re-testing to ensure integrity.	
4.4	Hazardous Materials Safety	PC	ESMPs such as the Pollution Prevention MP have been developed which includes the management of hazardous materials and selection of chemicals required during the Project construction to ensure compliance with ESIA commitments. CCs have developed individual Pollution Prevention Management Plans to align with TANAP's document. These include construction phase management controls which may result in harmful exposure or degradation of environmental values that are important in maintaining community health. This includes controls to prevent the contamination of soil and water, minimise spill risks and prevent impacts to livestock. Some issues were observed on site with inadequate spill kits and bulk storage of concrete coating tins on an unprotected work area (see 3.2 D). However, secondary containment of hydrocarbons through the use of bunds and drip trays was observed to be consistently excellent at all construction sites.	• See 3.2
4.5	Product and Services Safety	N/A	Not applicable to this Project.	
4.6	Traffic and Road Safety	FC	Given the scale of the Project and the reliance on vehicles to access the pipeline route, vehicle and road safety was identified as one of the biggest health and safety risks. Detailed ESMS documentation has been developed relating to vehicle use and journey management. Mitigation measures installed on all project vehicles (TANAP and Contractor),	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			including GPS tracking (to monitor location, speed and who is driving and for what period) and vehicle cameras are still being fully utilised across all Lots visited. All designated Project drivers are certified and are required to be rested annually. The traffic management plan has been very well implemented with appropriate use of road signage observed on all access roads. The effective use of flag men to direct traffic into construction sites was also observed (see Plate 12)  Plate 12 Traffic Flagman at Lot 4 CS7 KP1655 TANAP has renewed its focus on road safety now through its new Road Safety Committee. Performance statistics are exceeding expectations, showing a declining trend in accidents and incidents since January 2018, with KPIs below target for road safety performance. Continuous monitoring, refresher driver permit training and disciplinary action (as required) have	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			additionally enabled this achievement, benefitting both workers and communities (see also 4.1). Evidence was observed which demonstrates that TANAP/Construction Contractors have continued to hold community safety meetings, including with women and children, on road safety. No accidents involving communities were reported in community meetings attended by the audit team. However, the IESC urges that engagement on this issue remain a focus especially around active construction sites with women, children or other vulnerable people, and continue to look for risk minimisation opportunities, such as diversion of one construction access road around a village in Lot 4. Evidence in community meetings confirmed that any safety messages that are conveyed to public meetings, predominantly attended by male community members, do not result in these messages being passed on to other household members. Achievement of mechanical completion in Lots 1, 2 and 3 has decreased the volume of Project-related traffic on the roads in those areas and a decrease in traffic-related grievances received. However work on CS and MS sites remains active, requiring ongoing management, monitoring and improvement. The IESC notes that no non-conformances were found with Traffic MPs, as noted through Third Party Monitoring in CINAR's most recent report (March 2018).	
4.7	Natural Hazards	FC	Detailed assessment and design studies were conducted for seismic risks along the pipeline route. Where the pipeline	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			crosses known fault zones or is in high seismic risk areas, specific designs are utilised to allow for potential shifts in the land surface. Specialist international experts were employed to design the seismic crossings. Design drawings were observed during the previous site inspection undertaken in September 2017. Section 8.1.3 of the ESIA also considers impacts associated with slope instability in the design of the pipeline route.	
4.8	Exposure to Disease	FC	The Community Safety Management Plan requires that CCs prepare epidemiological studies on the incidence of communicable diseases in affected Provinces, based on epidemiological information available, to ensure that all precautions are taken to prevent the transmission of such diseases due to the presence of workers. Engagement is required by Construction Contractors with local health authorities to agree appropriate mitigation strategies as required. Epidemiological studies are not being conducted, however, and as an alternative, TANAP has worked with Health Authorities throughout the route to deliver public health (including communicable diseases) training within communities, as is required under ESAP Item 4.1. The training has been delivered in camp affected settlements and the summary report has been shared with the IESC. Training was conducted from 27th December 2017 (in Erzincan province) until 28th March 2018 (in Ardahan province). Of the 35 planned training sessions, 16 were not held due to non-attendance, despite TANAP officials contacting the village mukhtars to	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			advertise the sessions in advance. This may partly be due to holding the training during the winter period. A total of 189 men and 142 women did participate in the training. The focus was on 4 key topics: 1) General health status and principles of health protection, 2) Communicable diseases and prevention, 3) Preventive measures for major health problems of adults and elderly, 4) Management of accidents and injuries. Participants were tested before and after the training by being given 20 true/false questions. Following the training, the average number of correct answers increased from 15.75 to 17.53 questions.	
4.9	Emergency Preparedness and Response	PC	Environmental Emergency Response Plans have been developed by Construction Contractors based on the requirements of the Guidelines for Contractors specification developed by TANAP. See 1.4 for commentary on the Emergency Response Plan. TANAP has provided the Emergency Response Procedure (dated October 2017) for IESC Review. The Procedure includes scenarios that will be relevant to operational pipelines and AGIs (except station). The purpose of the Procedure appears to be focused on protecting TANAP personnel, plant and	• 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.

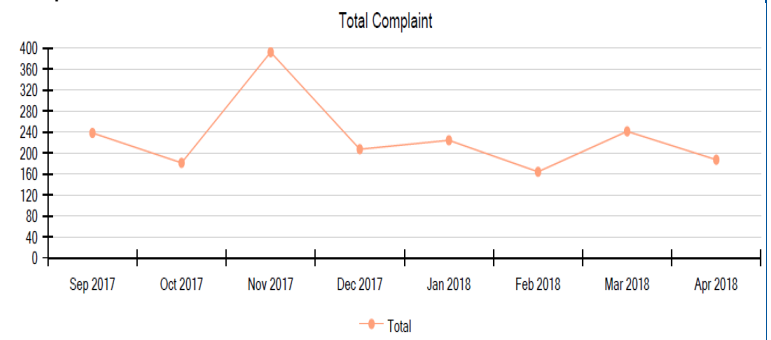
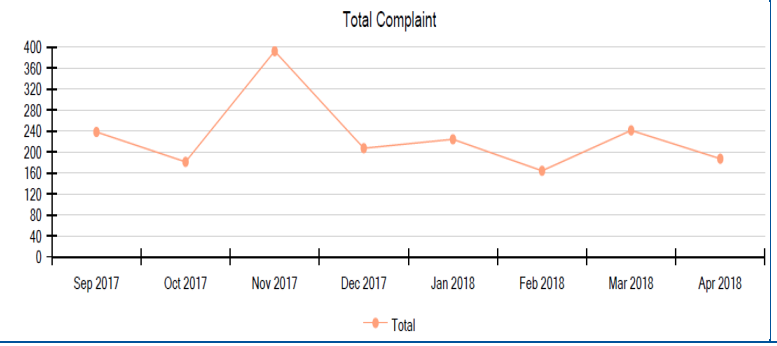
KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			equipment and does not specifically address the protection of local communities. There are roles with specific responsibilities for liaising with Police/Military/Jandarma, the media and general public but not for communicating with local community representatives in the event of an emergency. It is not clear from this Procedure how local communities would be notified of an emergency or what the procedure for local community evacuation would be or how this would be managed e.g. in the case of a loss of containment or fire/explosion. Despite the Procedure stating that one of the purposes is the protection of the environment, there are no specific details on how this would be achieved within the document. The document also does not include any contact names, roles or telephone numbers in Appendix 1 or 2. As an active document, these contact details should be include in the Procedure. In the event of an emergency situation, the lack of identified roles and telephone numbers may cause issues and time delays in notification and responsive action. 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. Emergency response drills were conducted Offshore prior to works commencing. The IESC has reviewed a resulting Drill Report focused on oil pollution containment during an oil spill	

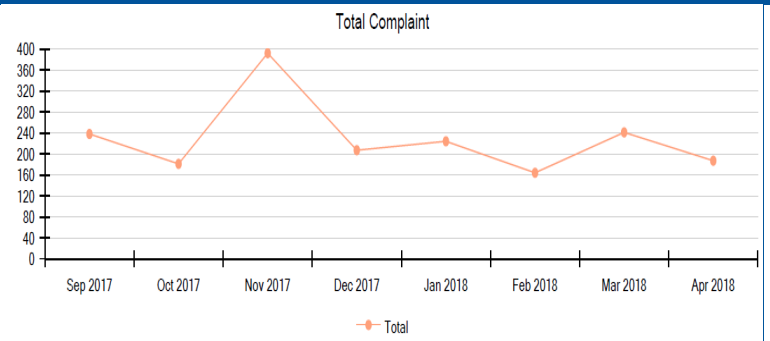
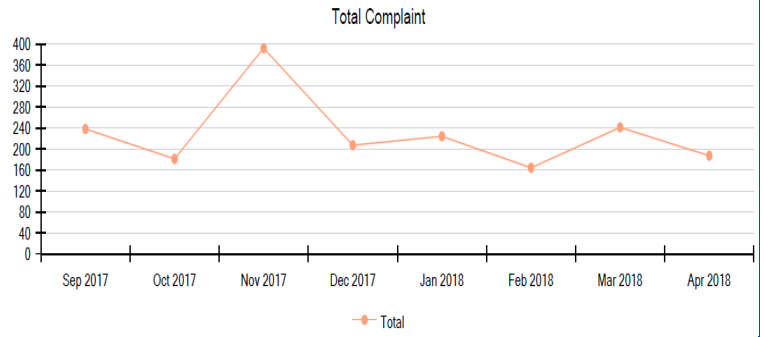
KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			on board a vessel, which indicated that the drill was completed successfully. Environmental Emergency Response Plans are in place with Construction Contractors, based on the requirements of the Guidelines for Contractors specification developed by TANAP. The Security and Emergency Response departments of TANAP have undertaken training with relevant emergency response agencies and Construction Contractors on site, initiated by TANAP. Major incidents are to be prevented and contained by security systems including pipeline intrusion inspection system, which can be operated on any station or route, as documented in the Security Management Plan. Fence and Building Intrusion Detection systems were in evidence at inspected AGIs during the site visit. Emergency contact cards and inductions are given to all workers and visitors upon site entry/induction to sites, as was experienced by the IESC team at the site visit. Following line filling activity, land owners and land users are engaged during the Land Exit process. At this time, stakeholders are notified of presence of gas in the line, and provided contact details in the event of an emergency or accident (see also 4.2). Note, other land restrictions are also confirmed at this time, such as restrictions on use of pile drivers within 50m of Project facilities (in line with TANAP's Host Government Agreement (2012, Appendix 2, Article 3.11-b).	

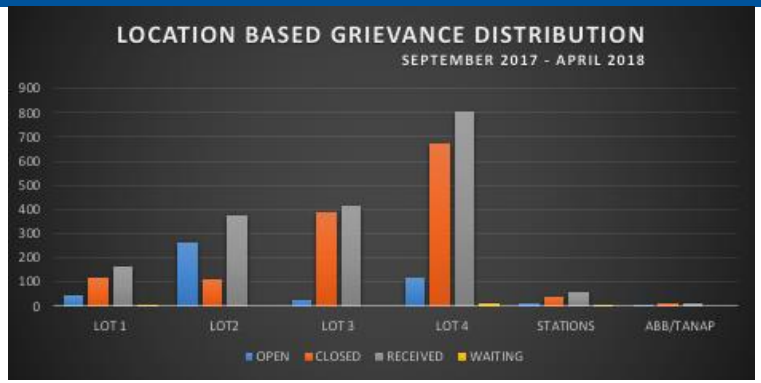
KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			As documented in the previous IESC report, the Offshore contractor reported that public safety drills were run prior to commencement of offshore activity, which included provision for public safety (i.e. protection of other water users). The contractor stated that drills were not repeated but ongoing close working was maintained. No interactions or incidents with other water users or any grievances on this work program were reported since the previous audit.	
5	**Land Acquisition, Involuntary Resettlement and Economic Displacement**			
5.1	Avoid or minimise displacement	FC	Compliance was observed in relation to avoidance or minimisation of displacement, with no physical resettlement required over the length of the pipeline or at AGIs. Route realignment has been carried out during the construction phase to manage deviations from the ESIA approved alignment, in accordance with Project procedures. The IESC awaits progress regarding transmission lines and whether any new displacement can be avoided through route selection. An impact assessment is to be prepared, including investigation and assessment of cumulative impacts.	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
5.2	Consultation	PC	Consultation on RAP and LRP related issues has continued since the previous audit. Land-acquisition affected local people have been consulted regarding the RAP Fund and additional entitlements, while affected fishermen have been further consulted during implementation of the Fisheries Livelihoods Restoration Plan (FLRP). Lot 2 and Lot 4 RAP Disclosure and Consultations Meetings were held by TANAP Site Social Impact Specialists. As at the end of March 2018, 367 'Disclosure & Consultation Meeting on RAP' were held, and had direct consultation with 2,217 stakeholders during these meetings. In Q1/18, 25 RAP meetings were held in Lot 2 and 32 RAP meetings were held in Lot 4. In Lots 1 and 3, RAP meetings were not held, due to prioritisation of the land exit meetings at the time. Information disclosure tools were also applied during consultation meetings (see also 10.3) and all meetings were captured via the OSID system.	• TANAP to hold RAP meetings in Lots 1 and 3. • See 10.3
5.3	Compensation for displaced persons	FC	As at the end of February 2018 (as per the last internal monitoring data), there are 28,341 public and private parcels being acquired for the pipeline, AGI, powerline and access roads to AGIs, (20,812 private and 7,553 are public), and 82.0% of which are registered. The project affects 112,618 rights holders. Urgent Expropriation (Article 27) has been applied to 14,533 parcels while negotiated settlement was achieved for 6,791 parcels (some 500 more than the previous audit). Payments made Q1/2018 sum to $914,781 USD in RAP	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			Fund payments, affecting almost 3,500 individuals. Most of the payments were made to informal users on public lands (29.7% of payments), for common areas including pasture lands to a village level entity (17.2% of payments), and the new payment category of additional compensation for multiple pipelines-affected lands (20.4% of payments). This had been a key issue identified in previous monitoring and had required a specific methodology and parcel identification process to implement. The IESC commends TANAP on resolving RAP Fund payments to this affected group. Compensation for temporary loss of crops on unviable lands have considerably increased, due to a greater awareness of the entitlement through the Project's delivery of RAP-Fund focussed community meetings. The total number of applicants to this category is 495, of which 405 were accepted and paid, and 90 (18%) rejected. This indicates that broadly reasonable applications are submitted from community members to receive payments they are entitled to.	
5.4	Grievance mechanism	PC	TANAP has been monitoring grievances related to RAP using the online tracking system, OSID. From 1 Sep 2017 to 30 April 2018, a total of 1,839 complaints have been received from 1,557 stakeholders, of which 473 are currently open, 1,347 are closed, and 19 are waiting (i.e. a solution has been agreed but is pending delivery greater than 30 days). The average response time takes 9.8 days and 7.3 days to close. The Figure below shows the total number of	• TANAP to provide additional focus on Grievance resolution support for Stations CLOs

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			complaints:  	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			  One quarter (24.6%) of grievances relate to impacts on agricultural-based livelihoods; 22% relate to damage to land and crops (including extra land); and 19.5% relate to reinstatement. The majority of registered complaints are located in Lot 4 with the majority registered (809 grievances) or closed (675), as per the figure below:	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			 Third party monitoring by CINAR had identified instances where complaints were not registered into OSID (see CIN-PRQ-PRC-GEN-015 RevP3-C 13th Quarterly Monitoring), against which TANAP and CCs have taken dedicated action since to improve (see CIN-PRQ-PRC-GEN-017 RevP3-C 14th Quarterly Monitoring). Further, CINAR noted in the 14th Quarterly monitoring that although the overall number of grievances had declined, the number of grievances closed within 30days was well below target (4% closure against a KPI of 90%). TANAP confirmed during the audit that both unregistered grievances and late grievances had been a focus of improvement following identification of these issues during monitoring. With the decrease in construction works in Lots 1,2 and 3, TANAP had been able to reassign some of the social specialists between Lots to provide additional support to CCs to close out outstanding grievance issues. The IESC	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			commends this approach, and notes that performance has improved, and further, that CLOs also recognise the support provided by TANAP staff to help improve delivery of the project within their communities and improve performance against KPIs. However, closure of grievances greater than 30days needs to remain a focus area, especially for Lot 2 and the Stations, which at December 2017 had an average close out time of 44 days and 51 days respectively. The high number of outstanding grievances that had been registered in OSID (e.g. Lot 2, 14th Qtly TPM report) have been closed out after intensive efforts by TANAP and the Contractor. Work on Stations will remain heavily active for a number of months, hence the need to focus efforts here also by TANAP. This may relate to use of OSID, inability to reach technical agreement with complainants or some other reasons, which TANAP can determine with Stations contractors. Appeals Committees have been active in resolving escalated grievances. As of the end of March 2018, 23 complaints, four of which were escalated to the Appeals Committee in the first quarter of 2018, have been received. Of all grievances escalated to the Appeals Committee: • Four new grievances were escalated to the AC. • Seven grievances were resolved • Eleven remain open (not resolved by mutual agreement); and • One escalated to the Supreme Court.	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			The grievance escalated to the Supreme Court relates to damage to land, where the landowner is not satisfied by the offered level of compensation for damage to crops due to trench-induced water overflow on his land (Lot 1), as proposed by the Appeals Committee.	
5.5	RAP/LRP documentation	PC	The Offshore Fisheries Livelihoods Restoration Plan (Offshore FLRP) was developed and implemented by TANAP in line with the RAP and ESAP item 5.2. Further, an addendum to the completed FLRP was prepared and implemented, which identified different fishing areas used by local fishing vessels with an overlay of the project's construction activity areas. Potential impacts and mitigation measures were additionally presented, along with a revised project schedule. Both the FLRP and the Addendum were locally disclosed. The Livelihood Restoration Plan (LRP) for AGIs has additionally been prepared, and following consultation and local disclosure, is scheduled to be disclosed via TANAP website in both Turkish (for which the translation is forthcoming) and English.	• Disclose the LPR for AGIs on the TANAP website.
5.6	RAP/LRP implementation	PC	With mechanical completion achieved in Lots 1, 2 and 3, accommodation at a number of camps has concluded (e.g. Erzincan-Çadırkaya Main Camp Site and Aydoğdu Fly Camp Sites in Lot 2). TANAP has stated that three of the remaining camp sites across the Project (Erzurum/Pasinler, Erzincan/Cadirkaya and Yozgat/Dogankent) are expected to be handed back to owners at the end of June 2018. The two	• Commence a Management of Change process with Lenders in advance of any material change to the Project, specifically, should reinstatement and handover of camps be substantially delayed or their proposed future use differ from that described in the ESIA.

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			former sites are on public land parcels, while the latter is located on 16 private land parcels. The remaining camps (Kars/Selim, Sivas/Hafik, and Ankara/Polatli) are expected to be handed back following provisional acceptance. These three sites are located on 2 public, 6 public and 25 private, and 3 private land parcels respectively. During the site visit, TANAP indicated that camps may be subject to rental by the Government once use by the Project is concluded. The IESC notes that all sites are stated to be returned to landowners in the state at the time of Land Entry. In the event that plans for camps change from what has been presented and disclosed in the ESIA, this constitutes a material change in the Project and must be subject to the Management of Change process with Lenders. The Fisheries Livelihoods Restoration Plan (FLRP) has been implemented, with fuel payments made to affected fishermen. During the audit, meetings with affected fishermen were held to confirm general satisfaction with process. Qualitative monitoring of the FLRP was undertaken at the conclusion of its implementation, using a semi structured interview on: i) utilization of compensation, ii) effectiveness of the fuel support, iii) perception of beneficiaries.	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			Respondents were supportive, except 2 of 8 who were neutral and program. The IESC recommends that one upstream and one downstream qualitative survey is additionally undertaken, to inform whether fish catch was considered to be higher, lower or neutral in comparison to previous years, to be able to respond to the assertion that lower fish catch was due to the construction activities. Following this, the FLRP is considered completed. The LRP for AGIs has been prepared and consultation undertaken in 21 AGI-affected settlements with PAPs. Meetings were held with 24 villages, reaching 114 individuals, during this phase of disclosure to finalise the LRP for AGIs and deliver the brochure for consultation with PAPs. Further, all eligible land users of the AGI affected villages who were not reached in person were informed by telephone conversations and by posting brochure to their address. In total 201 AGI affected PAPs were informed via village visits or telephone interviews. This enabled direct verbal disclosure on the Project with PAPs and sharing of the LRP assistance packages. A brochure on LRAP for AGIs was at that time distributed to PAPs in Turkish language. Further, a hotline was established to enable PAPs to readily access TANAP with any questions, clarifications or comments. The IESC commends this approach in reaching affected stakeholders through targeted, rather than ad hoc, engagement, and for providing affected stakeholders with an accessible hot line for any queries with commencement of program implementation.	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
5.7	Monitoring	PC	Following previous comments by Lenders and external reviewers, the RAP Monitoring Plan has been amended and finalised (TNP-PLN-SOC-GEN-010) and the Summary of the 2nd External RAP Monitoring Report was disclosed on the TANAP website. RAP commitments are being regularly monitored as per the updated RAP Monitoring Plan, through quarterly; internal RAP Monitoring (5th report, March 2018); and External RAP Monitoring (2nd report, Dec 2017). Third party monitoring has continued, and corrective actions taken for past non-conformances. These included for example for Tekfen repeated Social Induction Training to workers to reiterate that workers are not allowed to enter private lands of community members, and leave work places free from waste (on both private and public land). Past monitoring identified a lack of a single database with all project-affected people documented. Since the previous audit, TANAP has developed a LRAP database that includes identification of vulnerable people. The Vulnerable Group Checklist and snowball monitoring is being implemented to assist in identifying and reaching the vulnerable people who are not self-identifying to the Project through broad-scale information dissemination and engagement activities. TANAP RAP Fund Team and Social Team provided special assistance mainly for elderly PAPs and female land users in the application process for transitional allowance and LRAP, and	• The IESC notes that the LRAP database will need to enable capture of roles, responsibilities and ongoing monitoring not only for construction phase, but also the transition phase to operations. Livelihoods support may need to continue through the transition/operations phases in the case where livelihood restoration has not yet been achieved.

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			identification of vulnerable people is continuing. The IESC notes that the LRAP database will need to enable capture of roles, responsibilities and ongoing monitoring not only for construction phase, but also the transition phase to operations. Livelihoods support may need to continue through the transition/operations phases in the case where livelihood restoration has not yet been achieved. Total of 25 Land Exit Meetings have been performed in project-affected settlements during the monitoring period. Along with the land exit meetings, consultation meetings for reinstatement, road closure, hydro test activity and announcement about starting the land exit procedure were also held to inform PAPs about planned activities.	
6	**Biodiversity and Living Natural Resources**			
6.1	Assessment of Biodiversity and Living Natural Resources - Biodiversity Offset Management Plan	FC	Golder Associates developed a Biodiversity Offset Strategy (BOS) dated September 2017 (Report No. 1786851/9059). The BOS is strategic in that its stated purpose is to provide a practical and achievable offset scheme for TANAP and to create a framework to direct actions required to offset Project related residual impacts to biodiversity in accordance with the specific requirements and standards of EBRD's PR6 and the IFC's PS6. The BOS presents a methodology for calculation of the residual impacts and the biodiversity offset requirements to achieve a net gain in Critical Habitat and no net loss of Priority Biodiversity Features and Natural Habitats. The BOS presents the quantification of the residual effects of the Project	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			and discusses the requirements for further data gathering to refine the calculations and to address the limitations of the quantified assessment. The strategy does not identify specific biodiversity management actions, which are addressed through the Biodiversity Action Plan (BAP), but rather identifies potential offsets and additional conservation actions in accordance with good international practice to achieve No Net Loss or Net Gain outcomes relative to the residual affects identified for Natural Habitats, Priority Biodiversity Features and Critical Habitats. The strategy defines the approach to stakeholder engagement, monitoring and adaptive management, including mechanisms that allow re-calculation of net loss and gains and facilitate adjustments to the offset strategy to achieve the stated objectives. The BOS provides a conceptual framework that will guide TANAP towards the development and implementation of a detailed Biodiversity Offset Plan as a part of TANAP's Environmental and Social Management System. TANAP has engaged consultants, Golder, to collect further biodiversity data including degradation levels on the natural habitats found along the pipeline. The collection of this data is required to define the Biodiversity Offset Management Plan (BOMP) methodology and 180 sample plots were identified to cover all EUNIS habitat types found in the ecoregions crossed by the TANAP project. The May 2018 BOMP field preliminary report includes the description of surveys undertaken along the 500m wide corridor subject to the sampling completed from 23-26 April 2018. The field assessments determined the	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			baseline degradation values for terrestrial and freshwater habitats. Initial results indicate that freshwater habitats sampled were found to be degraded, mainly due to adverse effects from nearby agricultural land use. Forested areas showed a range of degradation due to timber harvesting and firewood collection through to high degradation from land clearing. The work program for the BOMP includes an initial task involving collection of additional data from desktop and field studies. This initial task extends till mid-2019. The next task identifies offset opportunities including quantification and planning of offset implementation and is scheduled for completion at the end of 2019. The BOMP schedule proposes a final BOMP being developed in the first quarter of 2020. The work plan for the BOMP includes substantial stakeholder engagement.	
6.2	Assessment of Biodiversity and Living Natural Resources – Operations Phase Management Planning	FC	TANAP has developed and commenced implementation of the Operations Phase Ecological Management Plan (TNP-PLN-ENV-GEN-010). The document describes processes that will be used to manage biodiversity, reinstatement, and landscaping activities during operations, while the Construction Impacts Management Plan will continue to be used to manage biodiversity impacts during any ongoing construction activities. The plan include minimising disturbance during operations, ongoing monitoring and management of the restored RoW, biodiversity offsetting activities, protection of identified conservation values and critical habitat and the requirements	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			for biodiversity assessment and mitigation of impacts from operational related disturbance activities. The requirement for operational land disturbance, including construction and maintenance, will require assessment of impacts to biodiversity and ecological survey. The Construction Phase Ecological Management Plan refers to the Project Biodiversity Action Plan (BAP) as a framework for assessment of critical habitat and other constraints. The mitigation measures applied in the Plan reflect the same measures prescribed in the construction phase planning documentation. The construction phase restoration measures, including erosion, sediment control and biorestoration are implemented and monitored for the construction contractors for a 24 month guarantee period following technical completion. Following completion of the guarantee period, the monitoring and maintenance of restoration will be conducted by TANAP in accordance with the BAP, operational plans and procedures. TANAP propose to use a RoW Patrol and Maintenance Contractor to undertake the RoW monitoring and maintenance following the completion of construction contractor guarantee period. The procedures describing the operations phase maintenance and monitoring activities carried out by the RoW Patrol and Maintenance are yet to be developed. During operations, TANAP has committed to implement Biodiversity Offsetting activities to offset residual impacts and	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			achieve net biodiversity gains within critical habitats identified within the BAP. The Biodiversity Offset Strategy (BOS) is completed and has been disclosed in accordance with TANAP's ESAP obligations. The Construction Phase Ecological Management Plan outlines the process to be undertaken to further define the offset requirements and to identify and assess offset opportunities so as to achieve the Strategy. A Biodiversity Offset Management and Monitoring Plan is proposed to be developed as an outcome of these additional studies being undertaken by Golder and is scheduled to be complete by the end of 2019.	
6.2	Conservation of Biodiversity – Terrestrial Critical Habitat Biorestoration	PC	The site visited critical habitat CH54 located at KP 1144 located on open grazing area on a reinstated section of Lot 3 Spread 6. The critical habitat triggering species is *Cousinia halysensis*, which is listed as an endemic species in the Red Data Book of Turkish Plants resulting in a Medium Priority Tier 2 (b) assessment in the TANAP BAP. The RoW had been seeded with *Cousinia halysensis* with seed collected 12 months prior to the construction commencing. The restored RoW had been subject to vehicle access with multiple tracks traversing the gentle slope. The vehicle tracks are likely to increase the risk of erosion following rainfall and will increase compaction and therefore the success of bio-remediation (see Plate 13 and 14). The restored Critical Habitat had a temporary fence constructed along the sides of the RoW, which abuts grazing land, but no fence or other barrier was present to prevent	• Further opportunities to reduce the risk to critical habitat restoration from third party vehicle access should be pursued by TANAP. These additional control actions should include consideration of alternative vehicle access to avoid restored RoW areas prior to habitat re-establishment; additional temporary fencing; placement of rocks or other materials to discourage vehicle access from roads onto the RoW; additional awareness raising with landholders and additional signage. The BAP and associated plans and procedures should include

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			vehicles from entering the restored critical habitat from the access road (see figure below). TANAP restoration and ecological management plans recognise that third parties may seek to use some sections of the pipeline as a through route and TANAP is committed to apply measures that seek to limit unauthorised access. These mitigation measures are not prescribed as such, but are determined on a case by case basis. The approach recognises that TANAP has limited control over third party access after RoW reinstatement and that fencing and signs are often ignored. Landholders will often prefer to drive over the RoW as the lack of vegetation provides easy visibility of obstacles. The previous IESC monitoring report (December 2017) included discussion of observed third party access to the restored RoW and the made recommendations about further opportunities to limit such access. In this instance, the third party access is affecting restored critical habitat areas and further actions should be prioritised. The BAP identifies species specific actions for *Cousinia halysensis* including raising awareness of the impacts of grazing and land disturbance on this species. Further opportunities to prevent unauthorised access during the initial post restoration period for this area may include additional temporary fencing, provision of alternative temporary access, placement of rocks adjacent to road access; increased awareness with local landholders and increased signage.	discussion of additional measures to prevent third party vehicle access in critical habitats temporary fencing is ineffective.

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			 Plate 13 CH54 Multiple vehicle tracks over restored RoW	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			 Plate 14 CH54 Vehicle tracks over restored RoW with increased erosion risk over sloping ground.	
6.2	Conservation of Biodiversity Monitoring	FC	TANAP's third party monitoring consultant, CINAR, continues to undertake quarterly environmental monitoring against the Project's environmental and social commitments for the construction phase. CINAR's monitoring objective is to verify the implementation of TANAP Project commitments stated in the Environmental and Social Impact Assessment (ESIA) Report, the ESMPs of the project and individual contractors and supporting documents such as associated procedures and method statements. CINAR's monitoring activities include the	• The quarterly third party monitoring reports are very comprehensive and clearly presented, but can be improved with the inclusion of some details regarding the sites visited by the monitoring team for each quarterly period and some justification for the site sampling.

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			review of environmental and social management activities of TANAP and the individual contractors but do not include verification of compliance with occupational health and safety or cultural heritage aspects and commitments. The third party monitoring includes verification of all environmental and social commitments across all lots and AGI's. The CINAR monitoring team complete these assessments based on review of documents, interviews with personnel and selected site visits to several construction sites including the activities along the ROW, major river crossings, additional land-take areas and several AGI's. The monitoring site visits were completed by a team of three CINAR consultants between 17 April and 4 May. The quarterly monitoring report does not specify the locations visited by the monitoring team and it is, therefore, difficult to assess the sufficiency of monitoring being completed and the extent to which CINAR rely on documentation provided by the contractors. The most recent third party monitoring report being the February- April 2018 report (CIN-PRQ-PRC-GEN-019 Rev P3-C) presents the findings from meetings with TANAP and Construction Contractor's Environmental Teams in all Lots and AGIs, review of documentation and interviews with the personnel responsible in implementing the environmental and social commitments and monitoring construction activities. CINAR visited several construction sites including the activities along the ROW, major river crossings, additional land take and several AGIs.	• Third party environmental monitoring of biorestoration and critical habitat protection should include assessment of compliance with additional mitigation measures approved through approved deviation requests where relevant.

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			CINAR assessed the performance of Construction Contractors against the mitigation requirements established in the BAP for the protection of Critical Habitats including the application of restricted construction periods, proper topsoil stripping and storage, seed collection and translocation for flora SCCs etc. During the observations, it was found that no construction activities were performed during the closed construction periods specified for critical habitats. Clearing and grading construction activities, final reinstatement and biorestoration, had been almost completed during this reporting period in most of the Critical Habitats in Lot 1, Lot 2 and Lot 3. Biorestoration activities were not finalized for all of the critical habitats at the time of the monitoring. The invasive species monitoring performed by the Contractors had been developed and monitoring of invasive species was being appropriately implemented. However, CINAR noted the presence of *Sinapis arvensis*, as a natural invasive species on areas where reinstatement was performed in Lot 3, Lot 4 and around the construction sites of MS3 and MS4. CINAR advised that additional controls be implemented for management of this species to ensure biorestoration objectives can be achieved. The post-construction mitigation measures for Critical Habitats were completed in Lot 1 except for CH12 as of the end of April 2018. CINAR was informed that the implementation of seed planting for CH12 was planned for completion in May 2018.	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			A non-compliance had been reported by CINAR during the November 2017 to January 2018 quarterly monitoring period regarding the Lot 1 Construction Contractor's lack of documentation of action undertaken for invasive species monitoring and control although actions that should be implemented were stated in the Lot 1 Construction Impact Management Plan (FRN-PLN-ENV-PL1-003). CINAR was provided with additional documentation during the most recent monitoring period that demonstrated that invasive species monitoring had been undertaken at Lot 1 and occurrences of invasive species had been recorded within the restored RoW. However, the contractor had not included any information on the actions to control observed invasive species, thus the reported non-compliance Non-Compliance-BIO-1, has not been closed. In earlier quarterly third party monitoring reports completed by CINAR, non-compliance had been reported on the lack of implementation of the sediment control measures at Lot 1 freshwater critical habitats. Deficiencies were identified with the installation of silt fences or sediment traps prior to initiating construction crossing activities, and maintaining the screens and traps to prevent or minimise downstream sedimentation during construction activities at FCH2 (RVX3A_0194, KP-167+564) in Spread 1 and FCH3 (RVX8_5000, KP-221+205) in Spread 2. CINAR's latest quarterly monitoring report closed this non-compliance (BIO-2) on the basis of critical habitat monitoring	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			checklists completed after restoration works had found no negative impact observed in these areas. CINAR's monitoring of biorestoration of Lot 2 and Lot 3 observed that the relevant contractors had no specific documentation for "Aftercare and Monitoring Plan", which describes how the monitoring and maintenance of the project sites in Lot 2 will be done during the post-construction period. There was no plan, procedure or record of post restoration monitoring and maintenance for critical habitat sites. CINAR strongly recommended that a specific "Aftercare and Monitoring Plan" should be prepared by the Lot 2 and Lot 3 contractors and submitted to TANAP for approval and all the post-construction monitoring activities and necessary corrective actions, if needed, should be conducted according to that plan. CINAR's monitoring of Lot 4 determined that the pre-construction mitigation measures for critical habitat protection stated in the BAP were followed by the construction contractor for the critical habitats. It was observed that no construction activities were performed during the closed construction periods specified for critical habitats for the period from February to April 2018. CINAR's monitoring report does not discuss the deviation requests that were in place in April 2018 to allow works in some freshwater critical habitats during the constraints period.	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
6.2	Conservation of Biodiversity Offshore Monitoring	FC	The offshore construction has substantially progressed since the last IESC visit with the completion of pipe laying of the 2 x 36" offshore pipelines and laying of the fiber optic cables. The remaining construction works includes the pipeline hydrotests and the rock dumping to protect the cables. The monitoring of biodiversity related aspects of the offshore construction works included monitoring during construction by the offshore construction contractors and third party monitoring undertaken by CINAR. The IESC reviewed the contractor environmental monitoring undertaken for the pipeline and fiber optic cable installation - Environmental Monitoring Report (During Construction), SPK-REP-ENV-DAR-007, April 2018. This monitoring included a range of environmental parameters including marine ecological monitoring. This included benthic surveys undertaken at each landfall location - completed in November 2017. The aim of the monitoring was to detect any changes to in habitats, particularly seagrass, since pre construction. The risk to seagrass habitat is mainly from the potential for increased turbidity in the water column during construction activities. Benthic habitat surveys were completed with remote operated vessels (ROV) which collect data along pre-determined transects. The results of the monitoring indicated no observed impacts to the benthic habitats including seagrass, except where the habitat was directly disturbed from trenching and backfilling. The surveys also recorded no introduction of marine invasive species due to the dredging and trenching activities.	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			The third party monitoring by CINAR of the offshore construction determined that the construction contractor had successfully implemented the monitoring activities required in the Environmental & Social Monitoring Plan (SPK-PLN-ENV-DAR-008). CINAR also reviewed the offshore contractor's compliance with the Invasive Species Management Plan (SPK-PLN-ENV-DAR-010), which was approved by TANAP. The plan includes the actions to control and monitor the invasive species especially the management of ballast water. CINAR observed that a quarantine risk assessment process has been undertaken for all vessels and equipment entering Turkish waters from foreign waters. No project related injured/dead fauna were recorded; no incident/damage to sensitive areas was observed; and no non-compliances were raised by TANAP for the offshore construction during the reporting period.	
6.2	Conservation of Biodiversity – Freshwater Critical Habitat Management	PC	The construction of the Gonen River crossing was observed being undertaken at FCH26, KP 1661 on Lot 4 Spread 8. The area is identified as critical habitat due to the potential habitat of the European Eel, *Anguilla anguilla*, which is identified as a high priority in the BAP with conservation status as IUCN Red List Critical. The key controls established in the BAP include the limitation on construction to avoid the spawning period from April – June. The Lot 4 Construction Contractor (PLK JV) initiated a Deviation Request (PLK-DVR-GEN-PL4-086) on 22 March 2018	• The IESC found that the documented process for assessing the deviation request to undertake work on Lot 4 FCH sites during the constraints period identified in the BAP did not fully apply the mitigation hierarchy as there is no documented consideration of alternatives, including delay of works until after the constraints period. TANAP should ensure

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			as part of the Change Management process requesting approval from TANAP to undertake construction work at the Gönen River crossing, FCH 26, within the exclusion period specified in the BAP. The deviation request was not limited to FCH 26 and included five other critical habitat sites that would require works, hydrotesting and/or construction during specified exclusion periods specified in the BAP. These activities included hydrotesting and construction at FCH20 and FCH 27, construction at FCH 26 and hydrotesting at FCH 21 and FCH25. All of these FCH sites triggered critical habitat due to the habitat value to conservation significant aquatic fauna. Surveys were undertaken from 7-10 March 2018 by an independent aquatic biologist (Dr. Baran YOĞURTÇUOĞLU), who was engaged by PLK JV, to assess the potential impacts at each FCH site from proposed activities during the exclusion period and to define appropriate mitigation measures should activities be allowed to occur. The surveys were designed to support the deviation request to TANAP. The independent specialist completed habitat assessment of each of the FCH sites based on substrate type, formation of riparian vegetation, water current rate and riverbank structure. The specialist developed site specific additional mitigation measures for each of the 5 FCH locations relevant to the activity being undertaken. The assessment outcome for FCH26 found that the BAP specified constraint period was not applicable to the European Eel in the Gonen River since the species does not spawn in Turkish rivers. However, mitigation measures were defined for the construction period to ensure protection of	documented assessment of any approved deviations from the BAP that demonstrates how the mitigation hierarchy was applied including consideration of the option to not carry out the work during the period. • The Deviation Request (PLK-DVR-GEN-PL4-086) was approved by TANAP on 27 April 2018 and included conditions that the mitigation measures outlined in the TPMC report be fully implemented. • TANAP's third party monitoring, in addition to contractor monitoring should record compliance to these additional mitigation controls approved through the deviation request and the effectiveness of these controls. The frequency of monitoring and reporting would be expected to be increased during the high-risk periods associated with the constraints period. • The BAP discusses mitigation measures that avoids disturbance of potential European Eel habitat during spawning periods. However,

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			immature eels that may be present in the waterways during construction. The IESC notes that the Deviation Request relevant to FCH26 has identified incorrect assessment and mitigation measures in the BAP due to the assumption that European Eels spawn in the Gonen Rover, which is refuted in subsequent studies. It is reasonable for TANAP to therefore amend the BAP and the mitigation controls associated with this species, including a review of the constraints periods in place. The assessment also recommended that the river crossing on the Gonen River include a deviation so as to minimise impacts to natural flow regime and this method was applied for the construction. However, the assessment that supports the deviation request for the other species that trigger critical habitat and the mitigation measures within the BAP does not provide a clear justification. The independent assessment for the freshwater critical habitat triggering species (*Cobitis punticlata, Cobitis fahirae* and *Oxynoemacheilus simavicus*) does not challenge the validity of the constraints period and, in the case of *Cobitis punticlata*, the assessment reiterates that this endangered species is severely impacted by water abstraction and pollution. The mitigation controls developed to support the deviation request case for construction and hydrotesting during the constraints period for FCH20, 21, 25 and 27 does not provide sufficient information to demonstrate the application of the mitigation hierarchy; i.e. there is no consideration of reasons why the constraints period could not	the studies undertaken for PLV JV indicate that no spawning occurs in Turkish Rivers for this species.

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			be complied with and there is no consideration of alternatives. The mitigation measures to protect habitat during construction and/or hydrotesting specified in the deviation request document do not differ substantially from those that were already in the BAP. In summary the key findings of the independent assessment that supports the deviation request include: FCH20 (*Oxynoemacheilus simavicus)* The assessment identifies key habitat within the potentially impacted area to be avoided through diversion and to initiate and complete activities within April. FCH 21 (*Oxynoemacheilus simavicus)*: The assessment recommended that the work be completed in April when the water levels remain high. FCH25 (*Cobitis fahirae, Cobitis punticulata*): The assessment recommended to initiate and complete the water abstraction and its discharge as early as possible (within April). In addition, timing of the hydrostatic test should be synchronized with water release period of Manyas Dam, a dam lake located on Kocaçay, when the water level will become relatively high. FCH27 (*Cobitis fahirae*): The assessment recommended that the site should not be determined as critical habitat due to the area being a "human modified aquatic environment". However, recommendation included the need to apply general mitigation measures for water abstraction and discharge.	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			There is no determination if the site is potential habitat for the species. Following the request for deviation from PLK JV TANAP engaged CINAR to undertake an Ecological Monitoring Site Visit, completed from 13-15 April 2018, and Report for FCH20, 21, 26, 26 and 27 (CIN-REP-ENV-GEN-030 Rev P3-0). The report objective was to determine if was appropriate to undertake construction works in the restriction period specified in the BAP and to propose additional mitigation measures. The report findings state that construction had commenced at FCH 20, FCH 21, FCH 25, FCH26 and FCH27 during the CINAR site visit and it was noted that construction of the crossing was occurring using appropriate mitigation controls and that no negative effects had occurred. The River Crossing Completion reports show that construction had commenced prior to the constraints period, 1 April. TANAP advised that construction and hydrotest water abstraction activities were not permitted at these locations until the deviation request was approved. However, it is unclear from the CINAR's report the extent of activities being undertaken at the time of the visit. Both the contractor's biologist report and TANAP's third party monitoring contractor reports describe the construction related disturbance at each of the FCH sites subject to deviation request that had occurred prior to the constraints period. The works had not been completed and it is unclear the extent to which mitigation measures have been effectively implemented to prevent impacts during the constraints period from activities	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			that had occurred prior to that period, i.e. removal of riverbank vegetation, construction of upstream dams and stream diversions. Other controls identified in the BAP include the requirement to manage construction activities to avoid or minimise soil erosion, sedimentation and impacts to aquatic and riparian vegetation at the crossing. At the time of the IESC site visit, the construction of the pipeline below the river bed had been completed and the river had been temporarily diverted around the crossing area. The tie-ins at each side of the river were yet to be completed. There was no evidence of sedimentation, excess erosion or excess disturbance of the river bank and vegetation. Piling was being removed from the work area during the site visit and sediment laden water was contained and isolated from the diversion (see Plate 15). The construction contractor's ecologist was present at the construction site who stated that all active construction activities were observed at FCH sites to ensure mitigations were being completed and to observe for any negative impacts.	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			 Plate 15 Construction activities at FCH 26, KP 1661 Lot 4 Spread 8. Pile removal following pipe lay.	
6.2	Conservation of Biodiversity – Biorestoration including reforestation	FC	As of May 2018, TANAP biorestoration progress including reforestation (as % complete) was reported as: Lot1, 77%; Lot 2, 99%; Lot 3, 100% and; Lot 4, 0% complete. The IESC observed a very high standard of reinstatement in most areas visited. Especially noted were excellent re-contouring, erosion control of steep slopes, topsoil management and revegetation. A re-instated RoW and river crossing was visited in Lot 3, Spread 6 (KP 1257). The RoW at	• 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.

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			this site has been reinstated to a high standard, with slope breakers in-situ, use of jute matting, drainage and successful re-vegetation in evidence, assisted by the use of hydro mulching to stablise the final landform. However, an area of overspill was observed adjacent to the reinstated RoW, where erosion control measures have not been implemented and there is still a lack of vegetation. Consequently, erosion of the steep slopes is evident and rocks are spilling down onto cultivated farmland at the foot of one slope, which is impacting the farmer by making ploughing more difficult. The reinstatement of overspill areas is included within the specifications for reinstatement of the RoW. Therefore, TANAP should ensure that all overspill areas are reinstated in parallel with the RoW to an adequate standard, with erosion control measures such as slope breakers implemented where required.	
7	Indigenous People			
7.1	Indigenous People Assessment		Performance Requirement 7 is not applicable to the TANAP Project.	
7.2	Adverse Effects Avoidance and Indigenous Peoples Development Plan			
7.3	Information Disclosure, Meaningful Consultation and Informed Participation			

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
7.4	Grievance Mechanism and Prevention of Ethnically Based Discrimination			
7.5	Compensation and Benefit-Sharing			
7.6	Impacts/Relocation on Traditional or Customary Lands and Cultural Heritage			
8	**Cultural Heritage**			
8.1	Assessment and Management of Impacts on Cultural Heritage	FC	TANAP continues to manage its cultural heritage obligations with on-site archaeologists working at times of land clearance and excavation, and initiating investigation by the Ministry of Culture and Tourism, as is required under the Chance Find procedure, and instituting route variations if required by the Ministry. Archaeological specialist oversight is undertaken during all works, including the beach-pull site at the Anatolian landfall, currently active on the Marmara Crossing. CCs additionally reported provision of training by the Environment team on Cultural Heritage, which is reported on to TANAP in line with reporting requirements. There are no ESAP items relevant to Cultural Heritage.	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
8.2	Consultation with affected communities and other stakeholders	FC	Engagement has been undertaken with the Museum Directorate of the Ministry of Culture and Tourism, as the responsible agency for advice and direction on archaeological finds, and TANAP has undertaken management of any finds (e.g. re-routing of the alignment or in situ protection) as directed by the Ministry.	
8.3	Project use of Cultural Heritage	N/A		
10	**Information Disclosure and Stakeholder Engagement**			
10.1	Stakeholder Engagement Plan	PC	The Stakeholder Engagement Plan (TNP-PLN-SOC-GEN-001-P3-2), being implemented by TANAP, guides stakeholder engagement for the Project. This document has been disclosed on both TANAP and EBRD websites. External monitoring highlighted the need to update the SEP Annex 2 (RAP-Specific Stakeholder Engagement Implementation Guideline) to address the rollout of the RAP Fund and 2018 activities. The IESC recommends that such an update additionally include the engagement activities of the transition phase between construction and operational activities, particularly as there may require handover or close out of specific engagement responsibilities during this time and will require continuity for stakeholders.	• Update the SEP Annex 2 (RAP-specific engagement) to include Transition phase activities as these emerge

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			During the site visit, fishermen affected by the FLRP described 'consultation fatigue' regarding the process followed. While they also stated their support for the process and that they were always aware of program activities, they noted that there was too much rather than too little information shared. The IESC notes that this appears to be due to the very specific target group for this livelihood restoration program.	
10.2	Operational Grievance Mechanism	FC	TANAP continues to use OSID (the Online Stakeholder Interaction Database) to track both internal and external grievances. The total number of external grievances received has been provided by TANAP (see also 5.4). Incentives are to be put in place to improve the use of OSID, which appear to be already raising awareness with CC Community Liaison Officers (CLOs) on the program. A points system will be used to encourage better use of OSID by CCs. The IESC anticipates strengthened results with regards to grievance closure at the next audit. The IESC notes evidence of good practices identified during the site visit, where CCs implemented improvements to try to reduce the number of grievances that would potentially be raised by construction activities. The IESC highlights proactive work in Lot 4 with the irrigation association to avoid possible impacts to canals during the economically critical irrigation season. The CC negotiated with the association to ensure that construction would have minimal impact to rice irrigation activities. Construction was timed such that should any	

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			damage occur as a result of construction activities, there was sufficient time to undertake repairs prior to commencement of the irrigation season. Secondly, the CC avoided use of a village road for construction traffic, instead opting for a small diversion road to reduce potential road accidents/incidents with the public. Damage to roads and property, crops and reinstatement is the most common community grievance, however emerging issues with new contractors coming online (e.g. manhole covers missing with telecoms, use of reinstated land to do telecoms work) are increasingly being raised. The IESC notes that disclosure of the grievance mechanism is evidently effective, given that TANAP and CCs are readily receiving complaints. Further, the IESC notes that, in line with ESAP requirement for disclosure of common grievances, the grievance follow-up and actions taken/to be taken by TANAP and/or CCs are commonly discussed during community meetings (in particular, during the land exit meetings now being undertaken).	
10.3	Information Disclosure	PC	The Stakeholder Engagement Plan (TNP-PLN-SOC-GEN-001-P3-2, including Annex 1, Construction Phase implementation), is being implemented by TANAP and guides stakeholder engagement for the Project. This current version of the document has been disclosed. Disclosure is continuing for key documents including RAP documentation and on their implementation:	• Information disclosure must include preparation and appropriate disclosure of a Transition Plan for the Project. The Transition Plan should cover the period between/overlap of construction and operations, to manage E&S legacy and emerging issues during

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			During Q1/2018, 367 disclosure and consultation meetings were held in Lots 2 and 4 with TANAP Site Social Impact Specialists. In the same period, 57 RAP Fund meetings were held (25 in Lot 2 and 32 in Lot 4; TANAP reported that none were held in Lots 1 or 3 due to prioritisation of land exit meetings). Posters and brochures on RAP Fund are being disclosed with 10 days advance notice. In Q1/2018, disclosure meetings were held in 24 villages across 11 provinces regarding the LRP for AGIs, engaging with a total of 114 AGI affected PAPs and disclosing the brochure including the application form for Small-Scale Livelihood Assistance Packages under LRP for AGIs. Ongoing engagement with affected stakeholders must also be ongoing alongside information disclosure, to ensure all eligible, AGI-affected households are identified and engaged during the LRP process (see also 10.1). TANAP Social Investment Program (SEIP) announced two Calls for Proposals in 2017, as a direct grant funding mechanism. The first call for Proposals covered Kırıkkale and the eastern provinces of TANAP (11 provinces total) and has now been announced, while the 2nd Call for Proposals covered the districts and villages of Ankara and the western provinces (9 provinces). Calls have now closed and announcements are imminent following assessment through the Administrative and Technical Evaluation Process.	this period between responsible teams/companies.

KPI Ref.	Performance Requirement	Score	Comments/ Issues	Actions Required
			During the audit site visit, expectations of all community members with whom the IESC team met (e.g. in Golbasi and Kemer) had extremely high expectations of the SEIP and its available funding. Some community feedback included that grievances hadn't been raised during the course of construction because their expectation was that SEIP funding would be received. TANAP has a duty to clearly communicate that grievances should be raised and any impacts mitigated, regardless of any separate grant funding. The IESC advises close attention is paid to information disclosure regarding announcements of successful calls. The potential is high for further misinformation to spread within communities about applications, especially given that only 10% of applications are expected to be approved. TANAP may also anticipate a new phase of grievances to be raised.	

APPENDIX A:

SITE VISIT ITINERARY

Appendix A: Site Visit Itinerary

EBRD TANAP PROJECT SITE VISIT PROGRAMME						
Location		Activity	Date	Time	Duration	REMARKS
TANAP ANKARA OFFICE	A	Opening & Technical Meetings at Tanap Headquarters Please refer to previous sheet.	6/04/18			
LOT3	T&A	CONSTRUCTION & ENVIRONMENTAL TEAM Travel from Ankara to Gölbaşı - Haymana - Polatlı along the Route Visit to Reinstated RoW & Re-Countering Area from KP1142 to KP 1160 (BVS 35) Visit to Critical Habitat CH54 between KPs 1144-1145, Visit to Archeological Area & CH at Kp 1149, Visit to Söğütlü River Crossing (RVX38) at 1204+779 to monitor scour protection works. SOCIAL TEAM Ankara - Gölbaşı - Tepeyurt Mah KP 1143+726 - 1145+836	6/05/18	08:30 13:30	300 mins.	With Tanap project Vehicles
	A	Lunch and Tea break at POLATLI District (exact location to be decided)		13:30 14:30	60 mins.	
	A	CONSTRUCTION & ENVIRONMENTAL TEAM Visit to Eşkişehir Highway Crossing RDX1 at KP 1254 (+ / - sides) to monitor the Reinstated RoW & Erosion Control Measures		14:30 16:30	120 mins.	With Tanap project Vehicles
	T	Transfer to ESKISEHIR for Hotel Accomodation		16:30 18:00	90 mins.	with Tanap Project Vehicles Stay at Hilton Garden Inn
LOT4	T	Travel from Eskişehir Hotel to LOT4 - Spread 8 Lunch and Tea break on the way	6/6/2018	08:30 12:30	240 mins.	With Tanap Project Vehicles
	T&A	CONSTRUCTION & ENVIRONMENTAL TEAM Visit Construction Activities (Tie-In, Road & River Crossing, etc) civil & mechanical works AGI BVS 47 at KP 1622 -Tie-in at KP 1650 SOCIAL TEAM Visit BVS47 Affected village Kayaca / Manyas / Balıkesir Visit RoW affected village Yeniçiftlik / Biga / Çanakkale		12:30 15:00	150 mins.	With Tanap Project Vehicles
	T&A	CONSTRUCTION & ENVIRONMENTAL TEAM Visit AGI Construction Activities civil & mechanical works AGI CS7 at KP 1655 -Gönen river crossing KP 1661 SOCIAL TEAM Visit Kemer Village / Biga / Çanakkale (for Fisheries LRP Implementation)		15:00 18:30	150 mins.	With Tanap Project Vehicles
	T	Transfer to GELIBOLU for Hotel Accomodation		18:30 20:00	90 mins.	With Tanap Project Vehicles Stay at Hilton by Hampton
LOT4 OFFSHORE	T	Travel to OFFSHORE Construction Site	6/07/18	08:00 09:00	60 mins.	With Tanap project Vehicles
	A	CONSTRUCTION & ENVIRONMENTAL TEAM H&S Induction Training and OFFSHORE Europian Landfall Site Visit		09:00 10:30	90 mins.	With Tanap project Vehicles
	T&A	Travel to LOT4 Pig Station Construction Site		10:30 13:00	150 mins.	With Tanap project Vehicles
	T	Transfer from Offshore Site to İstanbul Airport and/or Ankara Lunch and Tea break on the way		17:00 18:00	240 mins.	with Tanap Project Vehicles and/or by Plane
TANAP ANKARA OFFICE	A	Technical and Close Out Meetings at TANAP Headquarters Please refer to previous sheet.	6/08/18			

APPENDIX B:

DOCUMENT REQUEST TABLE

Appendix B: Document Request Table

Document Number	Document Name	File Name	Author/ Company	Version	Date	ENV/Social
TNP-PLN-ENV-GEN-008	ENVIRONMENTAL MONITORING PLAN FOR OPERATIONS	18.02.07 TNP-PLN-ENV-GEN-008 Ops Env Monitoring Plan	TANAP	P3-A	09-04-18	ENV
TNP-PLN-ENV-GEN-009	POLLUTION PREVENTION PLAN FOR OPERATIONS	18.02.09 TNP-PLN-ENV-GEN-009 Ops Pollution Prevention Plan	TANAP	P3-A	09-04-18	ENV
TNP-PLN-ENV-GEN-010	ECOLOGICAL MANAGEMENT PLAN FOR OPERATIONS	18.02.09 TNP-PLN-ENV-GEN-010 Ecological Management Plan	TANAP	P3-A	09-04-18	ENV
TNP-PLN-ENV-GEN-007	WASTE MANAGEMENT PLAN FOR OPERATIONS	18.04.02 TNP-PLN-ENV-GEN-007 Waste Management Plan	TANAP	P3-A	12-04-18	ENV
CIN-PRQ-PRC-GEN-013	QUARTERLY ENVIRONMENTAL AND SOCIAL MONITORING REPORT (MAY – JULY 2017)	CIN-PRQ-PRC-GEN-013 Rev P3-C_12th quarterly monitoring	TANAP	P3-C	14-09-17	ENV/Social

Document Number	Document Name	File Name	Author/ Company	Version	Date	ENV/Social
CIN-PRQ-PRC-GEN-015	QUARTERLY ENVIRONMENTAL AND SOCIAL MONITORING REPORT (AUGUST – OCTOBER 2017)	CIN-PRQ-PRC-GEN-015 Rev P3-C_13th quarterly monitoring	TANAP	P3-C	08-12-17	ENV/Social
CIN-PRQ-PRC-GEN-017	QUARTERLY ENVIRONMENTAL AND SOCIAL MONITORING REPORT (NOVEMBER 2017 – JANUARY 2018)	CIN-PRQ-PRC-GEN-017 Rev P3-C_14th quarterly monitoring	TANAP	P3-C	02-03-18	ENV/Social
NA	APPENDIX C: ENVIRONMENTAL AND SOCIAL ACTION PLAN	EBR014_TANAP ESAP_Rev5_20170614.docx	TANAP	Rev 5	June 2017	ENV/Social
NA	ENVIRONMENTAL AND SOCIAL DUE DILIGENCE OF THE TRANS ANATOLIAN NATURAL GAS	EBR014_TANAP ESDD Report_Rev5_20170614	Sustainability Pty Ltd	Rev 5	June 2017	ENV/Social

Document Number	Document Name	File Name	Author/ Company	Version	Date	ENV/Social
	PIPELINE PROJECT					
NA	Independent Environmental and Social Due Diligence and Monitoring Assignment for TANAP Pipeline Construction Pre-Completion Phase – Monitoring Visit Report	EBR015_TANAP_ES_Monitoring_Report Rev3_Final	Sustainability Pty Ltd	Rev 3	12-12-17	ENV/Social
FRN-PLN-SOC-PL1-006	Retrenchment Management Plan	FRN-PLN-SOC-PL1-006-0_P4-0	TANAP	P4-0	14-10-17	ENV
NA	Grievance Data	GRIEVANCE DATA SEPT 2017_APR 2018	NA	NA	NA	Social
TKF-PLN-ENV-PL3-007	Tekfen Erosion, Reinstatement and Landscaping Plan	LOT 3 Tekfen Erosion Control and Stabilisation Plan	TANAP/WorleyParsons	P4-0	30-06-15	ENV

Document Number	Document Name	File Name	Author/ Company	Version	Date	ENV/Social
PLK-PLN-ENV-PL4-002	EROSION, REINSTATEMENT AND LANDSCAPING PLAN	LOT 4 PLK-PLN-ENV-PL4-002_P4-2	TANAP/WorleyParsons	P4-2	01-07-16	ENV
SPK-PLN-ENV-DAR-002	Construction Impact Management Plan	P4-0 Construction Impact Management Plan	TANAP/SapuraKencana	P4-0	07-03-17	ENV
SPK-PLN-ENV-DAR-007	Environmental Emergency Response Plan	P4-1 Environmental Emergency Response Plan	TANAP/SapuraKencana	P4-1	08-07-17	ENV
SPK-REP-ENV-DAR-007	Environmental Monitoring Report (During Construction)	P4-C Environmental Monitoring Report (During Construction)	TANAP/Sapura energy	P4-C	16-04-18	ENV
PLK-PLN-SOC-PL4-007	RETRENCHMENT MANAGEMENT PLAN	PLK-LOT4_RETRENCHMENT MANAGEMENT PLAN_P4-0	TANAP	P4-0	17-04-18	ENV
Excel Spreadsheet	Retrenching Status	Retrenching Status ALL_20180516	TANAP	NA	NA	ENV

Document Number	Document Name	File Name	Author/ Company	Version	Date	ENV/Social
Excel Spreadsheet	Turbidity Monitoring	Sapura_Turbidity_Monitoring_Data_All_European_Side	Sapura energy	NA	NA	ENV
NA	Turbidity Monitoring Table (European Side)	Sapura_Turbidity_Monitoring_Table_European_Side	Encon Laboratuvari A.Ş	NA	NA	ENV
SPK-PLN-ENV-DAR-002	Construction Impact Management Plan	SPK-PLN-ENV-DAR-002-P4-4	TANAP/Sapura energy	P4-4	09-12-17	ENV
SPK-PLN-ENV-DAR-005	Pollution Prevention Plan	SPK-PLN-ENV-DAR-005-P4-4	TANAP/Sapura energy	P4-4	12-01-18	ENV
SPK-PLN-ENV-DAR-007	Environmental Emergency Response Plan	SPK-PLN-ENV-DAR-007-P4-4	TANAP/Sapura energy	P4-4	08-12-17	ENV
NA	SUMMARY REPORT ON PUBLIC HEALTH TRAINING PROGRAMME	SUMMARY REPORT ON PUBLIC HEALTH TRAINING PROGRAMME	TANAP	NA	April 2018	Social

Document Number	Document Name	File Name	Author/ Company	Version	Date	ENV/Social
SYA-PLN-SOC-GEN-005	RETRENCHMENT PLAN	SYA-PLN-SOC-GEN-005	TANAP	P4-1	31-03-17	ENV
NA	TANAP Monitoring Visit 2018	TANAP Monitoring Visit 2018 Agenda_Rev0	Sustainability Pty Ltd	Rev 0	NA	ENV/Social
Excel Spreadsheet	Site Visit Schedule	Tanap_EBRD Mon. visit schedule_2018.04.20	TANAP	NA	20-04-18	Social
Excel Spreadsheet	Site Visit Schedule	Tanap_EBRD Mon. visit schedule_2018.04.20_Rev1_final	TANAP	Rev 1	20-04-18	Social
TKF-PLN-ENV-PL3-016	TEKFEN Employment And Training Plan	TKF-PLN-ENV-PL3-016	TANAP/TEKFEN	P4-1	25-01-17	Social
Excel Spreadsheet	Total No of Workers by Lots (April 2018)	Total No of Workers by Lots (April 2018)	TANAP	NA	April 2018	Social
TNP-PLN-SOC-GEN-001	Stakeholder Engagement Plan	TANAP Stakeholder Engagement Plan	TANAP	P3-3	28-08-17	Social

Document Number	Document Name	File Name	Author/ Company	Version	Date	ENV/Social
TNP-PCD-SOC-GEN-004	Grievance Management Procedure For Operations	Grievance Management Procedure For Operations	TANAP	P3-B	18-04-18	Social
TNP-PLN-SOC-GEN-001	ANNEX 2 RAP-SPECIFIC STAKEHOLDER ENGAGEMENT IMPLEMENTATION GUIDELINE	Annex 2_RAP-specific Stakeholder Engagement Implementation Guideline	TANAP	P3-3	28-08-17	Social
TNP-PLN-SOC-GEN-012	SOCIAL ACTION PLAN FOR OPERATIONS	Social Action Plan for Operations_Apr2018_Draft	TANAP	P3-A	25-04-18	Social
TNP-PLN-SOC-GEN-001	ANNEX 1 STAKEHOLDER ENGAGEMENT IMPLEMENTATION GUIDELINE FOR CONSTRUCTION PHASE	Annex 1_Stakeholder Engagement Implementation Guideline For Construction Phase	TANAP	P3-3	28-08-17	Social
TNP-PLN-SOC-GEN-00X	ANNEX 3 STAKEHOLDER ENGAGEMENT IMPLEMENTATIO	Annex 3_Stakeholder Engagement Implementation Guideline For Operations_Apr2018_Draft	TANAP	NA	19-04-18	Social

Document Number	Document Name	File Name	Author/ Company	Version	Date	ENV/Social
	N GUIDELINE FOR OPERATIONS					
TNP-PLN-SOC-GEN-003	SOCIAL MONITORING PLAN	Social Monitoring Plan for Operations_Apr2018_Draft	TANAP	P3-1	18-07-16	Social
SPK-PCD-COM-DAR-001	Cleaning / Gauging / Filling and Hydro Testing Procedure	SPK-PCD-COM-DAR-001-P4-0	TANAP/Sapura energy	P4-0	16-05-18	ENV
SPK-PER-PAL-DAR-033	Hydrostatic Test Water Supply Permit from Kavakkoy Authority	SPK-PER-PAL-DAR-033-P4-1	TANAP/Sapura energy	P4-1	16-05-18	ENV
SPK-PLN-QAC-DAR-016	Inspection and Test Plan For Hydrostatic Test Headers and Hydrostatic Testing Activities (Cleaning, Gauging,	SPK-PLN-QAC-DAR-016-P4-C	TANAP/Sapura energy	P4-C	27-04-18	ENV

Document Number	Document Name	File Name	Author/ Company	Version	Date	ENV/Social
	Hydrotesting, Drying)					
NA	H&S Performance, April 2018	TANAP_ April 2018_HS KPI	TANAP	NA	NA	Social

APPENDIX C

COMPLIANCE AGAINST IFC EHS GUIDELINES

Appendix C: IFC EHS Guidelines Compliance Assessment Table

Demonstrates Compliance	Item is considered in compliance with Local and/or International requirements/standards (based on IESC review of TANAP ESIA)
Compliance Anticipated	Item is considered in compliance with Local and/or International requirements/standards (based on IESC site visit of construction corridor and TANAP operational standards and existing construction phase Environment, Social and OHS documentation)
Partial Compliance	Project's progress and/or information/data available to date are partially adequate to fulfil Local and/or International requirements/standards, further work is needed to achieve compliance
Not Applicable	Item does not apply to this Project

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.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
1.4. Facilities or projects located within poor quality airsheds, and within or next to areas established as ecologically sensitive (e.g. national parks), should ensure that any increase in pollution levels is as small as feasible, and amounts to a fraction of the applicable short-term and annual average air quality guidelines or standards as established in the project-specific environmental assessment. Suitable mitigation measures should also include the relocation of significant sources of	**Demonstrates Compliance**

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.	
Point Sources	
1.5. The stack height for all point sources of emissions should be designed according to good international industry practice (GIP).	**Compliance Anticipated**
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 Applicable**
Fugitive Sources	
1.7. Volatile Organic Compounds (VOC) emissions associated with equipment leaks should be prevented and controlled by techniques including: • Equipment modifications; • Implementation a leak detection and repair (LDAR) program that controls fugitive emissions by regularly monitoring to detect leaks, and implementing repairs within a predefined time period; • Substitution of less volatile substances; • Collection of vapours through air extractors and subsequent; • Treatment with destructive control devices; • Use of floating roofs on storage tanks.	**Demonstrates Compliance**
1.8. Dust control methods should be implemented to prevent particulate matter (dust) emissions including the following: • Covers, water suppression, or increased moisture content for open materials storage piles; • Use of water suppression for control of loose materials on paved or unpaved road surfaces.	**Demonstrates Compliance**
1.9. Open burning of solid wastes, whether hazardous or nonhazardous, is not considered good practice and should be avoided.	**Demonstrates Compliance**
1.10. No new systems or processes should be installed using CFCs, halons, 1,1,1-trichloroethane, carbon tetrachloride, methyl bromide or HBFCs.	**Demonstrates Compliance**
Mobile Sources – Land-based	
1.11 Emissions from on-road and off-road vehicles should comply with national or regional programs. In the absence of these, the following approach should be considered: • Implementation of the manufacturer recommended engine maintenance programs; • Drivers should be instructed on the benefits of driving practices that reduce both the risk of accidents and fuel consumption, including measured acceleration and driving within safe speed limits; • Operators with fleets of 120 or more units of heavy duty vehicles, or 540 or more light duty vehicles within an airshed should consider additional ways to reduce potential impacts including replacing older vehicles with newer, more fuel efficient alternatives; Converting high-use vehicles to cleaner fuels, where feasible; • Installing and maintaining emissions control devices, such as catalytic converters; Implementing a regular vehicle maintenance and repair program.	**Demonstrates Compliance**

Greenhouse Gases (GHGs)	
1.12. The following measures should be implemented to reduce and control greenhouse gases: • Protection and enhancement of sinks and reservoirs of greenhouse gases; • Carbon capture technologies; • Limitation and / or reduction of methane emissions; • Enhancement of energy efficiency.	**Demonstrates Compliance**
Air quality monitoring	
1.13. Air quality monitoring program should be developed. The monitoring parameters selected should reflect the pollutants of concern associated with project processes. The air quality monitoring program should consider the following elements: • baseline calculations; • monitoring type and frequency (data on emissions and ambient air quality generated through the monitoring program should be representative of the emissions discharged by the project over time); • monitoring locations; • sampling and analysis methods (monitoring programs should apply national or international methods for sample collection and analysis).	**Demonstrates Compliance**
1.14. Annual Stack Emission Testing of boilers with capacities between =3 MWth and < 20 MWth should be carried out to control SO2, NOx and PM (for gaseous fuel- fired boilers, only NOx). SO2 can be calculated based on fuel quality certification if no SO2 control equipment is used. If Annual Stack Emission Testing demonstrates results consistently and significantly better than the required levels, frequency of Annual Stack Emission Testing can be reduced from annual to every two or three years. Annual Stack Emission Testing of boilers with capacities between =20 MWth and < 50 MWth should be carried out to control SO2, NOx and PM (for gaseous fuel-fired boilers, only NOx). Emission Monitoring: • SO2. Plants with SO2 control equipment: Continuous. • NOx: Continuous monitoring of either NOx emissions or indicative NOx emissions using combustion parameters. • PM: Continuous monitoring of either PM emissions, opacity, or indicative PM emissions using combustion parameters / visual monitoring.	**N/A, to be checked during operations**
1.14. Air quality monitoring for turbines should include: • Annual Stack Emission Testing: NOx, SO2 and PM (NOx only for gaseous fuel-fired diesel engines). • If Annual Stack Emission Testing results show constantly (3 consecutive years) and significantly (e.g. less than 75 percent) better than the required levels, frequency of Annual Stack Emission Testing can be reduced from annual to every two or three years. • 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.	**N/A, to be checked during operations**
2. Energy Conservation	
Energy Management Programs	

2.1. Energy management programs should include the following elements: • Identification, and regular measurement and reporting of principal energy flows within a facility at unit process level; • Preparation of mass and energy balance; • Definition and regular review of energy performance targets, which are adjusted to account for changes in major influencing factors on energy use; • Regular comparison and monitoring of energy flows with performance targets to identify where action should be taken to reduce energy use; • Regular review of targets, which may include comparison with benchmark data, to confirm that targets are set at appropriate levels.	**Compliance Anticipated**
Energy Efficiency	
2.2. For any energy-using system, a systematic analysis of energy efficiency improvements and cost reduction opportunities should include a hierarchical examination of opportunities to: • Demand/Load Side Management by reducing loads on the energy system; • Supply Side Management by reduce losses in energy distribution; improve energy conversion efficiency; exploit energy purchasing opportunities; use lower- carbon fuels.	**Compliance Anticipated**
2.3. In process heating systems, a system heat and mass balance should be developed for examination of savings opportunities.	**Compliance Anticipated**
2.4. Special measures for heating load reduction should be used including the following: • Ensure adequate insulation to reduce heat losses through furnace/oven etc. structure; • Recover heat from hot process or exhaust streams to reduce system loads; • In intermittently-heated systems, consider use of low thermal mass insulation to reduce energy required to heat the system structure to operating temperature; • Control process temperature and other parameters accurately to avoid, for example, overheating or overdrying; • Examine opportunities to use low weight and/or low thermal mass product carriers, such as heated shapers, kiln cars etc.; • Review opportunities to schedule work flow to limit the need for process reheating between stages; • Operate furnaces/ovens at slight positive pressure, and maintain air seals to reduce air in-leakage into the heated system, thereby reducing the energy required to heat unnecessary air to system operating temperature; • Robust Scheduled maintenance programs.	**Compliance Anticipated**
2.5. Losses in heat distribution systems should be reduced through the following actions: • Promptly repair distribution system leaks; • Regularly verify correct operation of steam traps in steam systems, and ensure that traps are not bypassed; • Insulate distribution system vessels, such as hot wells and de-aerators, in steam systems and thermal fluid or hot water storage tanks; • In steam systems, return condensate to the boiler house for re-use, since condensate is expensive boiler-quality water and valuable beyond its heat content alone.	**Compliance Anticipated**

2.6. The following efficiency opportunities should be examined for process furnaces or ovens, and utility systems, such as boilers and fluid heaters: • Regularly monitor CO, oxygen or CO2 content of flue gases to verify that combustion systems are using the minimum practical excess air volumes; • Consider combustion automation using oxygen-trim controls; • Minimise the number of boilers or heaters used to meet loads; • Use flue dampers to eliminate ventilation losses from hot boilers held at standby; • Maintain clean heat transfer surfaces; • In steam boiler systems, use economisers to recover heat from flue gases to pre-heat boiler feed water or combustion air; • Adopt automatic (continuous) boiler blowdown; • Recover heat from blowdown systems through flash steam recovery or feed- water preheat; • With fired heaters, consider opportunities to recover heat to combustion air through the use of recuperative or regenerative burner systems; • Oxy Fuel burners; • Fuel quality control/fuel blending and etc.	**Compliance Anticipated**
2.7. Special measures to improve process cooling efficiency should be used including the following: • Ensure adequate insulation; • Control process temperature; • Operate cooling tunnels at slight positive pressure and maintain air seals to reduce air in-leakage into the cooled system; • Examine opportunities to pre-cool using heat recovery to a process stream requiring heating, or by using a higher temperature cooling utility; • In cold and chill stores, minimise heat gains to the cooled space by use of air curtains, entrance vestibules, or rapidly opening/closing doors; • Do not use refrigeration for auxiliary cooling duties, such as compressor cylinder head or oil cooling; • Use energy efficiency techniques in air conditioning applications.	**Compliance Anticipated**
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 : • examination of each true user of compressed air to identify the air volume needed and the pressure at which this should be delivered; • air use reduction opportunities review.	**Compliance Anticipated**

2.12. Monitoring of pressure losses in filters should be provided. Adequately sized distribution pipework designed to minimise pressure losses should be used.	**Compliance Anticipated**
3. Wastewater and Ambient Water Quality	
General applicability and approach	
3.1. In the context of their overall ESHS management system, facilities should understand the quality, quantity, frequency and sources of liquid effluents in its installations.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
3.5. Water use efficiency should be provided to reduce the amount of wastewater generation.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
3.7. When wastewater treatment is required prior to discharge, the level of treatment should be based on: • National and local standards as reflected in permit requirements and sewer system capacity to convey and treat wastewater if discharge is to sanitary sewer; • Assimilative capacity of the receiving water for the load of contaminant being discharged wastewater if discharge is to surface water; • Intended use of the receiving water body; • Presence of sensitive receptors; • GIP for the relevant industry sector.	**Demonstrates Compliance**
Liquid Effluent Quality	
3.8. Discharges of process wastewater, sewage, wastewater from utility operations or rainwater to surface water should not result in contaminant concentrations in excess of local ambient water quality criteria or, in the absence of local criteria, other sources of ambient water quality. Receiving water use and assimilative capacity, taking other sources of discharges to the receiving water into consideration, should also influence the acceptable pollution loadings and effluent discharge quality. Temperature of wastewater prior to discharge should not result in an increase greater than 3°C of ambient temperature at the edge of a scientifically established mixing zone which takes into account ambient water quality, receiving water use and assimilative capacity among other considerations.	**Demonstrates Compliance**
3.9. Discharges of industrial wastewater, sewage, wastewater from utility operations or rainwater into public or private wastewater treatment systems should: • Meet the pre-treatment and monitoring requirements of the sewer treatment system into which it discharges;	**Demonstrates Compliance**

• Not interfere, directly or indirectly, with the operation and maintenance of the collection and treatment systems, or pose a risk to worker health and safety, or adversely impact characteristics of residuals from wastewater treatment operations; • Be discharged into municipal or centralised wastewater treatment systems that have adequate capacity to meet local regulatory requirements for treatment of wastewater Generated from the project. Pre-treatment of wastewater to meet regulatory requirements before discharge from the project site is required if the municipal or centralised wastewater treatment system receiving wastewater from the project does not have adequate capacity to maintain regulatory compliance.	
3.10. The quality of treated process wastewater, wastewater from utility operations or rainwater discharged on land, including wetlands, should be established based on local regulatory requirements. Where land is used as part of the treatment system and the ultimate receptor is surface water, water quality guidelines for surface water discharges specific to the industry sector process should apply. Potential impact on soil, groundwater, and surface water, in the context of protection, conservation and long term sustainability of water and land resources should be assessed when land is used as part of any wastewater treatment system.	**Demonstrates Compliance**
3.11. Septic systems should be used for treatment and disposal of domestic sanitary sewage in areas with no sewerage collection networks. When septic systems are the selected form of wastewater disposal and treatment, they should be: • Properly designed and installed in accordance with local regulations and guidance to prevent any hazard to public health or contamination of land, surface or groundwater. • Well maintained to allow effective operation. • Installed in areas with sufficient soil percolation for the design wastewater loading rate. • Installed in areas of stable soils that are nearly level, well drained, and permeable, with enough separation between the drain field and the groundwater table or other receiving waters.	**Demonstrates Compliance**
3.12. Treatment technologies should be used to achieve the desired discharge quality for process wastewater and to maintain consistent compliance with regulatory requirements. The design and operation of the selected wastewater treatment technologies should avoid uncontrolled air emissions of volatile chemicals from wastewaters. Residuals from industrial wastewater treatment operations should be disposed in compliance with local regulatory requirements. Recommended water management strategies for utility operations include: • Adoption of water conservation opportunities for facility cooling systems; • Use of heat recovery methods or other cooling methods to reduce the temperature of heated water prior to discharge to ensure the discharge water temperature does not result in an increase greater than 3°C of ambient temperature; • Minimising use of antifouling and corrosion inhibiting chemicals by ensuring appropriate depth of water intake and use of screens; • Testing for residual biocides and other pollutants of concern should be conducted to determine the need for dose adjustments or treatment of cooling water prior to discharge. Rainwater should be separated from process and sewage streams. Surface runoff from process areas or potential sources of contamination should be prevented. Runoff from process and storage areas should be segregated from potentially less contaminated runoff. Runoff from areas without potential sources of contamination should be minimised. Sludge from rainwater catchments or collection and treatment systems should be disposed in compliance with local regulatory requirements, in the	**Demonstrates Compliance**

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.	
3.13. Recommended sewage management strategies include: • Segregation of wastewater streams to ensure compatibility with selected treatment option; • Segregation and pre-treatment of oil and grease containing effluents prior to discharge into sewer systems; • If sewage from the industrial facility is to be discharged to surface water, treatment to meet national or local standards for sewage discharges; • If sewage from the industrial facility is to be discharged to either a septic system, or where land is used as part of the treatment system, treatment to meet applicable national or local standards for sewage discharges is required; • Sludge from sewage treatment systems should be disposed in compliance with local regulatory requirements.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
4. Water Conservation	
Water conservation program	
4.1. Water conservation programs should be implemented commensurate with the magnitude and cost of water use. These programs should promote the continuous reduction in water consumption and achieve savings in the water pumping, treatment and disposal costs.	**Demonstrates Compliance**
4.2. The essential elements of a water management program should involve: • Identification, regular measurement, and recording of principal flows within a facility. • Definition and regular review of performance targets, which are adjusted to account for changes in major factors affecting water use. • Regular comparison of water flows with performance targets to identify where action should be taken to reduce water use. 4.3. Water should be reused in multi-stage washing and rinsing processes or from one process for another with less exacting water quality requirements.	**Demonstrates Compliance**
4.4. Measures for water saving should be implemented to reduce consumption of building and sanitary water, including: • Regularly maintain plumbing, and identify and repair leaks; • Install self-closing taps, automatic shut-off valves, spray nozzles, pressure reducing valves, and water conserving fixtures; • Operate dishwashers and laundries on full loads, and only when needed; • Install water-saving equipment in lavatories, such as lowflow toilets.	**Demonstrates Compliance**
4.5. Water conservation opportunities in cooling systems should include: • Use of closed circuit cooling systems with cooling towers rather than once-through cooling systems; • Limiting condenser or cooling tower blowdown to the minimum required to prevent unacceptable accumulation of dissolved solids; • Use of air cooling rather than evaporative cooling; • Use of treated waste water for cooling towers;	**Demonstrates Compliance**

• Reusing/recycling cooling tower blowdown.	
4.6. Large quantities of water may be used by steam systems, and this should be reduced by the following measures: • Repair of steam and condensate leaks, and repair of all failed steam traps; • Return of condensate to the boiler house, and use of heat exchangers (with condensate return) rather than direct steam injection where process permits; • Flash steam recovery; • Minimising boiler blowdown consistent with maintaining acceptably low dissolved solids in boiler water; • Minimising deaerator heating.	**Demonstrates Compliance**
5. Hazardous Materials Management	
General Hazardous Materials Management	
5.1. The level of risk should be established through an on-going assessment process based on: • The types and amounts of hazardous materials present in the project. • Analysis of potential spill and release scenarios using available industry statistics on spills and accidents where available. • Analysis of the potential for uncontrolled reactions such as fire and explosions. • Analysis of potential consequences based on the physical geographical characteristics of the project site, including aspects such as its distance to settlements, water resources, and other environmentally sensitive areas.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
5.4. The plan should be tailored to the hazards associated with the project, and include: • Training of Operators on release prevention, including drills specific to hazardous materials as part of emergency preparedness response training; • Implementation of inspection programs to maintain the mechanical integrity and operability of pressure vessels, tanks, piping systems, relief and vent valve systems, containment infrastructure, emergency shutdown systems, controls and pumps, and associated process equipment; • Preparation of written Standard Operating Procedures (SOPs) for filling USTs, ASTs or other containers or equipment as well as for transfer operations by personnel trained in the safe transfer and filling of the hazardous material, and in spill prevention and response; • SOPs for the management of secondary containment structures; • Identification of locations of hazardous materials and associated activities on an emergency plan site map; • Documentation of availability of specific personal protective equipment and training needed to respond to an emergency; • Documentation of availability of spill response equipment; • Description of response activities in the event of a spill, release, or other chemical emergency.	**Demonstrates Compliance**

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

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.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
5.11. Storage of drummed hazardous materials with a total volume equal or greater than 1,000 liters should be affected in areas with impervious surfaces that are sloped or bermed to contain a minimum of 25 percent of the total storage volume.	**Partial Compliance**
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.	**Demonstrates Compliance**
5.13. Leak detection may be used in conjunction with secondary containment, particularly in high-risk locations. Leak detection is especially important in situations where secondary containment is not feasible or practicable, such as in long pipe runs. Acceptable leak detection methods include: • Use of automatic pressure loss detectors on pressurised or long distance piping; • Use of approved or certified integrity testing methods on piping or tank systems, at regular intervals; • Considering the use of SCADA if financially feasible.	**Demonstrates Compliance**
5.14. Special measures should be implemented for underground storage of hazardous materials to manage the risks of fire or explosion, vapor losses into the atmosphere, leaks of hazardous materials, including: • Avoiding use of USTs for storage of highly soluble organic materials; • Assessing local soil corrosion potential, and installing and maintaining cathodic protection (or equivalent rust protection) for steel tanks; • For new installations, installing impermeable liners or structures under and around tanks and lines that direct any leaked product to monitoring ports at the lowest point of the liner or structure; • Monitoring the surface above any tank for indications of soil movement; • Reconciling tank contents by measuring the volume in store with the expected volume, given the stored quantity at last stocking, and deliveries to and withdrawals from the store; • Testing integrity by volumetric, vacuum, acoustic, tracers, or other means on all tanks at regular intervals; • Evaluating the risk of existing UST in newly acquired facilities to determine if upgrades are required for USTs that will be continued to be used, including replacement with new systems or permanent closure of abandoned USTs.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
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:	**Demonstrates Compliance**

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

6.5. Processes should be designed and operated to prevent, or minimise, the quantities of wastes generated, and hazards associated with the wastes generated in accordance with the following strategy: • Substituting raw materials or inputs with less hazardous or toxic materials, or with those where processing generates lower waste volumes; • Applying manufacturing process that convert materials efficiently; • Instituting good housekeeping and operating practices, including inventory control to reduce the amount of waste resulting from materials that are out-of- date, off-specification, contaminated, damaged, or excess to plant needs; • Instituting procurement measures that recognise opportunities to return usable materials such as containers and which prevents the over ordering of materials; • Minimising hazardous waste generation by implementing stringent waste segregation to prevent the commingling of non-hazardous and hazardous waste to be managed.	**Demonstrates Compliance**
6.6. Total amount of waste may be significantly reduced through the implementation of recycling plans, which should consider the following elements: • Identification and recycling of products that can be reintroduced into the manufacturing process or industry activity at the site; • Investigation of external markets for recycling by other industrial processing operations located in the neighbourhood or region of the facility; • Providing training and incentives to employees in order to meet objectives.	**Demonstrates Compliance**
6.7. If waste materials are still generated after the implementation of feasible waste prevention, reduction, reuse, recovery and recycling measures, waste materials should be treated and disposed of and all measures should be taken to avoid potential impacts to human health and the environment. Such measures should include the following: • On-site or off-site biological, chemical, or physical treatment of the waste material to render it nonhazardous prior to final disposal; • Treatment or disposal at permitted facilities specially designed to receive the waste.	**Demonstrates Compliance**
6.8. In the absence of qualified commercial or government-owned waste vendors and disposal Operators (taking into consideration proximity and transportation requirements), facilities generating waste should consider using: • Have the technical capability to manage the waste in a manner that reduces immediate and future impact to the environment; • Installing on-site waste treatment or recycling processes; • As a final option, constructing facilities that will provide for the environmental sound long-term storage of wastes on-site or at an alternative appropriate location up until external commercial options become available.	**Demonstrates Compliance**
<u>Waste storage</u>	
6.9. Wastes should be stored in a manner that prevents the commingling or contact between incompatible wastes.	**Partial Compliance**
6.10. Different type of wastes should be stored in different closed containers away from direct sunlight, wind and rain.	**Demonstrates Compliance**
6.11. Periodic inspections of waste storage areas should be conducted with documenting the findings.	**Demonstrates Compliance**
6.12. Secondary containment should be included wherever liquid wastes are stored in volumes greater than 220 liters. The available volume of secondary containment should	**Demonstrates Compliance**

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.	
6.13. Adequate ventilation should be provided where volatile wastes are stored.	**Demonstrates Compliance**
6.14. Hazardous waste storage activities should also be subject to special management actions, conducted by employees who have received specific training in handling and storage of hazardous wastes: • Provision of readily available information on chemical compatibility to employees, including labelling each container to identify its contents; • Clearly identifying (label) and demarcating the area, including documentation of its location on a facility map or site plan; • Conducting periodic inspections of waste storage areas and documenting the findings; • Preparing and implementing spill response and emergency plans to address their accidental release; • Avoiding underground storage tanks and underground piping of hazardous waste.	**Demonstrates Compliance**
Transportation	
6.15. On-site and Off-site transportation of waste should be conducted so as to prevent or minimise spills, releases, and exposures to employees and the public. All waste containers designated for off-site shipment should be secured and labeled with the contents and associated hazards, be properly loaded on the transport vehicles before leaving the site, and be accompanied by a shipping paper that describes the load and its associated hazards.	**Demonstrates Compliance**
Monitoring	
6.16. Monitoring activities associated with the management of hazardous and non-hazardous waste should include: • Regular visual inspection of all waste storage collection and storage areas for evidence of accidental releases and to verify that wastes are properly labelled and stored. • Regular audits of waste segregation and collection practices; • Periodic auditing of third party treatment, and disposal services including re-use and recycling facilities when significant quantities of hazardous wastes are managed by third parties; • Regular monitoring of groundwater quality in cases of Hazardous Waste on site storage and/or pre-treatment and disposal.	**Partial Compliance**
7. Noise	
Prevention and Control	
7.1. Noise impacts should not exceed the following levels: • 55 One Hour LAeq (dBA) at daytime for residential; institutional; educational receptors; • 45 One Hour LAeq (dBA) at night time for residential; institutional; educational receptors; • 70 One Hour LAeq (dBA) at daytime and night time for industrial; commercial receptors.	**Demonstrates Compliance**
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	**Compliance Anticipated**

noise level guideline at the most sensitive point of reception. Noise reduction options that should be considered include: • Selecting equipment with lower sound power levels; • Installing silencers for fans; • Installing suitable mufflers on engine exhausts and compressor components; • Installing acoustic enclosures for equipment casing radiating noise; • Improving the acoustic performance of constructed buildings, apply sound insulation; • Limiting the hours of operation for specific pieces of equipment or operations, especially mobile sources operating through community areas; • Reducing project traffic routing through community areas wherever possible • Developing a mechanism to record and respond to complaints.	
Monitoring	
7.3. Noise monitoring programs should be designed and conducted by trained specialists. Typical monitoring periods should be sufficient for statistical analysis.	**Demonstrates Compliance**
8. Contaminated Land	
Prevention of land contamination	
8.1. Contamination of land should be avoided by preventing or controlling the release of hazardous materials, hazardous wastes, or oil to the environment.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
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: • Identification of the location of suspected highest level of contamination through a combination of visual and historical operational information; • Sampling and testing of the contaminated media (soils or water); • Evaluation of the analytical results against the local and national contaminated sites regulations; • Verification of the potential human and/or ecological receptors and exposure pathways relevant to the site in question.	**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. 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**
Occupational Health and Safety	
9. General Facility Design and Operation	
Integrity of Workplace Structures	
9.1. Permanent and recurrent places of work should be designed and equipped to protect OHS: • Surfaces, structures and installations should be easy to clean and maintain, and not allow for accumulation of hazardous compounds; • Buildings should be structurally safe, provide appropriate protection against the climate, and have acceptable light and noise conditions; • Fire resistant, noise-absorbing materials should, to the extent feasible, be used for cladding on ceilings and walls; • Floors should be level, even, and non- skid; • Heavy oscillating, rotating or alternating equipment should be located in dedicated buildings or structurally isolated sections.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
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.	**Compliance Anticipated**
Workspace and Exit	
9.4. The space provided for each worker, and in total, should be adequate for safe execution of all activities, including transport and interim storage of materials and products. Passages to emergency exits should be unobstructed at all times. Exits should be clearly marked to be visible in total darkness. The number and capacity of emergency exits should be sufficient for safe and orderly evacuation of the greatest number of people present at any time, and there should be a minimum two exits from any work area. Facilities also should be designed and built taking into account the needs of disabled persons.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
9.6. Facilities should be equipped with fire detectors, alarm systems, and fire-fighting equipment. The equipment should be maintained in good working order and be readily accessible. It should be adequate for the dimensions and use of the premises, equipment installed, physical and chemical properties of substances present, and the maximum number of people present.	**Demonstrates Compliance**

9.7. Fire and emergency alarm systems that are both audible and visible.	**Demonstrates Compliance**
Lavatories and Showers	
9.8. Adequate lavatory facilities (toilets and washing areas) should be provided for the number of people expected to work in the facility and allowances made for segregated facilities, or for indicating whether the toilet facility is "In Use" or "Vacant". Toilet facilities should also be provided with adequate supplies of hot and cold running water, soap, and hand drying devices. Where workers may be exposed to substances poisonous by ingestion and skin contamination may occur, facilities for showering and changing into and out of street and work clothes should be provided.	**Partial Compliance**
9.9. Adequate supplies of potable drinking water should be provided from a fountain with an upward jet or with a sanitary means of collecting the water for the purposes of drinking. Water supplied to areas of food preparation or for the purpose of personal hygiene (washing or bathing) should meet drinking water quality standards.	**Partial Compliance**
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.	**Demonstrates Compliance**
Safe Access	
9.11. Passageways for pedestrians and vehicles within and outside buildings should be segregated and provide for easy, safe, and appropriate access.	**Demonstrates Compliance**
9.12. Equipment and installations requiring servicing, inspection, and/or cleaning should have unobstructed, unrestricted, and ready access.	**Demonstrates Compliance**
9.13. Hand, knee and foot railings should be installed on stairs, fixed ladders, platforms, permanent and interim floor openings, loading bays, ramps, etc.	**Demonstrates Compliance**
9.14. Openings should be sealed by gates or removable chains.	**Demonstrates Compliance**
9.15. Covers should, if feasible, be installed to protect against falling items.	**Demonstrates Compliance**
9.16. Measures to prevent unauthorised access to dangerous areas should be in place.	**Demonstrates Compliance**
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.	**Partial Compliance**
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.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
10. Communication and Training	
OHS Training	
10.1. Provisions should be made to provide OHS orientation training to all new employees.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
10.5. A basic occupational training program and specialty courses should be provided, as needed, to ensure that workers are oriented. Workers with rescue and first-aid duties should receive dedicated training so as not to inadvertently aggravate exposures and health hazards to themselves or their coworkers. Training would include the risks of becoming infected with blood–borne pathogens through contact with bodily fluids and tissue. Through appropriate contract specifications and monitoring, the employer should ensure that service providers, as well as contracted and subcontracted labor, are trained adequately before assignments begin.	**Demonstrates Compliance**
Area Signage, Labelling of Equipment, Communicate Hazard Codes	
10.6. Hazardous areas (electrical rooms, compressor rooms, etc.), installations, materials, safety measures, and emergency exits, etc. should be marked appropriately. Signage should be in accordance with international standards and be well known to, and easily understood by workers, visitors and the general public as appropriate.	**Demonstrates Compliance**
10.7. All vessels that may contain substances that are hazardous as a result of chemical or toxicological properties, or temperature or pressure, should be labeled as to the contents and hazard, or appropriately color coded. Similarly, piping systems that contain hazardous substances should be labeled with the direction of flow and contents of the pipe, or color coded whenever the pipe passing through a wall or floor is interrupted by a valve or junction device.	**Demonstrates Compliance**

10.8. Copies of the hazard coding system should be posted outside the facility at emergency entrance doors and fire emergency connection systems.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
11. Physical Hazards	
Rotating and Moving Equipment	
11.1. Machines design should eliminate trap hazards and ensuring that extremities are kept out of harm's way under normal operating conditions. Where a machine or equipment has an exposed moving part or exposed pinch point that may endanger the safety of any worker, the machine or equipment should be equipped with, and protected by, a guard or other device that prevents access to the moving part or pinch point. Guards should be designed and installed in conformance with appropriate machine safety standards.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
11.3. Designing and installing equipment, where feasible, to enable routine service, such as lubrication, without removal of the guarding devices or mechanisms.	**Demonstrates Compliance**
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).	**Demonstrates Compliance**
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).	**Demonstrates Compliance**
11.6. For every 3 dB(A) increase in sound levels, the 'allowed' exposure period or duration should be reduced by 50 percent.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
11.8. Periodic medical hearing checks should be performed on workers exposed to high noise levels.	**Demonstrates Compliance**
Vibration	
11.9. Exposure to hand-arm vibration from equipment such as hand and power tools, or whole-body vibrations from surfaces on which the worker stands or sits, should be controlled through choice of equipment, installation of vibration dampening pads or	**Demonstrates Compliance**

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.	
Electrical	
11.10. All energised electrical devices and lines should be marked with warning signs.	**Partial Compliance**
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.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
11.14. Power cords and extension cords should be protected against damage from traffic by shielding or suspending above traffic areas.	**Demonstrates Compliance**
11.15. Use of appropriate labeling of service rooms housing high voltage equipment ('electrical hazard') and where entry is controlled or prohibited.	**Demonstrates Compliance**
11.16. "No Approach" zones should be established around or under high voltage power lines.	**Partial Compliance**
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.	**Demonstrates Compliance**
11.18. Conduct detailed identification and marking of all buried electrical wiring prior to any excavation work.	**Demonstrates Compliance**
Eye Hazards	
11.19. Use of machine guards or splash shields and/or face and eye protection devices, such as safety glasses with side shields, goggles, and/or a full face shield. Machine and equipment guarding should conform to standards published by organisations such as CSA, ANSI and ISO.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
11.21. Provisions should be made for persons who have to wear prescription glasses either through the use over glasses or prescription hardened glasses.	**Demonstrates Compliance**
Welding / Hot Work	
11.22. Provision of proper eye protection such as welder goggles and/or a full-face eye shield for all personnel involved in, or assisting, welding operations. Additional methods may include the use of welding barrier screens around the specific work station (a solid piece of light metal, canvas, or plywood designed to block welding light from others). Devices to extract and remove noxious fumes at the source may also be required.	**Demonstrates Compliance**

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.	**Demonstrates Compliance**
Industrial Vehicle Driving and Site Traffic	
11.24. Provide training and licensing industrial vehicle Operators in the safe operation of specialised vehicles such as forklifts, including safe loading/unloading, load limits.	**Demonstrates Compliance**
11.25. Ensure moving equipment with restricted rear visibility is outfitted with audible back-up alarms.	**Demonstrates Compliance**
11.26. Establish rights-of-way, site speed limits, vehicle inspection requirements, operating rules and procedures, and control of traffic patterns or direction. Restrict the circulation of delivery and private vehicles to defined routes and areas, giving preference to 'one-way' circulation, where appropriate.	**Demonstrates Compliance**
Working Environment Temperature	
11.27. Extreme temperatures in permanent work environments should be avoided through implementation of engineering controls and ventilation.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
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.	**Compliance Anticipated**
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.	**Demonstrates Compliance**
11.32. Selecting and designing tools that reduce force requirements and holding times, and improve postures.	**Demonstrates Compliance**
11.33. Provide user with adjustable work stations.	**Demonstrates Compliance**
11.34. Incorporating rest and stretch breaks into work processes, and conducting job rotation.	**Demonstrates Compliance**
11.35. Implement quality control and maintenance programs that reduce unnecessary forces and exertions.	**Demonstrates Compliance**
11.36. Take into consideration additional special conditions such as left handed persons.	**Demonstrates Compliance**
Working at Heights	

11.37. Provide installation of guardrails with mid-rails and toe boards at the edge of any fall hazard area.	**Demonstrates Compliance**
11.38. Ladders and scaffolds should be properly used by trained employees.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
11.40. Provide personnel with appropriate training in use, serviceability, and integrity of the necessary PPE.	**Demonstrates Compliance**
11.41. Inclusion of rescue and/or recovery plans, and equipment to respond to workers after an arrested fall.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
11.43. Emergency lightening should be provided in case of tripping the main light source.	**Demonstrates Compliance**
12. Chemical Hazards	
Air Quality	
12.1. Maintain levels of contaminant dusts, vapors and gases in the work environment at concentrations below those recommended by the ACGIH as TWA-TLV's (threshold limit value)—concentrations to which most workers can be exposed repeatedly (8 hours/day, 40 hrs/week, week-after week), without sustaining adverse health effects.	**Demonstrates Compliance**
12.2. Developing and implementing work practices to minimise release of contaminants into the work environment.	**Demonstrates Compliance**
12.3. Where ambient air contains several materials that have similar effects on the same body organs (additive effects), taking into account combined exposures using calculations recommended by the ACGIH. Where work shifts extend beyond eight (8) hours, calculating adjusted workplace exposure criteria recommended by the ACGIH.	**Demonstrates Compliance**
Fire and Explosions	
12.4. Flammables should be stored away from ignition sources and oxidising materials. Further, flammables storage area should be: • Remote from entry and exit points into buildings; • Away from facility ventilation intakes or vents; • Have natural or passive floor and ceiling level ventilation and explosion venting; • Use spark-proof fixtures; • Be equipped with fire extinguishing devices and self-closing doors.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**

12.6. Where the flammable material is mainly comprised of dust, provide electrical grounding, spark detection, and, if needed, quenching systems.	**Demonstrates Compliance**
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).	**Demonstrates Compliance**
12.8. Provide specific worker training in handling of flammable materials, and in fire prevention or suppression.	**Demonstrates Compliance**
Corrosive, oxidising, and reactive chemicals	
12.9. Corrosive, oxidising and reactive chemicals should be segregated from flammable materials and from other chemicals of incompatible class (acids vs. bases, oxidisers vs. reducers, water sensitive vs. water based, etc.), stored in ventilated areas and in containers with appropriate secondary containment to minimise intermixing during spills. Workers who are required to handle corrosive, oxidising, or reactive chemicals should be provided with specialised training and provided with, and wear, appropriate PPE (gloves, apron, splash suits, face shield or goggles, etc.).	**Demonstrates Compliance**
Asbestos Containing Materials (ACM)	
12.10. The use of asbestos containing materials (ACM) should be avoided in new buildings or as a new material in remodeling or renovation activities. Existing facilities with ACM should develop an asbestos management plan which clearly identifies the locations where the ACM is present, its condition, procedures for monitoring its condition, procedures to access the locations where ACM is present to avoid damage, and training of staff who can potentially come into contact with the material. The plan should be made available to all persons involved in operations and maintenance activities. Repair or removal and disposal of existing ACM in buildings should only be performed by specially trained personnel following host country requirements, or in their absence, internationally recognised procedures.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
13.5. Work involving agents in Groups 3 and 4 should be restricted only to those persons who have received specific verifiable training in working with and controlling such materials. Areas used for the handling of Groups 3 and 4 biological agents should be designed to enable their full segregation and isolation in emergency circumstances,	**Demonstrates Compliance**

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	
14.1. Places of work involving occupational and/or natural exposure to ionising radiation should be established and operated in accordance with recognised international safety standards and guidelines. The acceptable effective dose limits appear: • Five consecutive year average – effective dose– 20 mSv/year for workers (min. 19 years of age); • Single year exposure– effective dose– 50 mSv/year for workers (min. 19 years of age); 6 mSv/year for apprentices and students (16-18 years of age); • Equivalent dose to the lens of the eye –150 mSv/year for workers (min. 19 years of age); 50 mSv/year for apprentices and students (16-18 years of age); • Equivalent dose to the extremities (hands, feet) or the skin – 500 mSv/year for workers (min. 19 years of age); 150 mSv/year for apprentices and students (16-18 years of age).	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
15.3. Selection of PPE should be based on the hazard and risk ranking and selected according to criteria on performance and testing established.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**

16.4. Prior to entry into a permit-required confined space: • Process or feed lines into the space should be disconnected or drained, and blanked and locked-out; • Mechanical equipment in the space should be disconnected, de-energised, locked-out, and braced, as appropriate; • The atmosphere within the confined space should be tested to assure the oxygen content is between 19.5 percent and 23 percent, and that the presence of any flammable gas or vapour does not exceed 25 percent of its respective Lower Explosive Limit (LEL); • If the atmospheric conditions are not met, the confined space should be ventilated until the target safe atmosphere is achieved, or entry is only to be undertaken with appropriate and additional PPE.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
17. Monitoring	
Occupational health and safety monitoring program	
17.1. The occupational health and safety monitoring program should be developed. It should include the following: • regular inspection and testing of all safety features and hazard control measures; • surveillance of the working environment: Employers should document compliance using an appropriate combination of portable and stationary sampling and monitoring instruments; • surveillance of workers health; • training activities for employees and visitors should be adequately monitored and documented.	**Demonstrates Compliance**
Accidents and Diseases monitoring	
17.2. The employer should establish procedures and systems for reporting and recording: • Occupational accidents and diseases;	**Demonstrates Compliance**

• Dangerous occurrences and incidents. These systems should enable workers to report immediately to their immediate supervisor any situation they believe presents a serious danger to life or health. The systems and the employer should further enable and encourage workers to report to management all: • Occupational injuries and near misses; • Suspected cases of occupational disease; • Dangerous occurrences and incidents.	
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.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
18.3. The potential effect of groundwater or surface water abstraction for project activities should be properly assessed through a combination of field testing and modeling techniques, accounting for seasonal variability and projected changes in demand in the project area.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
19. Structural Safety of Project Infrastructure	
19.1. The following issues should be considered and incorporated as appropriate into the planning, siting, and design phases of a project: • Inclusion of buffer strips or other methods of physical separation around project sites to protect the public from major hazards associated with hazardous materials incidents or process failure, as well as nuisance issues related to noise, odours, or other emissions; • Incorporation of siting and safety engineering criteria to prevent failures due to natural risks posed by earthquakes, tsunamis, wind, flooding, landslides and fire. To this end, all project structures should be designed in accordance with engineering and design criteria mandated by site-specific risks, including but not limited to seismic activity, slope stability, wind loading, and other dynamic loads.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**

21.2. Road safety initiatives proportional to the scope and nature of project activities should include: • Adoption of best transport safety practices across all aspects of project operations with the goal of preventing traffic accidents and minimising injuries suffered by project personnel and the public; • Regular maintenance of vehicles and use of manufacturer approved parts to minimise potentially serious accidents caused by equipment malfunction or premature failure. Where the project may contribute to a significant increase in traffic along existing roads, or where road transport is a significant component of a project, recommended measures include: • Minimising pedestrian interaction with construction vehicles; • Collaboration with local communities and responsible authorities to improve signage, visibility and overall safety of roads; • Coordination with emergency responders to ensure that appropriate first aid is provided in the event of accidents; • Using locally sourced materials, whenever possible, to minimise transport distances; • Employing safe traffic control measures.	**Demonstrates Compliance**
22. Transport of Hazardous Materials	
22.1. The procedures for transportation of hazardous materials (Hazmats) should include: • Proper labelling of containers, including the identify and quantity of the contents, hazards, and shipper contact information; • Ensuring that the volume, nature, integrity and protection of packaging and containers used for transport are appropriate for the type and quantity of hazardous material and modes of transport involved; • Ensuring adequate transport vehicle specifications; • Training employees involved in the transportation of hazardous materials regarding proper shipping procedures and emergency procedures; • Providing the necessary means for emergency response on call 24 hours/day.	**Demonstrates Compliance**
22.2. Guidance related to major transportation hazards should be implemented in addition to measures presented in the preceding section for preventing or minimising the consequences of catastrophic releases of hazardous materials, which may result in toxic, fire, explosion, or other hazards during transportation. Projects which transport hazardous materials at or above the threshold quantities should prepare a Hazardous Materials Transportation Plan.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
23. Disease Prevention	
Communicable Diseases	
23.1. Recommended interventions at the project level include: • Providing surveillance and active screening and treatment of workers; • Undertaking health awareness and education initiatives, for example, by implementing an information strategy to reinforce person-to-person counselling addressing systemic factors that can influence individual behaviour as well as promoting individual protection, and protecting others from infection, by encouraging condom use;	**Demonstrates Compliance**

• Training health workers in disease treatment; • Conducting immunisation programs for workers in local communities to improve health and guard against infection; • Providing treatment through standard case management in on-site or community health care facilities; • Promoting collaboration with local authorities to enhance access of workers families and the community to public health services and promote immunisation.	
Vector-Borne Diseases	
23.2. Client in close collaboration with community health authorities, can implement an integrated control strategy for mosquito and other arthropod-borne diseases that might involve: • Prevention of larval and adult propagation through sanitary improvements and elimination of breeding habitats close to human settlements; • Elimination of unusable impounded water; • Increase in water velocity in natural and artificial channels; • Considering the application of residual insecticide to dormitory walls; • Promoting use of repellents, clothing, netting, and other barriers to prevent insect bites, and other measures.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
24.2. Testing warning systems at least annually (fire alarms monthly), and more frequently if required by local regulations, equipment, or other considerations.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
24.5. Emergency information should be communicated to the media through: • A trained, local spokesperson able to interact with relevant stakeholders, and offer guidance to the company for speaking to the media, government, and other agencies; • Written press releases with accurate information, appropriate level of detail for the emergency, and for which accuracy can be guaranteed.	**Demonstrates Compliance**
Emergency Resources	
24.6. A mechanism should be provided for funding emergency activities.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**

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.	**Demonstrates Compliance**
24.9. Appropriate measures for managing the availability of resources in case of an emergency should include: • Maintaining a list of external equipment, personnel, facilities, funding, expert knowledge, and materials that may be required to respond to emergencies; • Providing personnel who can readily call up resources, as required; • Tracking and managing the costs associated with emergency resources; • Considering the quantity, response time, capability, limitations, and cost of these resources, for both site-specific emergencies, and community or regional emergencies; • Considering if external resources are unable to provide sufficient capacity during a regional emergency and whether additional resources may need to be maintained on-site.	**Demonstrates Compliance**
24.10. Where appropriate, mutual aid agreements should be maintained with other organisations to allow for sharing of personnel and specialised equipment.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
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.	**Demonstrates Compliance**
25.2. Training should be conducted annually and perhaps more frequently, when the response includes specialised equipment, procedures, or hazards, or when otherwise mandated.	**Demonstrates Compliance**
25.3. Provide training exercises to allow personnel the opportunity to test emergency preparedness.	**Demonstrates Compliance**
26. Business Continuity and Contingency	
26.1. Measures to address business continuity and contingency should include the following: • Identifying replacement supplies or facilities to allow business continuity following an emergency; • Using redundant or duplicate supply systems as part of facility operations to increase the likelihood of business continuity; Maintaining back-ups of critical information in a secure location to expedite the return to normal operations following an emergency.	**Demonstrates Compliance**

APPENDIX D:

COMPLIANCE AGAINST EQUATOR PRINCIPLES

Appendix D: Compliance against the Equator Principles

Audit Criterion		Detail	Site Findings	Compliance Category
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	Demonstrates Compliance
EP2	Principle 2: Social & Environmental Assessment	An assessment has been prepared by borrower, consultant or external expert, and includes mitigation and management measures.	The environmental and social impacts have been assessed through a systematic process applied for all Project components as identified through the ESIA scoping and through engagement with key Government stakeholders in Turkey. The ESIAs have been developed to meet national standards, TANAP policy and guidance provided by international institutions such as the IFC, EBRD and EU. The ESIA was publicly disclosed on the TANAP website (22 June 2015). Turkey's Ministry of Environment and Urbanisation (MoEU) approved the ESIA in June 2014. Key documentation: • ESIA • Environmental and Social Management Plans; • Contractor Management Plans; • Construction Phase HSE Management Plans; Full list of Project documentation reviewed through Audit available in appendices.	Demonstrates Compliance

Audit Criterion		Detail	Site Findings	Compliance Category
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 Assessment process in both cases should address compliance with relevant host country laws, regulations and permits that pertain to social and environmental matters.	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. "Memorandum of Understanding between the Government of the Republic of Turkey and the Government of the Republic of Azerbaijan Concerning the Development of a Standalone Pipeline for the Transportation of The Natural Gas Originating and Transiting from the Republic of Azerbaijan across the Territory of the Republic of Turkey", was signed on 24 December 2011 in Ankara, which was approved by Law no 6342 dated 29 June 2012 and was published in the Official Gazette on 12 July 2012. Following approval by Council of Ministers, the Agreement was published in the Official Gazette on 11 October 2012 and entered into force. Within the framework of this Memorandum of Understanding, Trans Anatolian Gas Pipeline Company B.V was established." "The Host Agreement Between the Government of the Republic of Turkey and the Government of the Republic of Azerbaijan Concerning the Trans-Anatolian Natural Gas Pipeline System", and its attachment, "The Host Government Agreement (HGA) between the Government of the Republic of Turkey and The Trans Anatolian Gas Pipeline Company B.V. Concerning Trans-Anatolian Natural Gas Pipeline System", were signed on 26 June 2012 in Istanbul. These Agreements were approved by Law no 6375 dated 02 January 2013, which was published in the Official Gazette on 17 January 2013. Following approval by Council of Ministers, the Agreements were published in the Official Gazette on 19 March 2013 and entered into force." The Host Government Agreement requires Project Environmental and	Demonstrates Compliance

Audit Criterion		Detail	Site Findings	Compliance Category
			Social Standards complying with National Laws and also taking due account of international standards and practices generally prevailing in the Natural Gas pipeline industry, including relevant Performance Standards of the International Finance Corporation.	
EP4	Principle 4: Action Plan & Management System	EPFIs require the development and maintenance of an Action Plan (AP) to address findings, prioritise mitigation measures, and take corrective actions and monitoring measures. An Environmental and Social Management Systems (ESMS) has been established.	TANAP has developed and implemented a detailed Environmental and Social Management System (ESMS) with which to manage the Project's environmental and social aspects. TANAP has documented the ESMS in line with ISO 14001 requirements. The ESMS was observed to be appropriate to the size and scale of the Project, documenting E&S policy, management plans, procedures and guidance. The TANAP ESMS was communicated to the Project 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.	Demonstrates Compliance
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.	Policies and standards are in place for the Project regarding Stakeholder engagement, communications and social impact management and requirements. The SEP (Aug 2013) was prepared to meet international standards and was finalised reflecting public participation and disclosure requirements. The SEP is aligned with an online Stakeholder Information System for tracking ongoing engagement and issues of stakeholder interest. Engagement activities during ESIA development and disclosure in line with GIP (including village-level meetings, gender-segregated meetings/focus groups) and included stakeholder analysis of engaged organisations (e.g. ERM-REP-ENV-GEN-003 Rev.P2-0, 17 January 2014). Engagement was appropriate to the	Demonstrates Compliance

Audit Criterion		Detail	Site Findings	Compliance Category
			nature and the scale of the Project, at the pre-construction phase covering: • 7 provinces and 56 District PPMs with the participation of local governors, local NGOs, media and community representatives; • 513 Village Questionnaires and 2,253 Household Questionnaires; • 307 Focus Group Meetings with youth, women and fishermen; • 151 in-depth interviews with Local Authorities, Sub-governors & Mayors; • 83 Disclosure village meetings held; and • 572 villages invited the village disclosure meetings. Ongoing stakeholder engagement is undertaken by CCs with support of TANAP social specialists.	
		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.	TANAP have developed a Public Consultation and Disclosure Plan that presents and describes the stakeholder disclosure and consultation procedures as part of the ESIA process. In sum, the plans appear substantive. Concerning disclosure, the ESIA documentation was disseminated for public review and comment for a period of 60 days, including public meetings. The Community Liaison Plan and the Public Consultation and Disclosure Plan both adequately define procedures for external communications and the lodging and resolution of grievances. Periodic reporting is adequately documented in the ESIA (i.e. of the ESIA itself), including evidence of reporting notifications and materials. In addition, there is a commitment to periodic reporting to affected communities as the Project develops	Demonstrates Compliance

Audit Criterion		Detail	Site Findings	Compliance Category
			in both the Community Liaison Plan and the Public Consultation and Disclosure Plan.	
		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.	The ESIA included a scoping process which allowed for the identification of Valued Environmental and Social Components (VECs) that were defined as the distinct components of the physical, biological and social environment in the Project Area of Influence (AOI) that are subject to National or International policies, conventions, agreements, legislative or administrative acts aimed at their protection / enhancement. Concerning disclosure, the ESIA documentation was disseminated for public review and comment for a period of 60 days, including public meetings. Results of the consultation process were incorporated into the final ESIA process.	Demonstrates Compliance
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.	The grievance mechanism in place for the land acquisition process is the same integrated system as per the Stakeholder Engagement Plan (the Online Stakeholder Information Database, OSID). Complaints and requests can be lodged online, by phone, in person or with CROsCLOs/TANAP Social Specialists and via Muhtars. Complaints can be lodged anonymously or complainants can identify themselves. All PAPs are provided with general information about the Project and specific information regarding the LA activities, through meetings and engagement activities, as well as receiving disclosure information such as the GLAC. The GLAC also describes the grievance process, including ways in which grievances can be raised and the process and timelines for resolution. A quarter of all complaints across all Lots received to date relate to damage to land (see also PR10).	Demonstrates Compliance

Audit Criterion		Detail	Site Findings	Compliance Category
			Appeals Committees have been established for each Lot in January 2017 with notification at the community level from February 2017. These will provide for third party consideration of grievances that cannot be agreed between TANAP and the complainant. Appeals Committees were established in January 2017 for each Lot and are being announced via posters at settlement level in addition to public disclosure on the TANAP website and supported by documentation including the SEP, Grievance Procedure and an Appeals Committee Application Form. Currently, 4 complaints have been escalated to Appeals Committees. The SEP was updated to reflect their formation, and disclosed via new brochure being prepared to announce RAP Fund and Appeals Committee as a part of TANAP's Grievance Mechanism as of April 2017. Further, incorporating additional grievance categories into OSID will now to allow for deeper analysis and better responsiveness to issues raised by PAPs. CCs have a maintenance period of 2 years, which will include the period for testing success of reinstatement of land. This is to be completed to the satisfaction of TANAP, and losses of income due to the failure of reinstatement are anticipated in the payments to landowners. Landowners are additionally able to raise a grievance following the Land Exit process. For example, if grievances relate to satisfaction of reinstatement and this falls during the maintenance period, this will fall under the jurisdiction of the CC to rectify, otherwise this will be responded to as per the grievance mechanism. According to TANAP, post-maintenance period land reinstatement rectification for the 2 years after reinstatement is the responsibility of the associated construction contractors as per their contracts.	

Audit Criterion		Detail	Site Findings	Compliance Category
			Depreciation of land value is factored in to the valuation of land parcels during the negotiation process (payments are between 70-90% of easement value, depending on the type of land, and productivity losses are calculated as 30% for year 1, 20% loss for year 2 and 10% loss for year three, added to the land value.) It can be anticipated that there may be issues regarding reinstatement success due to soil storage practices (see PR 6) hence the need to ensure the guidance provides clarity that this reinstatement will be provided for and grievances redress actions taken, whether financed through the RAP Fund or elsewhere, and an assessment that the productivity loss factors are accurate and sufficient to cover real losses experienced in practice. See also Section 5.5.6 and 5.5.7. It is noted that Reinstatement has been included as a new category in OSID to enable tracking of this issue.	
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	Demonstrates Compliance
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	
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	To be determined	

Audit Criterion		Detail	Site Findings	Compliance Category
		appropriate, for Category B projects, require appointment of an independent environmental and/or social expert, or require that the borrower retain qualified and experienced external experts to verify its monitoring information which would be shared with EPFIs.		