Sarimay-Muruntau OHTL

Environmental & Social Impact Assessment (ESIA):
Volume IV – Environmental and Social Management Plan

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Document Information

Project Name	Environmental & Social Impact Assessment (ESIA) for Sarimay-Muruntau OHTL
Document Title	Volume IV – Environmental and Social Management Plan
Juru's Project Reference	UZB-EBRD-SRMY-MURN OHTL ESIA
Client	NEGU
Juru's Project Manager	Nicola Davies
Juru's Project Director	Jushkinbek Ismailov

Document Control

Version	Date	Description	Author	Reviewer	Approver
1.0	07 February 2024	Draft ESIA: Volume IV – framework ESMP (draft for Client comment)	Various	Marianne Lupton	Nicola Davies
2.0	18 March 2024	Draft for disclosure	Various	Marianne Lupton	Nicola Davies

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Abbreviations

A&E	Accident and emergency
AIS	Air-Insulated Switchgear
AOI	Area of Influence
BAP	Biodiversity Action Plan
BMP	Biodiversity Management Plan
CC	Civil Code
C-ESMP	Construction Environmental and Social Management Plan
CHS	Community Health and Safety
CLO	Community Liaison Officer
COD	Commercial Operation Date
CSEE	Center for State Ecological Expertise
D-ESMP	Decommissioning Environmental and Social Management Plan
E&S	Environmental and Social
EBRD	European Bank for Reconstruction and Development
EHS	Environment, Health and Safety
EIA	Environmental Impact Assessment
EPC	Engineering, Procurement and Construction
EPRP	Emergency Preparedness and Response Plan
ESAP	Environmental and Social Action Plan
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
ESMS	Environmental and Social Management System
ESP	Environmental and Social Policy
EU	European Union
FC	Financial Close
GBV	Gender-Based Violence
GIP	Good International Practice
GM	Grievance mechanism
H&S	Health and Safety
HPZ	Health Protection Zone
HR	Human Resources

HRRP	Habitat Removal and Reinstatement Plan
HSES	Health, Safety, Environment and Social
IBA	Important Bird Area
IFC	International Finance Corporation
ILO	International Labour Organisation
IUCN	International Union for Conservation of Nature
LC	Land Code
LARF	Land Acquisition and Livelihood Restoration Framework
MCC	Makhalla Community Council
MEEPCC	Ministry of Ecology, Environment protection and Climate change of the Republic of Uzbekistan
MSDS	Material Safety Data Sheets
NEGU	National Electric Grid of Uzbekistan
NSR	Noise Sensitive Receptors
NTP	Notice to Proceed
NTS	Non-Technical Summary
O&M	Operations and Maintenance
O-ESMP	Operations Environmental and Social Management Plan
OHS	Occupational Health and Safety
OHTL	Overhead Transmission Line
PIT	Project Implementation Team
PPE	Personal Protective Equipment
PR	Performance Requirement
ROW	Right of Way
SanPiN	Sanitary Regulations and Norms of Uzbekistan
SEA	Sexual Exploitation and Abuse
SCRP	Site Clearance and Rehabilitation Plan
SEFG	Southern even-fingered Gecko
SEP	Stakeholder Engagement Plan
S-M	Sarimay-Muruntau
SS	Substation
SWMP	Solid Waste Management Plan
SwS	Switching Station

TPP	Thermal Power Plant
UNCCD	United Nations Convention to Combat Desertification
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
VCC	Village Community Council

1 Introduction

1.1 Background

The European Bank for Reconstruction and Development (the "EBRD" or the "Bank") is considering providing a sovereign loan to the Republic of Uzbekistan to Joint-Stock Company National Electric Grid of Uzbekistan (JSC NEGU) to finance the construction of a 500 kV overhead transmission line (OHTL) (the Project) in Uzbekistan between the existing Sarimay substation (SS) in Khorezm region and the Muruntau substation (currently under construction) in Navoi region (Figure 2).

The Project's main purpose is to facilitate the evacuation to the national power grid of the electricity generated by renewable energy power plants under development. Implementation of the Project will also significantly improve the transmission network's reliability, efficiency, stability, and quality and security of the electricity supply.

EBRD Environmental and Social Policy (ESP) (2019), Appendix 2 "Category A Projects": (paragraph 24) makes specific reference to "construction of high voltage overhead electrical power lines" as a project with the potential to generate significant adverse E&S impacts. Considering Appendix 2 the Project is expected to be categorised as Category "A". Category A projects require a comprehensive Environmental and Social Impact Assessment (ESIA) and review of associated documents, followed by public disclosure of key documents for a minimum period of 120 days. This requirement aligns with the EU EIA Directive requirements for Annex I projects.

The EBRD has appointed Juru Ltd. ("Juru" or the "ESIA Consultant") to perform the ESIA for the Project following EBRD Environmental and Social Policy 2019 (ESP 2019) and supporting Performance Requirements (PRs). An ESIA package has been prepared including the following documentation:

- Volume I: Non-Technical Summary (English, Russian, Uzbek)
- Volume II: ESIA Main Report (English, Russian)
- Volume III: ESIA Technical Appendices (originating language), including:
    - Sarimay-Muruntau scoping report and ESIA TOR
    - Physical baseline survey reports
    - Biodiversity baseline reports
- Volume IV: Environmental and Social Management Plan (ESMP) (English, Russian) (this document)
- Volume V: Stakeholder Engagement Plan (SEP) (English, Russian, Uzbek),
- Volume VI: Land Acquisition and Livelihood Restoration Framework (LARF) (English, Russian)

According to the list of activities subject to Uzbekistan environmental approval, established by the Resolution of Cabinet of Ministers No. 541 "On further improvement of the environmental impact assessment mechanism" (2020)[1], a 500 kV power transmission line is categorised as Category II. A

[1] Under the Resolution of Cabinet of Ministers of Uzbekistan, No 541, Power transmission lines of state and interstate significance – Category I (high risk); Power transmission lines of the Republic of Karakalpakstan, regions and the city of Tashkent significance – Category II (medium risk); Power transmission lines of district and city (except Tashkent) significance – Category III (low risk).

national environmental impact assessment (EIA) has been prepared by Juru on behalf of JSC NEGU as part of the national feasibility study[2].

1.2 Scope of the ESMP

This ESMP collates all the mitigation measures identified in the individual assessment chapters of Volume II – ESIA and presents the framework for implementation. Where appropriate this ESMP also elaborates on the identified measures to provide minimum standards, monitoring requirements and key performance indicators for completion.

This ESMP covers the Project design, procurement, construction, operation and decommissioning phase of the works. The framework ESMP is developed to align with the environmental and social (E&S) requirements outlined in Chapter 3 including national regulations and standards and the requirements of EBRD ESP 2019.

E&S aspects relevant to the project as determined by the ESIA are summarised in Table 1. Specific obligations for these topics are explained in the ESIA. The framework ESMP applies to JSC NEGU (as the operator), the Engineering Procurement Construction (EPC) Contractor (to be determined), and all third-party subcontractors working on the Project.

Table 1: Summary of topics addressed in the ESMP

Environmental	Social (including labour)
• Climate resilience • Supply chain (construction) • Air quality – dust/fugitive (C/D[3]) • Noise (C/D) • Site clearance, including habitat clearance (C/D) • Hazardous material handling (C/O/D) • Waste (including hazardous waste) (C/O/D) • Wastewater discharges (C/D)	• Employment (including local content policy) (C/O/D) • Labour welfare (including the welfare of sub-contractors, casual workers and migrant workers) (C/O/D) • Supply chain management (C) • Occupational health and safety (C/O/D) • Community health and safety specifically traffic safety, GBV, communicable diseases) (C/O/D) • Security and security force management (C/D) • Emergency preparedness (C/O/D)

[2] At this time, the national EIA has been submitted for approval but the outcome is pending. .

[3] C = Construction, O = Operation, D = Decommissioning.

• Water use and water efficiency (C/O/D) • Traffic and transportation (C/D) • Pollution prevention (e.g., discharges to groundwater or land) (C/D)	• Accommodation management (as applicable) following IFC / EBRD guidance note: Accommodation: Processes and Standards (Guidance Note by IFC and EBRD, 2009 (C)

1.3 The objective of the ESMP

This objective of this ESMP is to provide a framework to safeguard the environment and community against activity which may cause harm or nuisance as identified during the EISA process. The ESMP includes the following:

- Requirements for an environment and social management system (ESMS) to be prepared by NEGU and the Contractor aligned with EBRD PR1 and ISO 14001 (Environmental Management Systems), ISO 45001 (Health and Safety Management System) to manage and monitor impacts on sensitive receptors from Project activities as identified in the ESIA including requirements for:
    - key staffing and responsibility;
    - organisation and responsibilities;
    - training and awareness;
    - emergency procedures and response;
    - record keeping; and
    - performance monitoring, reporting and auditing
    - management review.
- Mitigation measures to reduce or reverse adverse impacts and enhancement measures that increase or distribute more equitably positive impacts.
- Monitoring activities for the construction and operation phases along with implementation arrangements that detail responsibility, schedule targets, key indicators and budget needs.

The ESMP is structured as follows:

- Chapter 2: Project overview
- Chapter 3: Regulatory framework
- Chapter 4: Organisational framework
- Chapter 5: Environmental and social management requirements
- Chapter 6: Mitigation and management requirements
- Chapter 7: Monitoring and reporting
- Chapter 8: Stakeholder engagement
- Chapter 9: Grievance mechanism

2 Project overview

2.1 Introduction

The primary components of the S-M OHTL Project are:

- Approximately 229 km of 500 kV OHTL between the Sarimay substation (SS) (Khorezm region) and Muruntau SS (Navoi Region).

The routing of the line in the wider region is illustrated in Figure 2.

Related activities in support of the OHTL works will include:

- end-user works at the Sarimay SS (within a newly expanded area to be constructed under separate project);
- end-user works at the Muruntau SS – expected to be within the planned SS site boundary (currently under construction);
- establish 60 m ROW under the OHTL (including provision of any related livelihood compensation);
- upgrade existing track of or new access track suitable to provide access to the OHTL ROW from the existing road that runs parallel to the OHTL.

The Sarimay SS is an existing 220 kV substation that is planned to be expanded to include a 500 kV area. This work is planned to be conducted by JSC NEGU. Land levelling works are currently being carried out by JSC MU-4 at Sarimay SS. The Muruntau SS is also under construction by private third parties (via separate contract). Once operational, both facilities will be transferred to JSC NEGU, which will assume responsibility for operations and maintenance (O&M) activities.

The coordinates of the Project are provided in Table 2.

Table 2: Sarimay-Muruntau OHTL preliminary coordinates

Northing	Easting
41.100378°	61.973150°
41.104813°	61.976820°
41.102695°	62.002871°
41.084825°	62.023425°
41.100900°	62.174674°
41.101909°	62.176094°
41.107212°	62.237787°
41.108705°	62.509039°
41.111697°	62.518175°

Northing	Easting
41.108703°	62.527946°
41.109905°	62.794338°
41.085243°	62.906213°
41.098103°	63.205054°
41.105882°	63.218826°
41.106107°	63.242794°
41.142786°	63.333485°
41.274851°	63.541405°
41.308978°	63.663042°
41.444962	63.950007
41.442146°	63.966381°
41.450450°	64.004756°
41.439936°	64.034967°
41.431314°	64.054724°
41.428261°	64.068105°
41.414452°	64.105722°
41.394495°	64.160924°
41.413967°	64.232013°
41.412572°	64.261322°
41.393062°	64.361039°
41.434528°	64.437917°
41.459714°	64.472776°
41.460622°	64.477422°

Other key aspects of the Project addressed by the ESMP include:

- construction camp and laydown including accommodation facility;
- construction water supply;
- equipment and material supply chain;
- workers employment and welfare.

Table 3: Summary of OHTL characteristics

Circuit type	Single or double
Number of phases	2 or 3
Approximate length of OHTL	229 km
Tower Type	Combination of suspension, angle and terminal towers

Number of suspension towers	~500
Number of angle towers	~72
Tower height	30 to 40 m
Typical Span	300 m to 400 m
Optical Ground Wire (OPGW)	Yes

2.2 Project Location

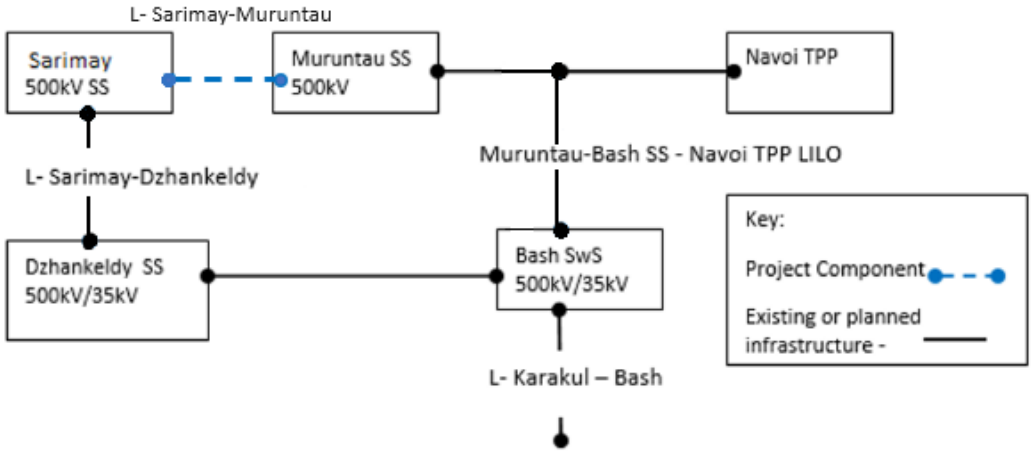
Figure 2 provides an overview of the location of the OHTL in the wider region. The Sarimay-Muruntau OHTL routes through four regions: Khorezm region (Tuprokkala district), Republic of Karakalpakstan (Turkul district), Bukhara region (Peshku district), Navoi region (Uchkuduk and Tamdy districts).

The OHTL starts from the existing Sarimay substation (Khorezm region), which is located close to Nukus village (300 m) and Sarimay village (4.3 km), to the planned Muruntau substation (Tamdy district of Navoi region).

The Murantau SS and the 500 kV Navoi to Muruntau/Besopan OHTL have already been subject to ESIA following EBRD ESP 2019 by third party entities.

A simplified line diagram illustrating how the proposed OHTL connects to the region's transmission network is provided in Figure 1.

Figure 1: Simplified schematic of the proposed Project at wider 500 kV transmission network

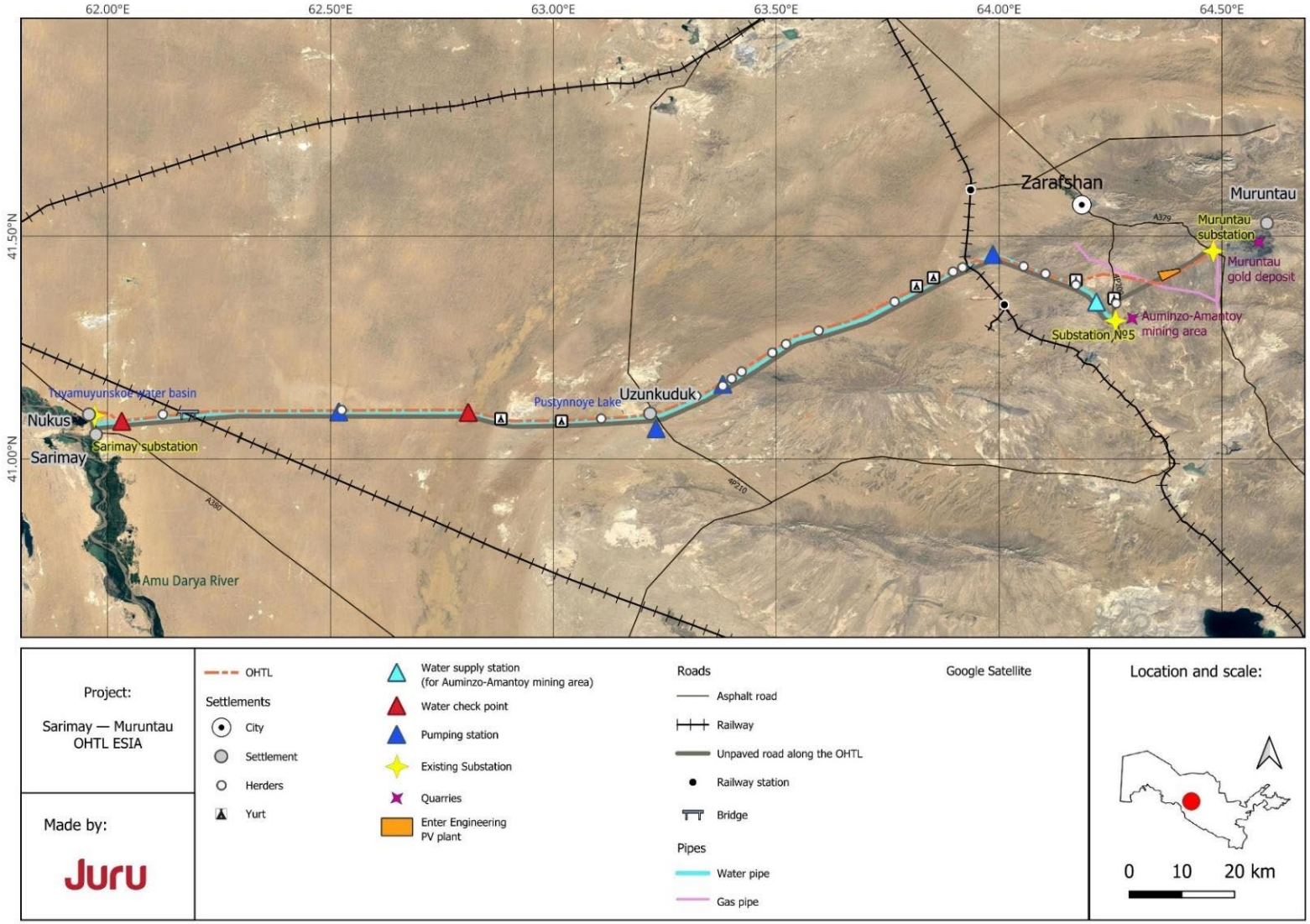


2.3 Project receptors

Key receptors along the OHTL and in the wider impact area are highlighted in Figure 3.

Figure 2: Overview of the location of the OHTL in the wider region

Figure 3: Receptor map



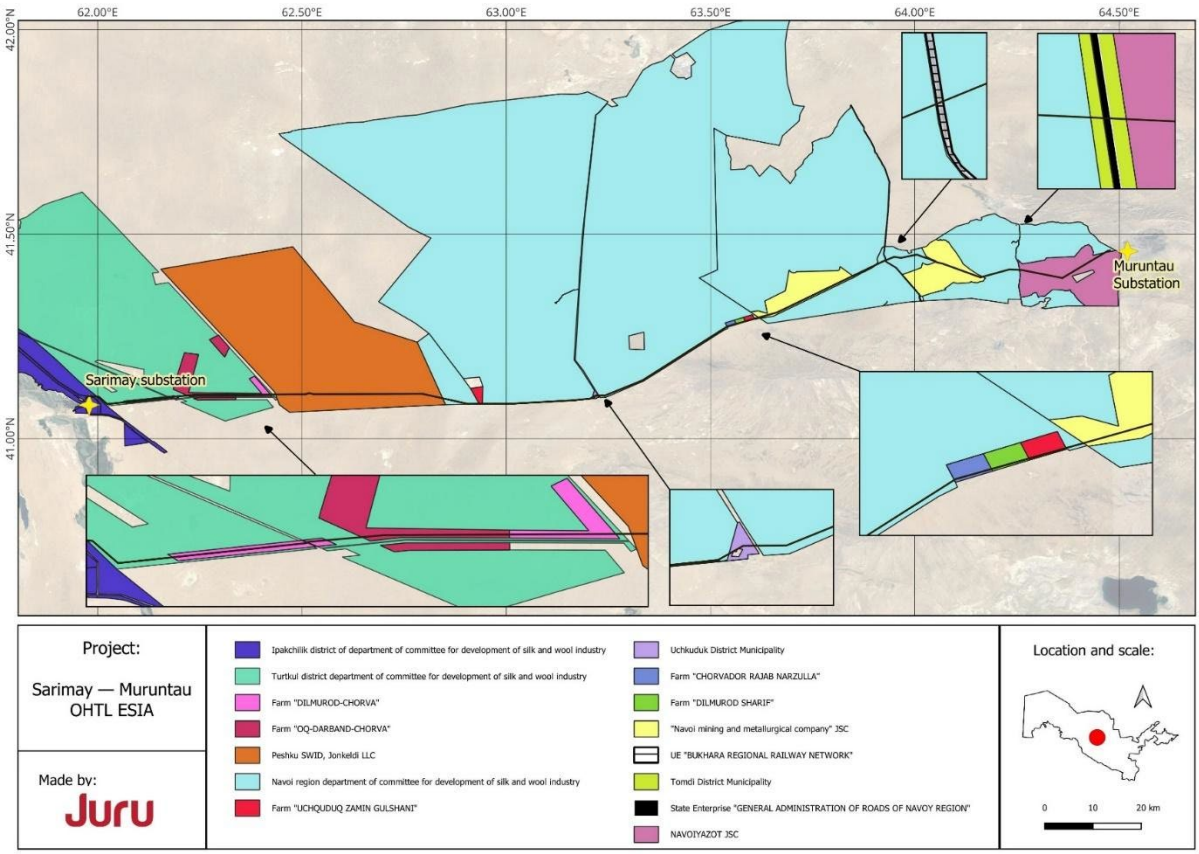
2.4 Land requirements

For newly designed 500 kV OHTL, buildings and structures must be set back 30 m from the outermost conductor on either side of the OHTL; this forms the ROW or servitude. The state owns all land in Uzbekistan. The owners of the land rights along the Project ROW are:

- The government-owned Committee for Development Sericulture and Wool Industry (SWID) and LLCs that lease the land from SWID including:
    - "Khorezm sheep-breeding cluster" LLC (in Tuprokkala district),
    - Jonkeldi LLC (in Peshku district), Darxan-2019 LLC (in Tamdi district),
    - JSC Navoi Mining and Metallurgical Company and JSC "Navoiyazot" lands in Tamdi district
    - "Uchquduq chorva klasteri" LLC (in Uchkuduk district), and
    - SWID lands in Turtkul distict and two farms "DILMUROD-CHORVA" and "OQ-DARBAND-CHORVA";
- The land in Uchkuduk district that the OHTL passes through belongs to SWID that leases the land to "Uchquduq chorva klasteri" LLC as well as three farms called "Uchquduq Zamin Gulshani", "Dilmurod Sharif", and "Chorvador Rajab Narzulla" and the land of two farms called "DILMUROD-CHORVA" and "OQ-DARBAND-CHORVA" of Turtkul district;

A land use map is provided in Figure 4 below.

Figure 4: Land use



The Project will need to obtain servitude rights over the land for the OHTL and any permanent and temporary access roads (unsurfaced). JSC NEGU will enter into a servitude agreement with SWID.

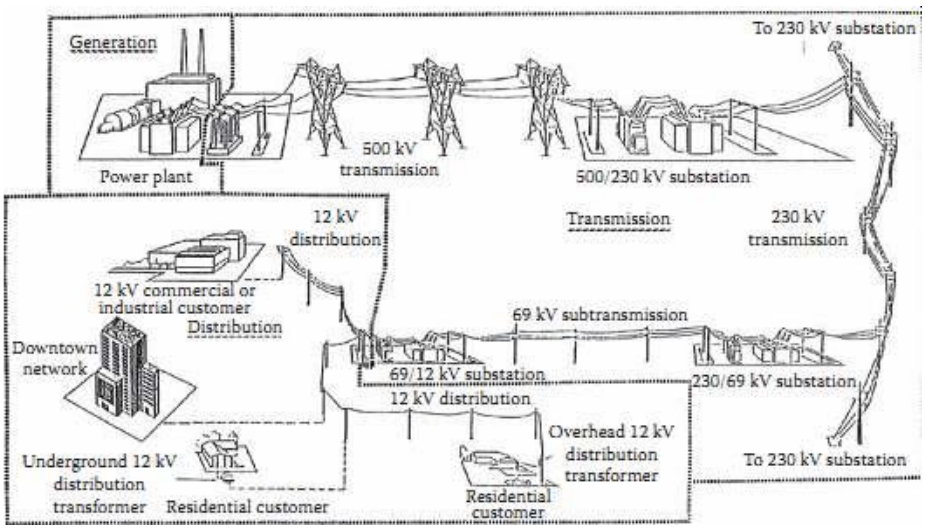
Procedures for obtaining the use of a ROW in Uzbekistan are well defined. Calculation and compensation of losses to those with land rights will be performed following national regulations ensuring landowners, land users, and lessees are liable to be fully refunded (including the lost profit) in the case of limitation of their rights from the construction or operation of the Project. Land law relating to servitude in Uzbekistan also protects the owner/user and does not deprive the owner of their parcel's possession, use, and disposition rights.

The ESIA has assessed potential livelihood losses, summarised later in this NTS. Permanent land take will be for the OHTL tower footprints only. Grazing and other activities may continue under the line once operational. Work at the substations will be entirely within the exiting substation footprints. Further information on this is provided in the LARF (Volume VI) and a livelihood restoration plan is required to be prepared by NEGU in support of the servitude process. Compensation payments must be paid in full before any works start on the OHLT construction. Compensation arrangements are the responsibility of the NEGU.

2.5 Project components

An OHTL is the structure by which electrical energy is transmitted from one location to another (Figure 5).

Figure 5: Concept of electric energy transmission



The main components of an OHTL are the **electrical conductors** (wires), which transmit the electricity and are suspended from **steel towers** by **insulators.** The towers are fixed to the ground with **cement foundations** or, in some cases, **guy wires**. The typical footprint is 10 m by 10 m ($100m^2$)[4]. Insulators isolate the towers from the live wires that carry the electricity.

[4] Footprint is defined as the outer of the foundation columns at ground level.

2.6 Development and construction activities

There are four main stages of the Project cycle: pre-construction, construction, operation and decommissioning. Pre-construction work includes finalising the design, recruitment and procurement of equipment and site setup.

Construction typically progresses sequentially by one or more teams working along the whole or sections of the OHTL route. The key phases of the development are site clearance (rocks, utilities, vegetation), enabling works to establish vehicle access to each tower location, civil works (tower foundation works), steel delivery, steel erection, conductor stringing and then commissioning. A laydown area will be established for the OHTL at a location central to the line and close to the main delivery rail station. Smaller and temporary equipment storage sites will also be established at strategic locations along the route to store key plant equipment and materials; these may also move along the OHTL following the construction works.

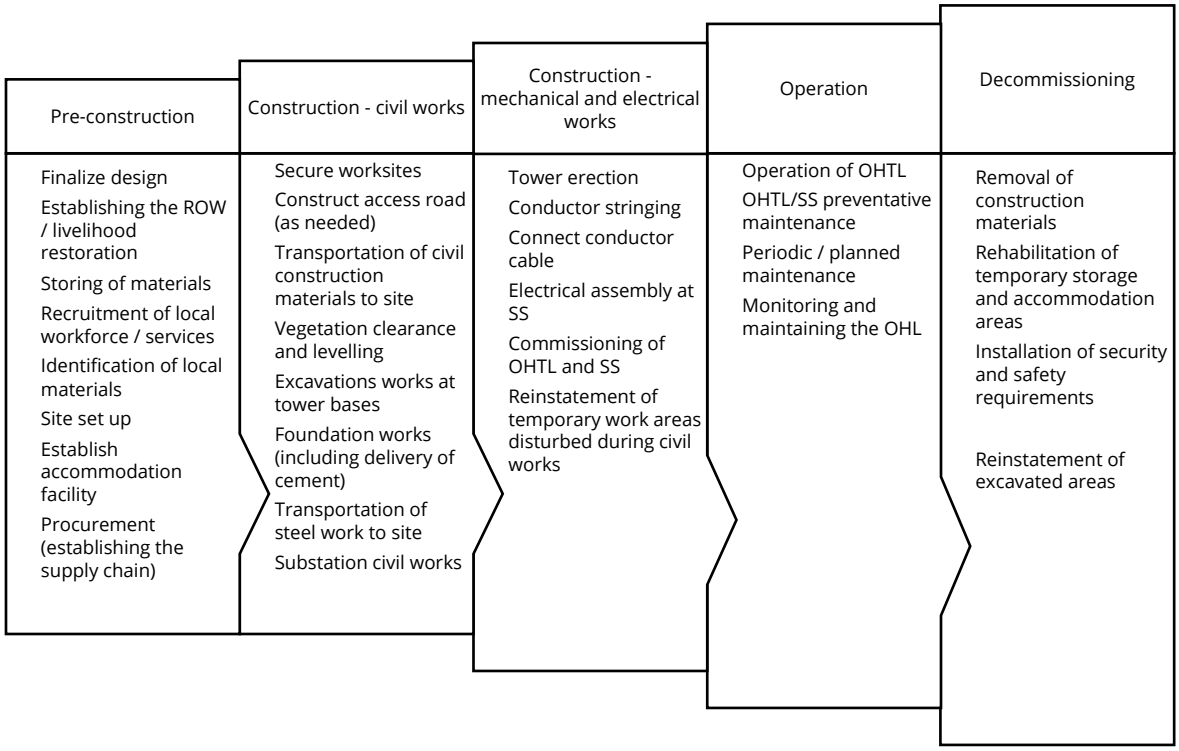
It may also be necessary to establish borrow pits along the route to provide aggregate to support the construction works, including road building. Workers' accommodation is likely to be a temporary work camp or more permanent construction phase accommodation in nearby settlements. At this time, the water source for the construction process is unknown. Materials and equipment will likely be delivered to the nearest railway station (Sarimay/Zarafshan) or by road to the Project area and then delivered to a central Materials and Equipment laydown area (location to be determined) before offloading equipment and materials for transfer to the worksites.

JSC NEGU will operate and maintain the OHTL and implement preventative, and emergency maintenance works following their corporate operations and maintenance (O&M) procedures. The substations with either be remotely operated or have one or two permanent workers (operating in a shift system). The substation maintenance works will be intermittent and within the operational site boundary. The expected lifetime of the infrastructure is 30 to 40 years (at least). At the end of its lifetime, options will be considered to replace the OHTL, repair it or remove all infrastructure from the site.

Decommissioning will fall into one of two categories:

- end of life decommissioning (~40 years); and
- temporary worksites decommissioning (e.g., borrow pits, accommodation sites).

Figure 6: Stages in the project cycle



3 Regulatory Framework

3.1 Key requirements

The Project must comply in all respects with all relevant Uzbekistan Laws and statutes for management of the environment (Environmental Law), land rights, labour and health and safety, including requirements of international and regional environmental agreements, conventions and treaties as ratified by Uzbekistan (such as ILO conventions) and the EBRD Environmental and Social Policy 2019 including EBRD Performance Requirements (one to eight and ten), relevant EU substantive standards and GIP.

The following section provides further information on the key Laws, regulations and Lender requirements applicable to the Project.

3.2 Permits and approvals

For the construction and decommissioning phases, the EPC Contractor is responsible for obtaining and maintaining all necessary consents for the construction of the Project with the support of NEGU. All necessary consents must be obtained and provided to NEGU before any works commence. The EPC Contractor is responsible for complying with the specific requirements of relevant environmental and other construction permits for the entire duration of their scope of work. During operation, any consents and authorisation will be the responsibility of NEGU.

Based on local legal requirements, required permits and licenses related to the project are listed in Table 4 below.

Table 4: Required permits and licenses

Permit / Required Activity	Permit Title	Issuing Authority	Implementing Law	Responsible Party for Obtaining License
Pre-construction				
Construction activities	Construction Permit	Khokimiyats of Project region	○ Law "On licensing, permitting and notification procedures", No. ZRU-701 of 14.07.2021; ○ Decree of the Cabinet of Ministers "On measures to further improve the procedures for providing free land plots for entrepreneurial and urban planning activities", No. 1023 dated 12.20.2019.	NEGU
Construction activities	The Positive Conclusion of CSEE for the national EIA report (Stage I and Stage II)	MEEPCC	○ Law "On Nature Protection" (1992); ○ Law of the Republic of Uzbekistan "On Ecological Expertise" (2000); and ○ Resolution of Cabinet of Ministers No. 541 "On further improvement of the environmental impact assessment mechanism" (2020). ○	NEGU
Construction activities	Cultural Heritage Clearance	Cultural Heritage Agency	○ Law on the Protection and Use of Cultural Heritage Objects (2001).	NEGU
Pre-commissioning				
Construction activities	The Positive Conclusion of	MEEPCC	○ Law "On Nature Protection" (1992);	EPC Contractor

Permit / Required Activity	Permit Title	Issuing Authority	Implementing Law	Responsible Party for Obtaining License
	CSEE for the national EIA report (Stage III)		○ Law of the Republic of Uzbekistan "On Ecological Expertise" (2000); and ○ Resolution of Cabinet of Ministers No. 541 "On further improvement of the environmental impact assessment mechanism" (2020).	

3.3 National regulatory framework

3.3.1 Environment

The following Laws are relevant to the Project:

- Law on Environmental Control, 2013 as Amended in 2022.
- Law on Nature Protection, 1992 as Amended in 2021.
- The Law of the Republic of Uzbekistan “On Water and Water Use” (1993) as amended in 2020.
- The Law of the Republic of Uzbekistan “On Ecological Expertise” (2000) as amended in 2021.
- The Law of the Republic of Uzbekistan “On Atmospheric Air Protection” (1996, amended on 28.09.2020).
- The Law of the Republic of Uzbekistan “On Protection and Use of Vegetation” (1997) as amended in 2016.
- The Law of the Republic of Uzbekistan "On Protection and Use of the Wildlife" (1997) as amended in 2016.
- The Law of the Republic of Uzbekistan “On Protected Natural Reserves” (2004) as amended in 2020.
- The Law of the Republic of Uzbekistan “On Wastes” (2002) as amended in 2019.
- Law No. ZRU-229 “On protection and use of the objects of archaeological heritage” (13 October 2009)7F.
- Law No. 269-II “On the Protection and Use of Cultural Heritage Sites (30 August 2001, as amended)8F
- The Law “On the sanitary and epidemiological wellbeing of the population” (2015) as amended on 03.09.2021.
- The Resolution of the Cabinet of Ministries of the Republic of Uzbekistan №541 “On further improvement of the environmental impact assessment mechanism” (2020).
- The Resolution of Cabinet of Ministries of the Republic of Uzbekistan №820 “On measures to further improve the economic mechanisms for ensuring nature” dated on 11th October 2018.
- The Resolution of the Cabinet of Ministers of the Republic of Uzbekistan No 14. “On approval of the regulation on the procedure for the development and agreement of projects with environmental standards”.
- Resolution of Cabinet of Ministers of the Republic of Uzbekistan No.95 “On approval of general technical regulations of environmental safety” (2020).
- Ambient Air Quality Standards, or MPCs - SanPiN 0293-11 (May 16, 2011)
- Noise standards - SanPIN No. 0331-16
- SanPin № 0127-02 “Sanitary Procedures for inventory, classification, storage and disposal of industrial waste.

- SanPiN of the Republic of Uzbekistan dated 16/11/2011 No 0300-11 “Sanitary Rules and Standards for managing collection, inventory, classification, treatment, storage and disposal of industrial waste in the context of Uzbekistan.
- Regulation “On the Procedure for the Disposal, Collection, Pay Settlement, Storage and Removal of Waste Industrial Oils” annexed to the Decree of the Cabinet of Ministers dated 04/09/2012 No.258.
- Regulation on the Procedure for Handling Coloured and Black Metal Scrap" annexed to the Decree of Cabinet of Ministers dated 06/06/2018 No. 425.
- SanPiN No. 0158-04 - Sanitarian Rules and Norms on collection, transportation and disposal of wastes containing asbestos in Uzbekistan
- Presidential Decree No. R-5181 “On improving the protection and use of objects of tangible cultural and archaeological heritage” (16 January 2018) 9.
- Presidential Decree no. PP-4068 “Regarding the strengthening of the protection, management and enhancement of tangible and intangible cultural heritage” (19 December 2018)10F.
- SanPiN No.0350-17 “For the Protection of Atmospheric Air in Populated Areas of the Republic of Uzbekistan” (2017)

3.4 Project standards

For this Project a 30 m HPZ either side of the outermost wires in a direction perpendicular to the OHTL is applicable. The following project standards are applicable to the Project.

Table 5: National Air Quality MPCs (SanPin 0293-11)

Parameter	Averaging Period	Unit	Value	References National[5] / International[6]
	One-time maximal permissible concentration[7]		85[7]	National
	Annual[8]		40	National / IFC

5 SanPiN № 0293-11 “Hygienic regulations. List of Maximum Permissible Concentrations (MPC) of contaminants in the atmospheric air of inhabitant areas in the territory of the Republic of Uzbekistan

6 WHO Ambient Air Quality Standards (applied by JBIC, NEXI, IFC and other Lenders)

7 Maximum one-time concentration – the highest concentration detected at 20-30-minute sampling

8 Average annual concentration – the average of the number of average monthly concentrations revealed during a year in the course of one-time sampling

Parameter	Averaging Period	Unit	Value	References National[5] / International[6]
NO2 (Hazard class 2)	Monthly	µg/m^3	50	National
	24-hour (daily)[9]		60	National
	10-minute		200	National
	Hourly		200	IFC
NO (Hazard class 3)	One-time maximal permissible concentration	µg/m^3	600	National
	Annual		60	National
	Monthly		120	National
	24-hour (daily)		250	National

Table 6: Noise limits from SanPiN No. 0331-16 / WBG Noise Level Guidelines)

Purpose of premises or territories	Time	SanPiN No. 0267-09
Territories adjacent to homes, clinics, dispensaries, rest homes, boarding houses, nursing homes, childcare facilities, schools and other educational institutions, libraries.	From 7 am to 10 pm[10]	55 dB(D)
	From 10 pm to 7 am	45 dB(A)
Industrial; commercial	70	70
Maximum increase in background levels of 3 dB at the nearest receptor location off site		

9 Average daily concentration is the average of the one-time concentrations detected during the day or obtained with continuous 24-hour sampling

10 SanPiN No. 0331-16 stipulates the time period of 7am to 11pm (daytime) and 11pm to 7am (night-time). For the project the more stringent time period of the WBG Noise Level Guidelines is applied.

Table 7: Working environment Noise Limits

Type of work, workplace	SanPiN No. 0325-16	General EHS Guidelines of WBG
Performance of all types of work at permanent workplaces in industrial premises and at enterprises operated since March 12, 1985	80 dB (A)	
Heavy industry		85 Equivalent Level Laeq, 8h
Light industry		50-65 Equivalent Level Laeq, 8h

* Laeq - equivalent average sound pressure level

The following potable water standards must be applied to the Project.

Table 8: Water quality standards for drinking water[11] applicable to the Project

Parameter (mg/l unless shown)	WHO Guidelines value for drinking-water quality (4th ed) (2017) (mg/l unless stated)
pH (acidity)	None set (typically just an operational parameter, not a drinking water quality parameter)
Suspended Solids	None set
Nitrate (as NO3-)	50
Ammonia (as NH3)	None set
Nitrite (as N02)	3
Total Dissolved Solids	None set[12]

[11] In the case of any discrepancy between the national and international guideline values, the Contractor will always be required to apply and implement the most stringent limit value.

[12] Water Quality. The main purpose of the WHO Guidelines for drinking water quality is the protection of public health. The palatability of water with a TDS level of less than 600 mg/litre is generally considered to be good; drinking-water becomes significantly and increasingly unpalatable at TDS levels greater than about 1000 mg/litre. (http://www.who.int/water_sanitation_health/dwq/fulltext.pdf); and

Parameter (mg/l unless shown)	WHO Guidelines value for drinking-water quality (4th ed) (2017) (mg/l unless stated)
Escherichia coli (E. coli)	Nil/100ml
Fluoride	1.5
Phenols	
Chlorine	5.0 (as free chlorine)
Arsenic	0.01
Cadmium	0.003
Chromium (total)	0.05
Lead	0.01
Selenium	0.04
Copper	2.0
Zinc	None set
Petroleum oils (BTEX)[13]	0.3
Alkyl Benzyl sulphonates	-
Permanganate value (PV)	-

3.5 Land Law

The following land laws are relevant to the Project:

- Civil Code of the Republic of Uzbekistan (1995) as amended on 12.10.2021.

[13] BTEX: Benzene, Toluene, ethylbenzene and xylenes

- Land Code of the Republic of Uzbekistan (1998) as amended on 17.08.2021.
- Law of the Republic of Uzbekistan on State Land Cadastre No.666-I of 28.08.1998.
- Presidential Decree № UP-5742 "On measures for the efficient use of land and water resources in agriculture".
- Presidential Decree № UP-5495. Decree "On measures on cardinal improvement of the investment climate in the Republic of Uzbekistan".
- Resolution № 146 of the Cabinet of Ministers (2011) "On the procedure for compensation for losses of landowners, users, tenants and owners, as well as losses of agricultural and forestry production".
- Resolution № 911 of the Cabinet of Ministers (2019) "On the procedure for withdrawal of land plots and compensation to owners of immovable property located on the land plot".

3.6 Labour and Employment

The labour policy in Uzbekistan is applied at the national government level and is reflected in the relevant laws, regulations, and national social programmes.

- Labour Code of the Republic of Uzbekistan 1995 as amended on 03.08.2021.
- Law "On the employment of the population" No. 642 of 20.10.2020.
- Joint Decree of the Ministry of Labour and Social Protection of the Population (No. 33 K / B) and the Ministry of Health of the Republic of Uzbekistan (No. 13) "On approval of the list of jobs with unfavourable working conditions, where the employment of persons under 18 years is prohibited", registered by the Ministry of Justice of the Republic Uzbekistan, dated July 29, 2009, No. 1990;
- Decree No. 133 of 11 March 1997 to approve normative acts necessary for the realisation of the Labour Code of the Republic of Uzbekistan.
- Decree of the Cabinet of the Ministers No. 1011 of 22 December 2017 "On perfection of the methodology of definition of the number of people in need of job placement, including the methodology for observing households with regard to employment issues, also for the development of balance of labour resources, employment and job placement of population".
- Decree of the Cabinet of the Ministers No. 965 of 5 December 2017 "On the measures of further perfection of the procedure of establishment and reservation of minimum number of job places for the job placement of persons who are in need of social protection and face difficulties in searching employment and incapable of competing in the labour market with equal conditions".
- Decree No. 964 of 5 December 2017 "On the measures for perfection of the activity of self-government bodies aimed at ensuring employment, firstly for the youth and women".

Relevant health and safety norms and standards include:

- Safety Rules for the Operation of Electrical Installations, approved by order of "UZGOSENERGONADZOR", 2006.

- Rules for Electrical Installations, approved by order of "UZGOSENERGONADZOR", 2004.
- KMK 3.01.02-00 Occupational Health and Safety in Construction Works.
- General Requirements of Fire Safety in the industrial sectors, approved by order of "UZGOSENERGONADZOR", 2004.
- Fire Safety Rules for Energy Utilities, approved by order of "UZGOSENERGONADZOR", 2004.

As a member of the International Labour Organization (ILO) since 1992, Uzbekistan has ratified 17 ILO conventions, including the eight fundamental conventions (bold) as set out in Table 9.

Table 9: Labour Conventions ratified by Uzbekistan

Convention	Date
CCPR - International Covenant on Civil and Political Rights (1966)	28-Sep-95
CEDAW - Convention on the Elimination of All Forms of Discrimination against Women	19-Jul-95
Convention on the Elimination of All Forms of Intolerance and of Discrimination Based on Religion or Belief (1981)	30-Aug-97
C029 - Forced Labour Convention, 1930 (No. 29)	13-Jul-92
C047 - Forty-Hour Week Convention, 1935 (No. 47)	13-Jul-92
C052 - Holidays with Pay Convention, 1936 (No. 52)	13-Jul-92
C081 - Labour Inspection Convention, 1947 (No. 81)	19-Nov-19
C087 - Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87)	12-Dec-16
C098 - Right to Organise and Collective Bargaining Convention, 1949 (No. 98)	13-Jul-92
C100 - Equal Remuneration Convention, 1951 (No. 100)	13-Jul-92
C103 - Maternity Protection Convention (Revised), 1952 (No. 103)	13-Jul-92
C105 - Abolition of Forced Labour Convention, 1957 (No. 105)	15-Dec-97
C111 - Discrimination (Employment and Occupation) Convention, 1958 (No. 111)	13-Jul-92
C122 - Employment Policy Convention, 1964 (No. 122)	13-Jul-92
C129 - Labour Inspection (Agriculture) Convention, 1969 (No. 129)	19-Nov-19
C135 - Workers' Representatives Convention, 1971 (No. 135)	15-Dec-97

Convention	Date
C138 - Minimum Age Convention, 1973 (No. 138) Minimum age specified: 15 years	06-Mar-09
C144 - Tripartite Consultation (International Labour Standards) Convention, 1976 (No. 144)	13-Aug-19
C154 - Collective Bargaining Convention, 1981 (No. 154)	15-Dec-97
C182 - Worst Forms of Child Labour Convention, 1999 (No. 182)	24-Jun-08
C187 - Promotional Framework for Occupational Safety and Health Convention, 2006 (No. 187)	14-Sep-21
EU Partnership and Cooperation Agreement (1996)	21-Jun -96
P029 - Protocol of 2014 to the Forced Labour Convention, 1930	16-Sep-19
Universal Declaration of Human Right (1948)	1991

Measures have been enacted via a national action plan to implement these conventions into national law, including a legal and institutional framework to prevent forced labour. The legislation of the Republic of Uzbekistan (Constitution, Labour Code, Law on Employment) prohibited the use of child and forced labour. Article 7 of the Labour Code stipulates that forced labour, namely compulsion to perform work under the threat of some form of punishment (including as a means of labour discipline), is prohibited.

3.7 EBRD Requirements

The Project must implement the E&S requirements of the EBRD as set out in the following:

- The European Bank for Reconstruction and Development (EBRD) Environmental and Social Policy 2019 (ESP 2019).
- EBRD Performance Requirements (PRs)[14]:
    - PR1 – Assessment and Management of Environmental and Social Risks and Impacts.
    - PR2 – Labour and Working Conditions.
    - PR3 – Resource Efficiency and Pollution Prevention and Control.
    - PR4 – Health, Safety and Security.
    - PR5 – Land Acquisition, Restrictions on Land Use and Involuntary Resettlement.
    - PR6 – Biodiversity Conservation and Sustainable Management of Living Natural Resources.
    - PR10 – Information Disclosure and Stakeholder Engagement.

[14] EBRD ESP 2019 and Performance Requirements.

The Project must also refer to relevant Good International Practice (GIP) including, but not limited to:

- Voluntary Principles on Security and Human Rights (est. 2000); (http://www.voluntaryprinciples.org/).
- United Nations Guiding Principles for "Protect, Respect and Remedy" Human Rights Framework (2011); (https://www.business-humanrights.org/en/un-secretary-generals-special-representative-on-business-human-rights/un-protect-respect-and-remedy-framework-and-guiding-principles).
- United Nations Code of Conduct for Law Enforcement Officials; and (https://www.un.org/ruleoflaw/blog/document/code-of-conduct-for-law-enforcement-officials/).
- United Nations Basic Principles on the Use of Force and Firearms by Law Enforcement Officials (1990).
- Use of Security Forces: Assessing and Managing Risks and Impacts (February 2017).
- Worker's Accommodation: Processes and Standards (Guidance Note by IFC and EBRD, 2009).
- Stakeholder Engagement: A Good Practice Handbook for Companies Doing Business in Emerging Markets (2007).

The EBRD is committed to promoting the adoption of European Union (EU) environmental principles, practices and substantive standards by EBRD-financed projects, where these can be applied at the project level, regardless of their geographic location. When host country regulations differ from EU substantive environmental standards, projects will be expected to meet whichever is more stringent. Relevant EU Directives include:

- EIA Directive (2011/92/EU as amended 2014/52/EU) on the assessment of the effects of certain public and private projects on the environment.
- Council Directive 2009/147/EC on the conservation of wild birds.
- Council Directive 92/43/EEC on the conservation of natural habitats and wild flora and fauna (Habitats Directive).
- Directive on Environmental Quality Standards in the Water Policy 2008/105/EC.

Fundamental conventions and agreements (in addition to the ILO conventions mentioned in Table 9) signed and ratified by Uzbekistan relevant to the Project are listed in Table 10.

Table 10: Conventions relevant to the Project that Uzbekistan has ratified

Convention name
ENVIRONMENT / CLIMATE CHANGE
United Nations Framework Convention on Climate Change (UNFCC) (New York, 1992) (Official Gazette of RM no. 61/97), including Paris Agreement (joined April 2017)
United Nations Convention on Biological Diversity (Official Gazette of RM no. 54/97)

Convention name
United Nations Convention to Combat Desertification (UNCCD) (26/12/2006)
Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (05/26/1993)
Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (12/22/1995)
The Convention on the Protection and Use of Transboundary Watercourses and International Lakes
Convention Concerning the Protection of the World's Cultural and Natural Heritage (ratified 1993)
Convention for the Safeguarding of the Intangible Cultural Heritage. Paris (ratified 2008)
Convention on International Trade in Endangered Species of Wild Fauna and Flora (07/01/1997)
Convention on the Conservation of the Migratory Species of Wild Animals (Bonn Convention) (05/01/1998)
Convention on Wetlands of International Importance especially the Waterfowl Habitats of Aquatic Birds (Ramsar Convention) (1975) (ratified 2001)
Vienna Convention for the Protection of the Ozone Layer (1985).
Montreal Protocol to Protect the Ozone Layer (including 1990 and 1999 amendments)
ESPOO
Convention on Access to Information, Public Participation in Decision Making and Access to Justice in Environmental Matters (Aarhus Convention) (Official Gazette of RM no. 40/99

4 Organisational framework

4.1 Overview

This chapter summarises the key roles and responsibilities for environmental health and safety (EHS) management structures and Project responsibilities proposed for this Project. The Project construction will be awarded to a winning EPC Contractor under an open tender process for the development and construction phase ("EPC Contractor"). At the commercial operation date (CoD), the Project and all operations and maintenance (O&M) obligations will transfer to the responsibility of JSC NEGU. Other key bodies involved in the development and oversight of the Project are EBRD (as the Lender) and the Ministry of Ecology, Environment protection and Climate change of the Republic of Uzbekistan (MEEPCC).

4.2 EPC Contractor selection

The Contractor selection process should require demonstration of the following competencies:

- ISO 14001 certified EMS or equivalent;
- ISO 45001 or equivalent certified health and safety management system;
- publicly disclosed Health and Safety Policy Statement;
- publicly disclosed Environmental Policy Statement;
- Human Resource Policy;
- Statements relating to any H&S convictions, reportable incidents or environmental breaches;
- Experience implementing requirements of EBRD ESP 2019 on projects.

4.3 Project implementation structure

JSC NEGU will establish a project implementation unit (PIU) to oversee the project development and construction phase. The PIU will include representatives from various disciplines including an E&S Safeguard specialist. and have overall responsibility for oversight of the project supported by relevant parties working for the Lenders. Relevant departments within NEGU will support the PIU to implement the Project requirements as set out in the ESIA documentation and the Project Environmental and Social Action Plan (ESAP) and establish the elements needed to oversee the construction phase and implement the requirements of the operations phase. E&S oversight activities (during construction) will include:

- Ensure the inclusion of key design requirements in the Contractor Request for Proposals (RFP).
- Preparation of Environmental Design Document for inclusion in the Contractor RFP.
- Establish the Project ESMS
- Review and approve the C-ESMP and supporting plans and procedures prepared by the EPC Contractor and identify any areas for improvement.
- Oversee and ensure the implementation of the C-ESMP (with support from the Lenders and ensure all contractors (and sub-contractors) are following this framework ESMP.
- Oversee reporting of environmental performance to the Lenders and SCEPP (during construction).
- Report environmental performance to MEEPCC and Lenders following this framework ESMP.
- Review Contractors C-ESMP (with support from the Lenders) to ensure compliance with this framework ESMP.
- Undertake periodic audits and inspections to ensure mitigation measures are being implemented.
- Act as a key point of contact (in coordination with the EPC Contractor) on environmental and land matters with other government authorities, external bodies, and the public.
- Establish and implement the requirements of the O-ESMP following this framework ESMP.

Currently there is no dedicated E&S team within JSC NEGU and therefore these responsibilities will fall to a third-party advisor supporting the PIU (during construction) or the existing operations and maintenance teams (during operation).

During operation, the Project will be maintained and operated by JSC NEGU. The key E&S activities of JSC NEGU during the operation phase will include:

- Establish an operational ESMS (corporate).
- Develop the operational ESMP (O-ESMP).
- Perform E&S related training for JSC NEGU staff.
- Monitor the performance of the Project against statutory requirements and the agreed objectives and targets.
- Conduct inspections and audits against the ESMP.
- Oversee maintenance works (risk method statements).
- Liaise with stakeholders on E&S matters.

4.4 Engineering, Procurement and Construction (EPC) Contractor

The EPC Contractor will appoint key roles to support the implementation of E&S measures for the Project at the site level. The expected responsibilities of key personnel are summarised in Table 11.

The EPC Contractor's management team will be responsible for ensuring sub-contractor performance, including:

- Adequately informing sub-contractors of the requirements of the Project ESMP (this document) and the Contractor C-ESMP and making sure they can adhere to the requirements.
- Making sub-contractors fully aware of all the E&S and occupational health and safety (OHS) and labour rights requirements that must be adhered to through back-to-back provision contract documentation.
- Identifying the procedures for monitoring and reporting on sub-contractor performance and integrate this into overall site reporting requirements.

4.5 Subcontractors

Subcontractors are expected to review and agree on the requirements of the C-ESMP and support the EPC Contractor and NEGU to work following these requirements.

Table 11: EPC Contractor E&S responsibilities

Role	Responsibility	Minimum qualification
Contractor Site Manager	• Overall responsibility for health safety environment and social (HSES) on site. • Ensure sufficient budget and resources for HSES implementation.	Defined in technical specification.
H&S[15] Manager	• Day to day point of contact for implementation of the H&S requirements of the framework ESMP. • Establish the site ESMS. • Oversee permitting compliance. • Prepare a detailed OHS plan. • Review site the Risk Assessments. • Monitor construction activities performance to ensure that identified and appropriate control measures are effective and ensure compliance with the OHS plan. • Provide or ensure necessary training (contractor team and casual labourers) to implement ESMP requirements.	• 5 to 10 years of experience in the environmental & social fields. • At least 3-years of site-based experience. • Language skills – English, Russian/Uzbek. • IOSH's safety, health and environment for construction site managers or equivalent. • First aid basic certificate. • Knowledge of Uzbekistan health and safety requirements.

[15] The H&S and E&S Manger may be combined into one role HSES Manager.

Role	Responsibility	Minimum qualification
	• Chair weekly HSE meetings and prepare / input into weekly construction progress report (including labour and social matters). • Ensure the application and effectiveness of site permit to work systems and lockout procedures. • Oversee the investigation of all incidents/dangerous occurrences and recommend appropriate corrective & preventive measures, environment and social incidents and labour incidents. • Undertake H&S and emergency drills and report on the outcomes (including corrective actions). • Liaise with the client's environmental manager, HR manager and community liaison officer (CLO). • Ensure all sub-contractors comply with the OHS plan. • Report H&S performance to PIT and Lenders. • perform regular inspections and audits. • Act as the first point of contact on H&S matters.	• Full MS office knowledge and reporting skills and knowledge of risk management, method statement.
Deputy H&E Manager	• Support above activities	• 5 years of experience in the health and safety fields.

Role	Responsibility	Minimum qualification
		• At least 3-years of site-based experience. • Language skills – English, Russian/Uzbek. • IOSH's safety, health and environment for construction site managers or equivalent. • First aid basic certificate. • Knowledge of Uzbekistan health and safety requirements. • Full MS office knowledge and reporting skills and knowledge of risk management, method statement.
H&S Officers (ratio of 1 H&S person per 50 personnel) (OHTL) and at least one HSE at each active workfront.	• Support the above tasks.	• 2 to 5 years of experience in the environmental & social fields. • Site based experience. • Relevant qualifications.

Role	Responsibility	Minimum qualification
		• Knowledge of Uzbekistan environmental laws and requirements. • Familiar with the requirements of EBRD PRs.
Environmental Manager (Supported by environmental officers)	• Implement the E&S requirements of the framework ESMP. • Prepare a detailed C-ESMP. • Oversee site E&S matters. • Provide or ensure necessary training (contractor team and casual labourers) to implement ESMP requirements. • Participate in weekly HSE meetings and prepare / input into a weekly construction progress report. • Ensure all sub-contractors comply with C-ESMP. • Report E&S performance to PIT and Lenders. • Perform regular inspections and audits. • Act as the first point of contact on E&S matters.	• Three-year qualification in Environmental of Social Science or Management. • Minimum of seven (7) years' experience working on a construction site of similar scale and nature. • Knowledge of Lender standards, including IFC Performance Standards. • Knowledge of Uzbekistan environmental regulatory requirements is advisable.

Role	Responsibility	Minimum qualification
	• Establish site community GM. • Act as CLO and implement the requirements of the SEP. • Support NEGU with any community matters. • Manage the environmental monitoring programme, including but not limited to noise, vibration and dust and review of the routine reports.	
Biodiversity monitor (may be a third-party contractor)	• Oversee the implementation of the Biodiversity management plan (BMP) including pre-site clearance survey work, demarcation of sensitive areas as outlined in this framework ESMP. • To inform, explain and where necessary enforce the environmental policies associated with the Project. • To enforce the ban on all hunting across the Project area, raise awareness of the importance of the ban across all employees. • To undertake patrols across the Project area land and oversee and provide guidance on activities which may affect the biodiversity features within the Project area. • To undertake and arrange for the clear demarcation and signage which may prohibit entry to ecologically sensitive areas. • To provide advice to contractors regarding the ecological sensitivities within the Project area, and if necessary, supervise contractors to ensure that they adhere to environmental requirements to minimise disturbance to flora and fauna.	• Ecological qualifications relevant to the species under consideration.

Role	Responsibility	Minimum qualification
	• To maintain working relations with local community groups; landowners, land-managers and business interests (particularly those related to recreation and tourism) by maintaining close liaison with local individuals and communities. • Provide advice to NEGU, Contractor and Project staff, as necessary, in relation to the conservation and management of wildlife areas. • To design and implement the vegetation clearance and ecological monitoring requirements for the Project, as detailed in the ESIA.	
Project archaeologist (may be a third-party contractor)	• Pre-construction surveys if needed.	• Specialist in archaeological matters.
CLO	• Oversee all external communications with the community as stated in the SEP. • Oversee community grievance management.	• CLO will be a locally sourced person with local language skills (Uzbek and Kazakh) and based at the site office.
HR Manager	• Employee onboarding. • Establish a worker grievance mechanism and worker code of conduct on-site (including GBV referral pathways). • Implement the local hiring strategy. • Audit all third-party contractors labour provisions at the outset of the Project.	• 5 to 10 years of experience in HR. • At least 3-years of experience working on infrastructure projects.

Role	Responsibility	Minimum qualification
	• Undertake regular labour audits of subcontractor workers. • Undertake regular inspections of labour accommodation. • Disclose information not the relevant stakeholders including not limited information on including emergency preparedness and action plan) to applicable stakeholders (directly impacted stakeholders, nearby residents, government bodies, and local agencies, interested parties) and translation of the material into applicable languages pre-construction, during construction and pre-commissioning Communicating on GBV and SEA/SH Prevention and Response (quarterly basis through construction via bilateral meetings with women, young girls and boys). • Manage interactions with any worker organizations or unions, as relevant, on site. Negate on behalf of the Project of collective agreements, as necessary. • Handle minor, straightforward issues related to a complainant request for information. • Obtain clarification from other members of management concerning dealing with specific grievances, such as a need to notify the Project Company.	• Knowledge of Uzbekistan labour and HR requirements. • Knowledge ILO conventions and their requirements. • Full MS office knowledge and reporting skills and knowledge of risk management, method statement.
Security Manager	• Ensure the Security Procedure is properly implemented. • Ensure the Fire Prevention and Protection Procedure systems are prepared, available and closely monitored its implementation.	• 5 to 10 years of experience in security.

Role	Responsibility	Minimum qualification
	• Arrange the training for emergency response providers. • Vet all security personnel.	• At least 3-years of site-based experience. • Knowledge of international as well as national security requirements (i.e., the Voluntary Principles on Security and Human Rights
Workers	• Comply with the basic site HSE rules. • Receive induction training and HR training. • Sign the Workers Code of Conduct and GBV/SEA Code of Conduct. • Wear the specified PPE designated for the work area. • Attend all planned toolbox talks, safety briefings, drills and training sessions arranged on their behalf. • Comply with all reasonable instructions issued by the project HSE team. • Report all incidents and accidents immediately to the relevant foreman.	As per individual job requirements.

4.6 Lender

The Lender will play a key role in reviewing and approving the C-ESMP and the O-ESMP, the Human Resources (HR) Policy, and all supporting plans and having an independent monitoring role throughout the construction process.

4.7 MEEPCC

The Ministry of Ecology, Environment protection and Climate change of the Republic of Uzbekistan (MEEPCC) is the main regulating body of state administration on environmental protection issues. The primary responsibilities of the MEEPCC include ensuring the implementation of a unified state policy on environmental safety, environmental protection, and the use and reproduction of natural resources; and enforcing state control over the compliance of ministries, state committees, departments, enterprises, institutions, and organisations, as well as individuals, with respect to the use and protection of land, mineral resources, water, forests, flora and fauna, and atmospheric resources. Structurally, the MEEPCC consists of the central unit (located in Tashkent), regional units (oblast) and local (district) units.

5 Environmental and Social Management

5.1 Environmental and social management system (ESMS)

JSC NEGU and the EPC Contractor and subcontractors must separately establish and maintain an environmental and social management system (ESMS) that addresses the requirements set out in EBRD ESP 2019 including:

1. Establish and maintain an ESMS and health and safety management system (HSMS) developed in the manner of international frameworks quality, occupational health and safety and environmental management such as ISO 9001, ISO 14001, and ISO 45001 that is proportionate to their role on the Project and the impacts identified in the ESIA.
2. Establish a Human Resources (HR) Policy that aligns with EBRD Performance Requirement 2 and specifically address issues including but not limited to: code of conduct; recruitment; compensation and benefits; official working hours; leave; termination; collective bargaining; child labour; forced labour and overtime to be adopted/reflected in the practices of ALL parties working on the Project.

5.2 NEGU-ESMS

The NEGU ESMS (incorporating the health and safety management system) will consider oversight obligations on the EPC contractor for the construction phase, the requirements of the O-ESMP for the operations phase and requirements for implementing the Biodiversity Management Plan, SEP and local development obligations for the construction and operation phase as defined in Chapter 6.

5.3 EPC-ESMS

The EPC Contractor ESMS must cover the scope of the construction phase work and interface as necessary with the NEGU ESMS for all the topics outlined in Chapter 6. The EPC Contractor must be responsible for all third-party subcontractors working following the EPC Contractor ESMS and HR Policy.

An effective ESMS must follow the “Plan, Do, Check, Act” principles of international management systems incorporating the elements outlined in Figure 7 and described below. For the topics covered by the ESMS, HSMS and the HR Policy, specific obligations are defined in Chapter 5.

The EPC Contractor ESMS will include a project specific E&S Policy and supporting procedures outlining how it is intended to implement the required elements of the ESMS to ensure works are executed in a responsible manner. The EPC Contractor must prepare a construction Environmental and Social Management Plan addressing the following topics:

- Legal and other requirements – establish and maintain a system for monitoring legal and other requirements in a systematic way.

- Risk assessment and control – procedure for assessment of risk and opportunities and management processes for each phase to prevent or mitigate adverse E&S impacts and enhance opportunities.

- Objectives and targets – construction phase objectives and targets must be defined bed in Project plans and monitored using project-specific Key Performance Indicators (KPIs).

- Operations management – procedures must be defined to manage the operations to be performed at site, including management of change and sub-contractor management.

- Documentation handling – establish a complete and up-to-date file of all relevant sources of information, records and documentation to evidence compliance with E&S requirements.

- Communication and participation – Procedures must be defined to support communications at all stages of the Project/lifecycle as per the SEP and to ensure that personnel at the appropriate level and function know and understand their HSESS obligations and information.

- Training awareness and competence – procedures must be developed to oversee competence and training and recorded in a training and competence matrix for all E&S roles and engineering roles with E&S responsibilities. Training may include induction training, on the job training, specialist training related to the competencies required for specific roles. General awareness training must also be provided on the ESMS and other E&S matters including:
    - A general understanding of the health and safety and environmental risks associated with the works.
    - Local, national, and international actions which are required to combat these risks.
    - Notification of any specific receptor sensitivities.
    - Emergency preparedness and response provisions.
    - Requirements for waste management, materials management, traffic management, dust control, control of noise.
    - Natural hazard risks.
    - Requirements for H&S, environment and labour incident notification, investigation and reporting procedure.
    - Stakeholder engagement requirements.
    - Security requirements for the site.
    - Labour grievance mechanism and code of conduct, welfare arrangements and key contract provisions.
    - Worker code of conduct and workers grievance mechanism.

- Monitoring, evaluation of compliance and reporting – develop a program of monitoring and reporting to enable E&S performance to be evaluated against project standards. The

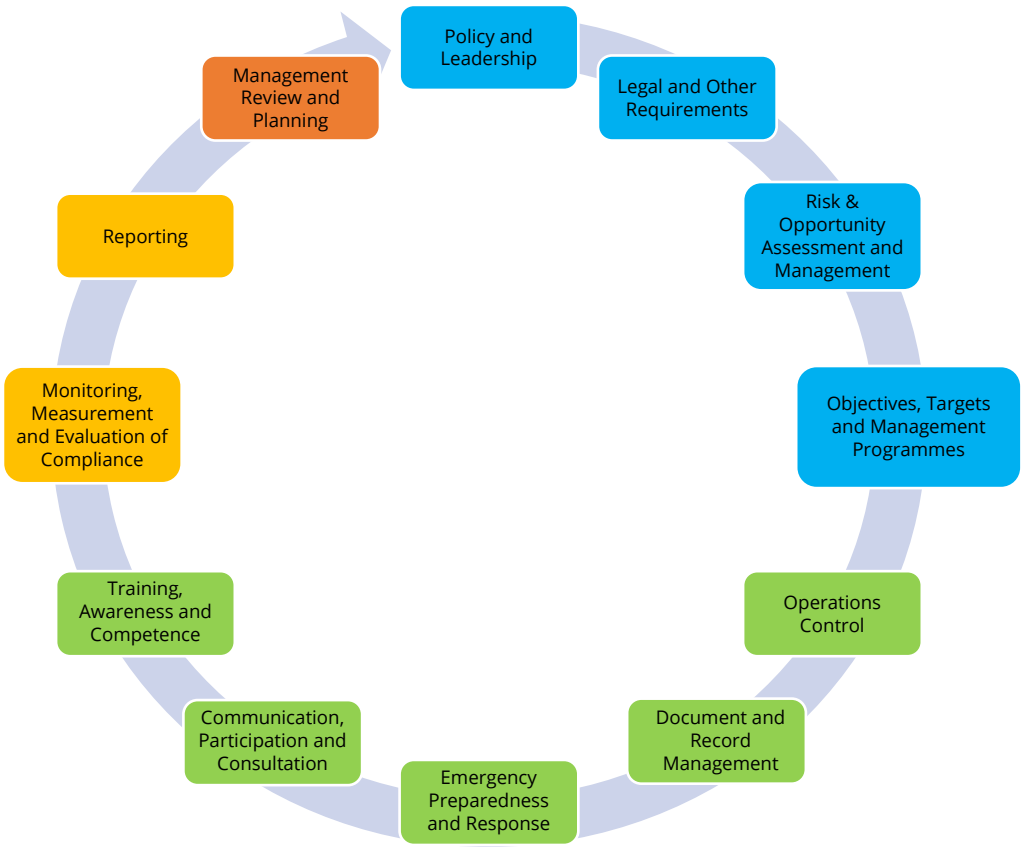
monitoring and reporting system must include a feedback loop to promote continual improvement. Minimum monitoring and reporting requirements for the Project are defined in Chapter 7 below. This must include an accident and incident reporting procedure.

- Supervision, inspections and auditing – the EPC Contractor must establish a program and supporting procedures to supervise and measure the effectiveness of the management system. This should be through a combination of inspections, audits (internal and third party).

- Management review and planning –Sub-Contractor management must demonstrate periodic review of the ESMS to ensure its continuing suitability, adequacy, and effectiveness

The EPC Contractor ESMS will be reviewed and accepted for use by NEGU PIU and EBRD at least 60 days prior to mobilisation at site.

Figure 7: Components of an ESMS



5.4 Supporting Environmental and Social Management Plans and procedures

The relevant party (NEGU, EPC Contractor, other) must develop:

1. A construction environmental and social management plan (C-ESMP) with supporting plans, procedures, forms and method statements (at least 60 days prior to mobilisation for site clearance works) (see also Table 13).
2. An operational environmental and social management plan (O-ESMP) with supporting procedures, forms and method statements (60 days prior to commercial operation date (COD) (see also Table 13). A decommissioning environmental and social management plan (D-ESMP) with supporting procedures, forms and method statements (at least 60 days prior to site mobilisation), (see also Table 13).

The C-ESMP, O-ESMP and D-ESMP must include the following topic specific sub-plans as summarised in Table 12. An outline for these sub-plans is provided in Annex B: Outline for key environmental management plans and Annex C: Outline for Social management plans.

Table 12: Summary of Project management plans and sub-plans

Management Plan	Construction (EPC Contractor)	Operation (NEGU)	Decommissioning
Construction ESMP	X		

Management Plan	Construction (EPC Contractor)	Operation (NEGU)	Decommissioning
Occupational health and safety plan	X	X	X
Emergency Response Plan including Pollution (spill) Incident Control Plan	X	X	X
Vegetation Clearance and Rehabilitation Plan (temporarily cleared areas)	X		X
Site Waste Management Plan	X	X	X
Accommodation Management plan	X		X
Biodiversity Management Plan (including SEFG Pre-Construction monitoring and Relocation Procedure)	X		X
Pollution prevention and control (air, noise, dust, water use, water run off)	X		X
Livelihood Restoration Plan (pre-construction)	X		
Archaeological management plan including chance finds procedure	X		
Stakeholder Engagement Plan (including Grievance Mechanism)	X	X	X
Medical services plan	X		X
Labour management plan (including local employment protocol)	X		X
Internal communication plan	X		
Security Management Plan	X	X	X
Operational ESMP		X	
Decommissioning ESMP			X

6 Mitigation and Management Requirements

6.1 Introduction

The ESMP sets out requirements for the design, pre-mobilisation, construction (including site preparation) and operation phases of the Project.

6.2 Mitigation and Management Requirements – Design phase

Table 13: Mitigation and management requirements – design phase

Objective	Activity	Action	Responsibility	Timescales	Evidence
Avoid significant impacts to sensitive receptors from the construction works.	Design / EPC Contractor Technical Specification	• Line routing to maintain at least 200 m between sensitive receptors and the line route. • Specify tension stringing technique to avoid impact on habitat between the towers and stringing points. • Grade temporary access roads so that their slope is not too large to avoid the build-up of fast-running run-off water during extreme precipitation events.	NEGU (Technical Specification) Contractor (Detailed design)	Pre-FC[16] Pre-NTP[17]	EPC Contract Approved Design
Address climate resilience measures in the technical design.	Design / EPC Contractor Technical Specification	• Design OHTL for climate projections up to 2085 – consider the need to reinforce the structures or higher design standards (stronger winds, higher temperatures). • Design access roads to consider short-term, extreme weather events. • Design any drainage to account for increased or short-term extreme precipitation patterns.	NEGU (Technical Specification) Contractor (Detailed design)	Pre-FC Pre-NTP	EPC Contract Approved Design

[16] pre-FC – Pre financial close.

[17] pre-NTP – Pre-Notice to proceed.

Objective	Activity	Action	Responsibility	Timescales	Evidence
		• Design for increasingly frequent and extreme dust storms. • Specify more effective cooling for substations and transformers, including retrofitting measures, improved shading, and choice of cooler locations where possible around the substation.			
Reduce the use of raw materials/ potentially finite and or scarce resources.	Design / EPC Contractor Technical Specification	• Substitute raw materials or inputs with less hazardous or toxic materials wherever economically and technically feasible. • Identify opportunities to prevent waste production in the first instance. • No groundwater to be used in the construction process. • All drinking and potable water to be tinkered to site from sustainable source.	Contractor (Detailed design)	Pre-FC Pre-NTP	EPC Contract Approve Design
Traffic Management	Design / EPC Contractor Technical Specification	• Design laydown area and delivery approach to minimise vehicle movements on eastern third of the OHTL			
Ensure biodiversity mitigation measures are incorporated into the design.	Design / EPC Contractor Technical Specification	• Specify Bird Flight Diverters on overhead, or static lines of the OHTL following GIP, within high-risk portions of the lines specially: I. westernmost 5 km of the OHTL; II. a 7 km stretch of OHTL centred on Lake Pustynno	NEGU (Technical Specification)	Pre-FC Pre-NTP	EPC Contract Approve Design

Objective	Activity	Action	Responsibility	Timescales	Evidence
		• Specify "Raptor safe" pylon designs for the entire OHTL: o electrified cables suspended below, rather than above support structures; o ≥2m of insulators at each attachment point of a powerline to a support structure; o ≥2m separation between electrified cables; o jumper cables suspended below insulators/support structures. • Micro siting of pylons and access road to avoid takyrs to the extent possible within the potential habitat of SEFG • Micro siting of pylons and access road to avoid Tulipa lehmanniana, Lepidum subcordatum, Acanthophyllum cyrtostegium, and any other UZRDB plants of conservation categories 1 or 2, if discovered in preconstruction surveys, to the extent possible. • No access track along the entire ROW. Use existing road where possible to access the tower work fronts	Contractor (Detailed design)		

Objective	Activity	Action	Responsibility	Timescales	Evidence
Hazardous materials.	Design / EPC Contractor Technical Specification	• Prohibit the following materials in EPC Contract: ○ asbestos. ○ PCB containing materials. ○ lead-based paints. ○ pesticide, herbicides defined under Stockholm convention.	NEGU (Technical Specification) Contractor (Detailed design)	Pre-FC Pre-NTP	EPC Contract Approve Design
Safeguard the wellbeing and improve the living standards of those whose livelihoods are involuntarily displaced.	Prepare Livelihood Restoration Plan (LRP)	• Identify resettlement specialist to define the Livelihood Restoration Plan (LRP): ○ Identify land use or resettlement impacts as a result of the project, based on the final design. ○ Determine compensation and livelihood restoration requirements. • Implement livelihood restoration compensation.	NEGU/Contractor (Detailed design)/ resettlement specialist	Pre-FC Pre-mobilisation	LRP LRP close out report
Schedule works to avoid key impacts.	EPC Contract / Schedule	• Schedule groundworks outside the wet season (growing season) late autumn-early spring.			

6.3 Mitigation and Management Requirements - Pre-mobilisation phase

Table 14: Mitigation and management requirements – pre-financing / pre-mobilisation (any mobilization to site except pre-construction survey work)

Objective	Activity	Action	Responsibility	Timescales	Monitoring / KPI
Comply with national permit requirements.	Environmental permits (permanent)	• Obtain national Environmental Approval (Stage 1 or 2). • Develop permit matrix (name, phase, requirements and lead) and set out conditions register.	Contractor approved by NEGU/Lenders	Pre-Financial Close (FC)	Permit matrix – monthly updates
Implement robust ESMS for the duration of the Project.	Site implementation from NTP to COD	• Establish project E&S Policy. • Develop E&S plans and procedures for implementing the E&S requirements of the Project (Develop C-ESMP and subplans as defined below). • Develop training and awareness program including training matrix and needs analysis, site induction, visitor induction, setting to work briefings, tools box talks and HR onboarding. • Develop internal communication procedure including construction progress meetings, HSES progress meetings. • Develop inspection and audit program for the duration of the works covering all components and aspects of the works including H&S, environment, labour and social.	Contractor approved by NEGU/Lenders	Pre-mobilisation	E&S Policy ESMS C-ESMP Internal communication procedure Inspection and audit program Incident reporting and investigation procedure E&S monitoring program

Objective	Activity	Action	Responsibility	Timescales	Monitoring / KPI
		• Establish an incident reporting and investigation procedure. • Establish reporting requirements (Lender, statutory, other). • Establish system on site for control of documentation. The HSES file must contain documentation with evidence of all statutory obligations and Lender obligations. • Establish an E&S monitoring program.			
Demonstrate Contractor capacity to implement the E&S requirements for the Project.	Pre-mobilisation	• Define NEGU E&S organogram. • Define Contractor E&S organogram.	Sponsor organogram (approved by Lenders) Contractor organogram approved by NEGU/Lenders	Pre-mobilisation	Organogram and CVs for all personnel

Objective	Activity	Action	Responsibility	Timescales	Monitoring / KPI
Demonstrate Contractor capacity to implement the E&S requirements for the Project.	Pre-mobilisation	• Develop O-ESMP.	NEGU (approved by the Lenders)	Pre-COD[18]	O-ESMP
Ensure transparent and robust supply chain.	Selecting suppliers	Develop Supply Chain and Procurement Policy that includes the following obligations: • Prohibit forced labour at the site and in the supply chain. • Prohibit the hiring of child labour at the site and in the supply chain. • Preference for using local suppliers where possible. • Maintain an employee register. • Preference suppliers who remove packaging waste for ultimate disposal (following Uzbek regulations and transboundary waste disposal obligations). • Perform a supply chain due diligence / obtain the third-party supply chain due diligence reports to	Contractor approved by NEGU/Lenders	Pre-mobilisation	Supply Chain and Local Employment and Procurement (see Annex C: Outline for Social management plans)

[18] Pre-COD – Pre-commercial operation date.

Objective	Activity	Action	Responsibility	Timescales	Monitoring / KPI
		verity potential suppliers (Tier 1 and 2) credentials regarding the occurrence of forced labour child labour or occupational health and safety failures.			

Promote the use of local workers on the Project.	Procurement of local labour and contractors	• Set out key competencies for all roles with plenty of notice to mobilise local recruitment.
		• Identify hiring needs.
		• Identify local counterparts for advertising project needs (skilled workers and unskilled workers) who may be sourced from the local labour pool.
		• Develop a **local employment procedure** for the Project, including:
		  ○ Identify a mechanism for promoting women working on the Project.
		  ○ Prioritise local unskilled/semiskilled local employees.
		  ○ Define the working terms and conditions (salary etc.) for each role.
		• Nominate an EPC Contractor HR manager to oversee employment matters on the Project.
			Contractor approved by NEGU/Lenders	Pre-mobilisation	Local employment procedure
					
					EPC Contractor HR manager identified

Implement good international practice (GIP)	Notification of works	• Plan ahead and give regulators advanced warning of potential problems and start of works	Contractor and NEGU	Pre-mobilisation	Monthly update via the PIT

Objective	Activity	Action	Responsibility	Timescales	Monitoring / KPI
for site management and coordination.		• Always display on site the emergency number for regulators and local community leaders at key worksites • Ensure site personnel know the correct procedure for reporting incidents			
	Managing sub-contractors	• Sub-contractors to provide work completion certificates and EHS certificates as proof of their past environmental performance prior to hiring. • Ensure Sub-contractors have a copy of the Project ESMP as part of the tender process. • Ensure sub-contractors attend environmental training / induction session. • Audit the performance of sub-contractors during the Project. • Adhere to the local hiring policy (see section below) for prioritising local contractors. • Require sub-contractors to provide a copy of their HR policy for approval, or that they commit to following the EPC Contractor's/NEGU's HR policy.	EPC Contractor	Part of contractor tender process	Proof of checks, training records Site inspection records HR policies approved by EPC Contractor
		• Nominate person within Contractor's organisation with defined responsibility for EHS role in Project.	EPC Contractor		Successful third-party audit

Objective	Activity	Action	Responsibility	Timescales	Monitoring / KPI
	Management and site control	• Require all method statements to include EHS requirements. • Through relevant training, ensure everyone on site is aware of their responsibilities and liabilities with respect to the environment and social responsibility. • Through site induction, make staff and visitors aware of Project environmental issues and environmental standards. • Display warning signs at key work sites prominently. • Make NEGU's environmental policy available to all on site.		Throughout project works	(NEGU's Environmental Consultant)
		• Adequately protect primary work sites against vandalism, theft and breakage. Construction works Contractor to be responsible for security the site at all times while the services are being performed. • Secure the worksite boundary.	EPC Contractor		
	All site works	• Establish a safe working environment with an occupational health and safety (OHS) plan that addresses potential hazards, identifies preventive and protective measures, including training and us of PPE, and describes documentation and reporting of accidents, diseases and incidents.	EPC Contractor	Throughout project works	OHS Plan

Objective	Activity	Action	Responsibility	Timescales	Monitoring / KPI
	Liaison with the local community	• Identify the key local representatives and keep them informed of Project progress. • Nominate a community point of contact in the Contractor team and Operations team (a CLO). • Display contact board at the perimeter of key work sites stating contact details in the event of a complaint or comment. • Use this board to display information about project phasing and other relevant matters. • Implement the requirements of the grievance mechanism and stakeholder engagement plan (SEP). • Deal with any complaints that arise quickly and in accordance with the defined complaints procedure. • Create a log of complaints and ensure they are properly followed up and resolved.	EPC Contractor/CLO	Start of site works – ongoing thereafter	Complaints register Monthly audits Communication records CLO Daily site walks around Grievance logs Number of complaints
Ensure general site housekeeping and environmental protection	Daily and weekly site inspections of permanent work sites	• Work sites will be subjected to "walk-round" site inspection by the contractors' EHS management staff on a daily basis	EPC Contractor (oversight by NEGU)	Throughout project works	Site inspection records Number of complaints Target zero

Objective	Activity	Action	Responsibility	Timescales	Monitoring / KPI
Safeguard the wellbeing and improve the living standards of those whose livelihoods are involuntarily displaced	Complete implementation of the Livelihood Restoration Plan	• Make all compensation payments as required in the LRP. • Start (and complete if possible) any livelihood restoration activities as required in the LRP.	EPC Contractor (oversight by NEGU)	To be completed prior to construction	Evidence of compensation paid Close out report
Protected Priority Biodiversity Features	Complete mitigation obligations	• Prepare Biodiversity Management Plan (BMP) Off-site vegetation restoration/rehabilitation to compensate for all permanent habitat loss generated by the Project, noting that some species defined as PBF and therefore subject to the "no net loss" mitigation standard per EBRD PR6 occur throughout the entire Project area, such as Central Asian Tortoise[19] (see also ESMP). • Restriction of construction activity to outside of April and May, in nesting period for MacQueen's Bustard (applies to eastern half of the OHTL). • Preconstruction sensitive plant survey (*Acanthophyllum cyrtostegium, Tulipa lehmanniana, Lepidum subcordatum,* other UZRDB category 1 or 2	EPC Contractor (oversight by NEGU)	To be completed prior to construction	BMP approved

19 It is expected the pathway to NNL can be achieved through the restoration and rehabilitation of non-fixed sands connected in the vicinity of the OHTL.

Objective	Activity	Action	Responsibility	Timescales	Monitoring / KPI
		species[20]) including construction phase seed collection and replanting program. ● Install temporary fencing around takyrs in the direct impact area to exclude people, heavy machinery, equipment laydown, or any vehicles from entering/disturbing takyrs habitats for protection of SEFG within, and in close proximity to the direct construction area (10 km segment of potential SEFG habitat in the central part of the OHTL only) ● For SEFG: o develop a Pre-Construction monitoring and Relocation Procedure including requirement to survey population immediately before construction and relocating to the nearest habitats; ● Perform terrestrial animal survey and rescue/relocation, immediately prior to construction including Construction phase part of Pre-Construction monitoring and relocation Procedure). ● Employ a biodiversity monitor to be present onsite during excavation works to assure compliance with construction phase mitigation measures, and to			

20 The Spring / summer flora survey (planned 2024) will be used to update this ESIA and provide further clarity on the distribution of any additional UZRDB category 1 or 2 species in the ROW.

Objective	Activity	Action	Responsibility	Timescales	Monitoring / KPI
		conduct daily searches of work fronts and animal rescue from open trenches, as needed			

6.4 Mitigation and Management Requirements – Construction

Table 15: Mitigation and management requirements – construction

Objective	Project Activity	Action	Responsibility	Timescale	Monitoring / KPI
Minimise dust generation within the direct AOI (200 m from the works).	Earthworks, material handling (C&D) (NB measures to control dust from vehicle activities described under traffic and transportation) Infrequent maintenance activities (O&M)	• Locate activities and rock/earth stockpiles away from identified receptors (ROW and road boundary). • Perform concrete batching off-site (where possible) to minimise dust from this activity in the Project AOI. • Demarcate work area and access roads. • Cover, seed or fence stockpiles to prevent wind whipping. • Keep stockpiles for the shortest possible time. • Consider the prevailing wind direction when siting stockpiles to reduce the likelihood of affecting sensitive receptors. • No bonfires.	EPC Contractor (overseen by NEGU Contractor)	Throughout construction phase	Site inspection records Community grievances

Objective	Project Activity	Action	Responsibility	Timescale	Monitoring / KPI
		• Minimise amounts of material handling and avoid double handling. • Seal or re-vegetate completed earthworks as soon as reasonably practicable after completion. • Ensure all vehicles carrying loose or potentially dusty material are fully sheeted to or from the site. • Cement and other fine powders will be sealed after use or put in bunded containers. • Regular (daily) visual monitoring of dust episodes, soiling of vegetation, dust resuspension on the roads and dust clouds. • Re-vegetate areas as soon as possible (refer to the habitat removal and reinstatement plan (HRRP). • Provide works with relevant PPE, including dust masks.			

Objective	Project Activity	Action	Responsibility	Timescale	Monitoring / KPI
Minimise the impact of fugitive emissions from vehicle exhausts and equipment on receptors along with the direct AOI and the delivery route from the railway station to the "Material and Equipment Laydown Area".	Earthworks, material handling/vehicle movements	• Use of modern vehicle/construction fleet meeting national emissions standards and have regular maintenance work following ("O'z DSt 1057:2004 Vehicles. Safety requirements for technical conditions" and "O'z DSt 1058:2004 Vehicles. Technical inspection. Method of control"). • Monitor all engines and equipment are turned off when not in use. • Locate machinery and dust causing activities (e.g., access roads, stockpiles) away from nearby sensitive receptors where practicable. • Minimise movement of construction traffic around the site (use demarcated routes only). • Record any exceptional incidents that cause dust, either on- or off-site, and the action is taken to	EPC Contractor	Throughout construction phase	Site inspection records Construction reports

Objective	Project Activity	Action	Responsibility	Timescale	Monitoring / KPI
		resolve the situation in the logbook.			
Minimise noise emissions in the OHTL AOI.	Operation of site equipment and presence of workforce at all work fronts	• Construction activities to be limited to daytime working hours (7 am to 6 pm). • Locate the "Material and Equipment Laydown Area" and the "Accommodation facility" away from any noise sensitive receptors (NSR). • Temporary Plant and equipment camps among the OHTL route to be positioned as far as possible from the sensitive area (200 m) (water pumping station, water points, nomad camps along the OHTL route). • Inform nearby dwellings on the timing and duration of works and when the noisiest stages are likely to occur (ongoing through the process). • Plant and equipment to be examined daily for defect before	EPC Contractor	Throughout construction phase	Site inspection records Construction reports

Objective	Project Activity	Action	Responsibility	Timescale	Monitoring / KPI
		the start of works, and under no circumstances should defective equipment be used. • Acoustic covers on machine engines to remain closed at all times as applicable. • Avoid unnecessary revving of engines and equipment to be switched off when not in use. • Site operatives to be briefed in keeping noise to a minimum.			
	Construction traffic	• Construction activities to be limited to daytime working hours (7 am to 6 pm) • Demarcate specific routes from the existing access points and gravel road to the right of way that maintain a buffer of at least 200m from NSR where possible. • Limit vehicle speeds on track to 20km per hour • No traffic should park up on the gravel road.	EPC Contractor	Throughout construction phase	Site inspection records Construction reports

Objective	Project Activity	Action	Responsibility	Timescale	Monitoring / KPI
		• All vehicles to evidence regular maintenance schedule following national stator requirements.			
Minimise impact on water resources.	Groundwater	• No groundwater abstractions for construction works. • Prohibit any uncontrolled releases of potentially contaminated water to the ground, e.g., concrete wash out, oily wastewater (see actions on spill control below). • Establish a controlled concrete washout area (at work front or construction camp).	EPC Contractor	Throughout construction phase	Site inspection records Construction reports
Sustainable water use.	Construction OHTL / substation	• Drinking/potable water for drinking and welfare arrangements at the constrain camp and laydown to be sourced from municipal supply. • All cement to be delivered to site pre-mixed or pre-cast from third parties with approved water use licences.	EPC Contractor	Throughout construction phase	Site inspection records Construction reports

Objective	Project Activity	Action	Responsibility	Timescale	Monitoring / KPI
		• Do not use water for dampening down roads. • Potable water should be obtained from a sustainable source (and not obtained from the water pumping stations along the route, without prior approval that it will not affect water available to other uses (e.g., herders) (equating to at last 4.4 litres per day per worker).			
Minimise road hazards, congestion and damage to road infrastructure (surfaced roads) and residents along the route (see also CHS below).	OHTL, S/S and access road construction.	• Contractors should use a pre-defined route from access points to the gravel road to minimise distances. • Obtain any necessary approvals. • Confirm no road improvements are required and, where required to ensure they comply with relevant county requirements. • Develop a traffic management plan that includes: • No stopping of Project-related vehicles or abnormal loads is	EPC Contractor	Throughout construction phase	Approvals Traffic management plan Training logs/ attendance sheets Signage in place

Objective	Project Activity	Action	Responsibility	Timescale	Monitoring / KPI
		allowed between the railway station and the "Materials and Equipment Laydown Area". • All drivers to undergo a driver induction. • Install signage at access points from gravel road to workfronts.			
Minimise road hazards, congestion and damage to road infrastructure (unsurfaced roads/construction areas).		• Ensure drivers are trained to drive heavy goods vehicles (HGVs) on unsurfaced roads (where necessary). • Check all drivers have the necessary license for the vehicle they are driving. • Ensure all vehicles have up to date maintenance records. • Minimise transport of workers along the unsurfaced road sections, use pool vehicles where possible. • Consider the location for the accommodation camp and the Material and laydown area to	EPC Contractor	Throughout construction phase	Training logs/ attendance sheets Maintenance records Meeting minutes/ attendance sheets/ disclosure documents for consultations with communities

Objective	Project Activity	Action	Responsibility	Timescale	Monitoring / KPI
		minimise additional transportation through local villages and along the unsurfaced road. • Notify the local communities on delivery of wide/heavy loads and how it could potentially impact their road use.			
Minimise traffic-related accidents (surfaced and unsurfaced roads).		• Minimise pedestrian interaction with construction vehicles. • Employ safe traffic control measures, including road signs and flag persons, to warn of dangerous conditions along the unsurfaced road to the work fronts. • Report all traffic accidents and statistics in weekly EHS reporting (all contractors). • All drivers carrying personnel or material along unsurfaced roads must undertake off-road driver training.	EPC Contractor	Throughout construction phase	Road signs Flaggers Reporting on traffic accidents/ incidents/ near misses Training logs/ attendance sheets

Objective	Project Activity	Action	Responsibility	Timescale	Monitoring / KPI
		• Provide awareness training to receptors along the unsurfaced road (herders, residents of Nukus, Sarimay, Uzunkuduk, works at the worker pumping station).			
Minimise impact to soils (contamination).		• Refuelling equipment and vehicles will be carried out in designated areas on the hard standing ground to prevent seepage of any spillages. • Collection systems will be installed in these areas to manage any spills, and fuels will be collected and reused, treated by incineration or removed by a local contractor. • Drip trays must be used when refuelling and servicing vehicles or equipment, where it is not on a hard standing surface. • Hazardous material storage will be on hard standing and impervious surface, and the bulk storage facility will be bunded. The	EPC Contractor	Throughout construction phase	Site inspection records Construction reports

Objective	Project Activity	Action	Responsibility	Timescale	Monitoring / KPI
		Project will restrict storage and handling of hazardous materials and fuels to bunded areas of sufficient capacity to contain a release. Storage containers will be regularly checked and maintained. • Implement measures to address Accidental Leaks/Spills of Oil, Fuel, Chemicals, and Wastes during Construction Activities and manage hazardous materials.			
Minimise impact to soils (degradation).		• Demarcate specific tracks to work fronts and track vehicles to ensure only demarcated routes are used. • Control access to areas along the route that are not required for construction.	EPC Contractor		Site inspection records Construction reports
Implement sustainable site clearance and rehabilitation practices to avoid impact on natural habitats (fixed sands) to avoid the "shifting sands" phenomenon.	Site clearance (OHTL, unsurfaced access routes).	• Develop a site clearance and rehabilitation plan (SCRP). SCRP to address the following: • Topsoil removal following sustainable land-use practices.	EPC Contractor	Plan – pre-NTP Construction phase	Site inspection records Construction reports

Objective	Project Activity	Action	Responsibility	Timescale	Monitoring / KPI
		• Topsoil storage. • Rehabilitation of the temporary work area. • Monitor soil restoration. • Reuse materials on-site wherever possible. • No imported soils or aggregates. • Regular checks and surveys for AIS every three months. • Organic topsoil (superficial layers) will be used for revegetation activities on-site and in the vicinity of the site.			
Ensure appropriate handling, storage, disposal of solid waste and hazardous waste to minimise impacts to groundwater, land and workers.	OHTL (including access routes), S/S	Prepare site waste management plan (SWMP) (for OHTL), including requirements to: • Identity and characterise the source of all waste streams (hazardous and non-hazardous) and the proposed final disposal option (Site waste management).	EPC Contractor	Plan – pre-NTP Construction phase	Site inspection records Construction reports

Objective	Project Activity	Action	Responsibility	Timescale	Monitoring / KPI
		• identify temporary waste storage and collection points (hazardous and non-hazardous) at the work front's, at Materials Laydown area) for coordinated onward transportation and disposal at a licence's facility. • Identify waste reuse and recycling disposal routes to process waste streams (following Uzbek's requirements). • Identify construction waste landfill. • Obtain license and authority of final disposal locations. • Identify and contact authorised transportation company to take waste to the disposal facility (in particular hazardous waste). • Define and establish a documentation management system for tracking waste (duty of care).			

Objective	Project Activity	Action	Responsibility	Timescale	Monitoring / KPI
		• Maintain a hazardous waste inventory. • Segregate waste material on-site for disposal via the identified channels as per SWMP). • All skips/waste storage to be suitably covered (to avoid dispersion of light materials by wind or filling of skip with rain) and waterproofing to avoid any soil contamination from leachate. • Hazardous waste to be designed according to GIP (bunding, separate of incompatible hazardous substations etc.). • Liquid wastes/oil/chemicals to be stored in tanks or drums located in bunded areas that can hold 110% of the total storage volume and according to national safety requirements. • Implement good housekeeping and operating practices, including inventory control to reduce the			

Objective	Project Activity	Action	Responsibility	Timescale	Monitoring / KPI
		amount of waste resulting from out-of-date materials, off-specification, contaminated, damaged, or excess to plant needs.			
Prevent leaks, spills and environmental incidents.	Site establishment & construction	Develop a spills response procedure (may be part of the wider EPRP), including requirements to: ● Maintain an inventory of hazardous materials and specific procedures/ controls. ● Maintain available copies on site of Material Safety Data Sheets (MSDS) for all hazardous substances used during the Project: ● Establish hazardous materials storage areas that are located away from existing sensitive receptors and are secure from theft or vandalism, well ventilated, have suitable emergency response equipment (fire	EPC Contractor	Plan – pre-NTP Construction phase	Site inspection records Construction reports

Objective	Project Activity	Action	Responsibility	Timescale	Monitoring / KPI
		extinguisher, eye wash etc.) and PPE. • Ensure spill kits are located and first response equipment at all work fronts. • Ensure no hazardous materials are stored in large quantities at the work fronts but instead at the central Materials store and laydown area.			
Minimise impact to habitats a in the ROW – General.	OHTL and ROW access construction	Other actions include: • Demarcate the area to be cleared and minimise land clearance needs as much as possible. • Only clear land in the area where the tower foundations will be located. • Access to the tower foundations must be via the demarcated access road (not along the right of way).	EPC Contractor	Plan – pre-NTP Construction phase	Site inspection records Construction reports

Objective	Project Activity	Action	Responsibility	Timescale	Monitoring / KPI
		• Limit land clearance and occupation to the minimum necessary for the Project works. • No access track along the entire ROW. Use existing road where possible to access the tower work fronts. • Rehabilitate temporarily disturbed areas as soon as possible after construction activity is finished to minimise risk of shifting sands. • Minimise use of trenches or other steep-walled excavations. • Backfill open excavations as soon as possible after construction activity. • Perform terrestrial animal survey and rescue/relocation, immediately prior to construction including Construction phase. • Employ bio monitor present on-site during excavation works to assure compliance with			

Objective	Project Activity	Action	Responsibility	Timescale	Monitoring / KPI
		construction phase mitigation measures, and to conduct daily searches of work fronts and animal rescue from open trenches, as needed.			
Reptiles	Excavation works	• Install temporary fencing around takyrs to exclude people, heavy machinery, equipment laydown, or any vehicles from entering/disturbing takyrs habitats for protection of SEFG within, and in close proximity to the direct construction area ((10 km segment of potential SEFG habitat in the central part of the OHTL only). • Worker/contractor training/awareness, supervision regarding impacts to animals and protection of species. • Prohibit poaching and interactions with fauna and flora in the worker code of conduct.	EPC Contractor	Plan – pre-NTP Construction phase	Flora and Fauna Identification, Rescue and Relocation plan

Objective	Project Activity	Action	Responsibility	Timescale	Monitoring / KPI
		• Establishment, posting, and enforcement of vehicular speed limits, and other traffic management measures.			
Mammals	Excavation works	• Minimise use of trenches or other steep-walled excavations • Do not leave open trenches overnight unless they are fenced. • Do not leave open trenches for more than 24 hours once work is complete. • Worker/contractor training/awareness, supervision regarding impacts to animals and protection of species. • Prohibit poaching and interactions with fauna and flora in the worker code of conduct. • Establishment, posting, and enforcement of vehicular speed limits, and other traffic management measures.	EPC Contractor	Plan – pre-NTP Construction phase	Survey report Bio-monitor hired

Objective	Project Activity	Action	Responsibility	Timescale	Monitoring / KPI
Flora	Excavation works	• Preconstruction sensitive plant survey (*Acanthophyllum cyrtostegium, Tulipa lehmanniana, Lepidum subcordatum,* other UZRDB category 1 or 2 species[21]) including construction phase seed collection and replanting program	EPC Contractor	Plan – pre-NTP Construction phase	Survey report
Birds	Excavation works	• Restriction of construction activity to outside of April and May, in nesting period for MacQueen's Bustard (applies to eastern half of the OHTL). • Prohibit poaching and interactions with fauna and flora in the worker code of conduct. • Worker/contractor training/awareness, supervision regarding impacts to animals and protection of species.	EPC Contractor	Plan – pre-NTP Construction phase	Project schedule

21 The Spring / summer flora survey (planned 2024) will be used to update this ESIA and provide further clarity on the distribution of any additional UZRDB category 1 or 2 species in the ROW.

Objective	Project Activity	Action	Responsibility	Timescale	Monitoring / KPI
		• Prohibit poaching and interactions with fauna and flora in the worker code of conduct.			
Minimise loss of ecosystem services.	Construction of OHTL and access roads	• Implement the LARF to mitigate any impacts on the impacted nomadic herders.	EPC Contractor	Plan – pre-NTP Construction phase	Site inspection records Construction reports
Raise worker awareness of the biodiversity risks.	Construction of OHTL and access roads	• Add the following to the Worker Code of Conduct – "Workers are prohibited from: ○ Removing flora from the work area ○ Hunting any species ○ Interaction with large mammals ○ Penalties for infractions ○ .	EPC Contractor	Construction phase	Site inspection records Construction reports
Manage potential unexpected discovery of	OHTL foundations work and	• To nominate a responsible person at each work front as the person	EPC Contractor	Construction phase	Chance finds procedure Toolbox talk logs

Objective	Project Activity	Action	Responsibility	Timescale	Monitoring / KPI
archaeological remains/ artefacts.	establishing access roads	responsible for overseeing chance finds. • Develop and implement a chance finds procedure.			Chance finds register (if necessary)
Safeguard the wellbeing and improve the living standards of those whose livelihoods are involuntarily displaced.	Livelihood restoration	• Implement livelihood restoration activities (if not already completed prior to construction as per the LRP).	EPC Contractor	Construction phase	Close out report
Protect worker health and safety.		Establish (as part of the Contractor ESMS and HR policy the following): • Occupational Health and Safety Plan addressing impacts from dust, occupational noise, falls from height, electrocution risks etc. • Perform risk assessment for all tasks to be undertaken on site • Communicate hazards and risks to all workers during setting to work briefings. • Mandatory PPE to be provided, including steel toe capped boots,	EPC Contractor	Construction phase	Occupational Health and Safety Plan Risk assessment Worker Code of Conduct Worker Induction Program Training logs/ attendance sheets Audit reports Incident reports

Objective	Project Activity	Action	Responsibility	Timescale	Monitoring / KPI
		overalls, hard hat, hi-vis vest, safety glasses, hard hat AND ear protection, gloves, dust masks for specific tasks (e.g., welding). • Develop a Worker Induction Program. • Worker Code of Conduct. • Provide relevant training to all workers. • Undertake regular inspection and audits and ensure there is a corrective action process. • Document and report occupational accidents, diseases and incidents. • Locate worker accommodation more than 500 m from work fronts. • Implement and communicate emergency prevention, preparedness and response arrangements.			

Objective	Project Activity	Action	Responsibility	Timescale	Monitoring / KPI

Protect community health and safety		• Develop Worker Code of Conduct to be read and signed by all workers on the contract during the induction process.
		• Include the worker code of conduct, requirements for addressing potential GBVH risks on the Project and setting out a zero-tolerance policy for the following:
		  ○ use of drugs, alcohol;
		  ○ Incidents of GBV.
		• Ensure security plan includes requirements for vetting security guards, training on the use of force, security guard code of conduct etc.
		• Establish signs across the Project Site and along roads as required to warn local community members and other external stakeholders of any risks and hazards, e.g., from site vehicles, electrical equipment.
			EPC Contractor (overseen by NEGU Contractor)	Construction phase	Worker Code of Conduct
					Vetting of security guards
					Training logs/ attendance sheets
					Signs in place
					Meeting minutes/ attendance sheets
					Number of grievances received

Objective	Project Activity	Action	Responsibility	Timescale	Monitoring / KPI
		• Establish a Community Grievance Mechanism as set out in the Project SEP (Volume V). • Hold meetings with local herders at the start of works to explain risks and issues. • Provide cultural awareness training for all workers.			
GBV		• Provide training and awareness-raising on GBV Policy to all employees (including sub-contractor employees). • Nominate dedicated person for receiving GBVH grievances and trained on how to respond to incidents of GBV nature. • Elaborate GBV referral pathways and mechanisms as part of the external grievance mechanism. • Providing safe, secure and separate living spaces and sanitary facilities for the male and female workers lockable sanitary	EPC Contractor (overseen by NEGU Contractor)	Construction phase	Training logs/ attendance sheets Number of GBV grievance received

Objective	Project Activity	Action	Responsibility	Timescale	Monitoring / KPI
		facilities will be mandatory for women. • Allow submission and investigation of anonymous sexual harassment complaints by workers and host community members and protect the confidentiality of the complainants. • Work in close coordination with the local authorities in investigating any complaints relating to gender violence and harassment in the host communities where it relates to project workers. • Provide targeted training (including in life skills such as leadership and decision-making) and awareness-raising to vulnerable workers such as women.			

Objective	Project Activity	Action	Responsibility	Timescale	Monitoring / KPI
Labour wellbeing		• Ensure all workers on the Project have a written project contract. • Provide an HR onboarding for all workers and explain the contract terms as per EBRD PR2. • Establish a Workforce Grievance Mechanism and ensure confidentially and anonymity where required. • Ensure appropriate welfare provisions (water, shelter, sanitary facilities, food) at the work fronts. • Ensure all workers receive the appropriate training as per the training need analysis and matrix developed under the ESMS (note specific requirements for working within a substation or on live equipment). • Undertake daily toolbox talks at all work fonts.	EPC Contractor	Construction phase	Worker contracts Training logs/ attendance sheets Grievance mechanism Number of grievances received Labour statistics

Objective	Project Activity	Action	Responsibility	Timescale	Monitoring / KPI
		• See also requirements under Emergency Preparedness, and Response. • Provide all workers with notification of the duration of their contract at the start of works. • Develop labour reporting statistics for all workers, including identifying labour statistics per worker category (local, regional, international) and the split between male and female workers.			
Emergency preparedness – general		Develop EPRP with the following minimum requirements: • Identification of the emergency scenarios. • Specific emergency response for each situation relevant to the Project. • Emergency contacts and communication systems/protocols	EPC Contractor	Construction phase	EPRP Site medical services in place Drill reports

Objective	Project Activity	Action	Responsibility	Timescale	Monitoring / KPI
		(including communication with Affected Communities when necessary). • Outline of medical facilities and services required on-site in a Medical Services Procedure and a Casualty Evacuation Procedure. • Assess local emergency services and identify gaps that may need to be filled. • Procedures for interaction with government authorities (emergency, health, environmental authorities), including names and contact details. • Site plan indicating requirements for permanently stationed emergency equipment and facilities (e.g., first aid stations, firefighting equipment, spill response equipment and personal protective equipment (PPE) for the emergency response teams).			

Objective	Project Activity	Action	Responsibility	Timescale	Monitoring / KPI
		• Minimum requirements for trained medical professionals on-site, including first aid stations • Protocols for the use of emergency equipment and facilities. • Clear identification of evacuation routes and Assembly Points (AP) for each work location (including core sites and satellite sites) highlighted on a site plan. • Identification of training requirements for all employees and third-party providers. • Emergency drills and their frequency are based on assigned emergency levels or tiers and an implementation schedule. • Establish a site clinic to provide emergency first aid to employees capable of providing first aid response electrocution, falls from height, etc.			

Objective	Project Activity	Action	Responsibility	Timescale	Monitoring / KPI
		• Medical evacuation procedures to the nearest A&E facility.			
Emergency preparedness – climate risks/natural hazards		• Undertake continuous monitoring of weather events to enable an early warning of any high winds, storms, dust storms, extreme precipitation to enable workers to get to shelter. • Establish worker emergency shelters along the route (Sarimay SS, Uzunkuduk, water pumping stations, Muruntau SS, etc.) • During periods of high wind (10 km/h), any dust-generating activities will not be permitted within 200 m of populated settlements located in the direction of the prevailing wind. • Provide all workers with dust masks in the event of a localised dust event.	EPC Contractor	Construction phase	Worker emergency shelters
Security	Along OHTL route and at work fronts, Substation and	• Perform security risk assessments.	EPC Contractor/ Security contractor	Construction phase	Security risk assessment

Objective	Project Activity	Action	Responsibility	Timescale	Monitoring / KPI
	accommodation facility	• Define in a security management plan the following: • Describe the project security approach and systems, e.g., Security Barriers – such as fences, gates, locks, fortifying facilities, and means of access control. • Accommodation security. • Requirements for vetting security personnel, security uniform. • Undertake training of security guards on human rights and use of force. • Develop Security Code of Conduct and train security personnel in weapons handling, human rights and receipt of grievance.			Security management plan Security Code of Conduct Training logs/ attendance sheets
Safeguarding community members and workers against communicable diseases (COVID-19 if applicable)		Prepare a plan, including but not limited to the following requirements: • COVID-19 Construction Risk Assessment (including accommodation facility).	EPC Contractor/ Security contractor	Construction phase	COVID-19 Construction Risk Assessment COVID-19 site plan

Objective	Project Activity	Action	Responsibility	Timescale	Monitoring / KPI
		• Measures for social distancing (during the execution of the works on-site, transportation and within the accommodation camp). • Measures to minimise the risk of contamination of site personnel from outside the project site (and construction camp), particularly local workers not residing in the accommodation camp. • Measure to minimise the risk of transmission to the local community from site personnel. • Requirements for quarantine (or equivalent isolation) for personnel from outside the site (and from abroad). Types of monitoring implemented. Location and control of quarantine if applicable. • Emergency procedure in case of positive cases or outbreak (for affected personnel and potentially affected personnel).			Training logs/ attendance sheets

Objective	Project Activity	Action	Responsibility	Timescale	Monitoring / KPI
		• The organisation of meetings on-site. • Training of workers on the main ways COVID-19 can be spread, the known ways to limit the spread and the symptoms of the virus. • Control of implementation of COVID-19 measures by subcontractors. • Measures for mitigating the risk of delays from equipment suppliers from countries where COVID-19 outbreaks can occur. • Coordination with local and regional public health officials. • Management of risk of transmission to the local community (especially the management of mixing workers from the community with those housed in workers accommodation).			

Objective	Project Activity	Action	Responsibility	Timescale	Monitoring / KPI
		• Provision of PPE to reduce the risk of spreading COVID-19, such as masks and provision of hand sanitizer.			

6.5 Mitigation and Management Requirements – Operation phase

Table 16: Mitigation and management requirements – operation phase

Objective	Activity	Action	Responsibility	Timescales	Evidence
Implement ESMS in line with GIP.	O&M works – waste	• Ensure ESMS includes relevant requirements for E&S and H&S related training, communication, monitoring, reporting, accident incident reporting, auditing, management review, continuous improvement.	NEGU	Annually	Annual ESMS audit
Operational management planning.		• Develop Project O-ESMP. • Ensure corporate grievance mechanism is disclosed in project areas. • All maintenance work to have a specific risk assessment addressing waste, climate risks H&S, hazardous material management, emergency preparedness and response, traffic risks). • Implement waste management practices in line with O-ESMP and NEGU ESMS. • Ensure correct PPE at all times.	NEGU	Annually	Annual reporting
Minimize climate risk to workers	O&M works	• Monitor climate risks as part of maintenance works risk assessments.	NEGU	Operations phase – ongoing	Monthly O&M reporting

Objective	Activity	Action	Responsibility	Timescales	Evidence
performing O&M works.					
Ensure rehabilitation of disturbed areas is successful.	O&M works	• Implement the requirement of the biodiversity management plan for habitat restoration for no-net loss.	NEGU	Operations phase – 5 years or when necessary	Monthly O&M reporting
Biodiversity	O&M works	• Implement requirements of the BMP for net gain. • Monitor effectiveness of off-site vegetation restoration/rehabilitation to compensate for permanent habitat loss against NNL criteria • Monitoring for bird fatalities due to collisions and electrocutions along the entire line for the first three years of Project operation with specific field and analytical methodologies applied to correct for well-known biases in carcass searching data, including searcher efficiency (detectability), carcass removal (scavenging), and crippling bias"	NEGU	Operations phase – 5 years or when necessary	Monthly O&M reporting
Ensure livelihoods are not adversely impacted in the long-term.	O&M works	• Monitor impacted households for at least three years to ensure they have at least returned to their previous level of livelihood, if not improved their livelihood.	NEGU	Operations phase	Monthly O&M reporting

Objective	Activity	Action	Responsibility	Timescales	Evidence
		• Monitor the implementation of livelihood restoration activities.			

7 Monitoring and reporting

Within the framework of the NEGU or Contractor ESMS as required above, the monitoring and reporting outlined in A complete and up-to-date file of all relevant sources of information will be maintained by a designated E&S manager for all phases of the project. This file will be readily accessible and include, as a minimum, copies of the following documents:

- Current environmental permits and consents.
- All relevant Uzbekistan and International regulations, international guidelines and codes of practice.
- Current calibration certificates for all the equipment that requires calibration by an external organisation.
- The latest version of the ESMP.
- Records for environmental monitoring (inspection forms) and audits.
- Record of the construction programme.
- Manufacturers' operating manuals for all the environmental monitoring equipment.
- Equipment maintenance and repair records.
- Correspondences in relation to environmental matters/permits including internal and external.
- Minutes of relevant meetings.
- Environmental training records (e.g., attendance records for environmental awareness training).

Table 17 and Table 18 are required for the construction and operation respectively.

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- Record of the construction programme.
- Manufacturers' operating manuals for all the environmental monitoring equipment.
- Equipment maintenance and repair records.
- Correspondences in relation to environmental matters/permits including internal and external.
- Minutes of relevant meetings.
- Environmental training records (e.g., attendance records for environmental awareness training).

Table 17: Monitoring and reporting obligations – construction

Monitoring	Parameters	Frequency & Duration	Location	Reporting obligations	Responsibility
OHS and environmental and social statistics	Numbers of fatalities, accidents and injuries. Incident reporting and follow up actions. Environment: waste, water use. Emergency Drills	Monthly	Site	Monthly construction monitoring report (Annex D: Labour reporting templates	EPC Contractor
Labour and worker grievance statistics	Number of workers, gender of workers and if they are local or not and subcontractor statistics.	Monthly	Site	Monthly construction monitoring report	EPC Contractor
Labour accommodation	Compliance of accommodation against the labour accommodation plan.	Monthly	Labour accommodation	Monthly construction monitoring report or accommodation audit report	EPC Contractor
Labour and working conditions	Review of working conditions, paysheets and payslips, leave allocation, and interview with workers to verify findings.	Monthly	Site	Monthly construction monitoring report or labour audit report	EPC Contractor

Monitoring	Parameters	Frequency & Duration	Location	Reporting obligations	Responsibility
Security incidents	Security incidence. Incident reporting and follow up actions.	Monthly	Site	Monthly construction monitoring report	EPC Contractor
Stakeholder engagement	Stakeholder engagement completed (stakeholder log).	Monthly	Site/local communities	Monthly construction monitoring report	EPC Contractor
Grievances	Number of community grievances received (grievance log). Responses and follow up actions.	Monthly	Site/local communities	Monthly construction monitoring report	EPC Contractor
Incidents	- Maintain logbook: record any exceptional incidents that cause dust, either on- or off-site, and the action taken to resolve the situation in the logbook	Monthly	Monthly construction monitoring report	EPC Contractor	Monthly construction monitoring report
Dust	- visual monitoring of dust episodes, soiling of vegetation, dust resuspension on the roads and dust clouds at OHTL Work fronts. -	Daily	Monthly construction monitoring report	EPC Contractor	Monthly construction monitoring report

Monitoring	Parameters	Frequency & Duration	Location	Reporting obligations	Responsibility
Noise	- Spot check monitoring may be performed at sensitive sites. - Conduct noise monitoring in the event of a noise complaint or evidence of exceedance of community noise guidelines values.	Daily Following grievance	Monthly construction monitoring report	EPC Contractor	Monthly construction monitoring report
Waste	- waste generation volumes for construction wastes (segregated by waste stream).	Monthly	Site	Monthly construction monitoring report	EPC Contractor
Climate	- weather (wind and extreme heat)	Continuous	Site	Monthly construction monitoring report	EPC Contractor
Water use	- volume of construction water use.	Monthly	Site	Monthly construction monitoring report	EPC Contractor
Traffic	- Maintain logbook: record any traffic incidents.	Daily	Site	Monthly construction monitoring report	EPC Contractor
Chance finds	- Log and report all chance finds identified (should items of cultural heritage	Upon discovery	Site	Monthly construction monitoring report	EPC Contractor

Monitoring	Parameters	Frequency & Duration	Location	Reporting obligations	Responsibility
	be found near the proposed project site, these should be regularly monitored to ensure they are properly signposted, their buffer zones are maintained and that no harm has come to the items).				

Table 18: Monitoring and reporting obligations – operation

Monitoring	Parameters	Frequency & Duration	Location	Reporting obligations	Responsibility
OHS	Numbers of fatalities, accidents and injuries. Incident reporting and follow up actions.	Bi-annually	Site	Bi-annual operations monitoring report	NEGU
Labour statistics	Number of workers, gender of workers and if they are local or not.	Bi-annually	Site	Bi-annual operations monitoring report	NEGU
Labour and working conditions	Review of working conditions, paysheets and payslips, leave	Bi-annually	Site	Bi-annual operations monitoring report or labour audit report	NEGU

Monitoring	Parameters	Frequency & Duration	Location	Reporting obligations	Responsibility
	allocation, and interview with workers to verify findings. Monitor private employment agencies (if used) for recruitment fees and ensure they are paid by employers rather than prospective job applicants.				
Security incidents	Whether or not there have been security incidence. Incident reporting and follow up actions.	Bi-annually	Site	Bi-annual operations monitoring report	NEGU
Stakeholder engagement	Stakeholder engagement completed	Bi-annually	Site/local communities	Bi-annual operations monitoring report	NEGU
Grievances	Number of worker/community grievances received. Responses and follow up actions.	Bi-annually	Site/local communities	Bi-annual operations monitoring report	NEGU
Livelihood impact	- impacted households for at least three years to ensure they have at least returned to their previous level of livelihood, if not improved their livelihood.	Quantity for first there years	Site	Annual operations monitoring report	NEGU

Monitoring	Parameters	Frequency & Duration	Location	Reporting obligations	Responsibility
	implementation of livelihood restoration activities.				
Biodiversity	Monitor restoration of soils disturbed during construction works until fully rehabilitated.	Annually for first five years	Site	Annual operations monitoring report	NEGU
Habitat restoration (no-net loss)	- effectiveness of off-site vegetation restoration/rehabilitation to compensate for permanent habitat loss against NNL criteria.	Annual for first 5 years	Site	Annual CH monitoring report and no net loss report (including NNL calculation) Annual bird fatality monitoring reports	NEGU

8 Stakeholder Engagement

EBRD Performance Requirement 10 (PR10) requires a Project to identify external and internal stakeholders and establish a means of communication with them. All communication, as well as the stakeholders identified, is documented in the Project SEP (Volume V) that is subject to public disclosure.

The SEP presents a detailed plan for stakeholder engagement obligation for the pre-construction, construction, operation and decommissioning phases. The Project is required to:

- Inform and consult with local communities and other relevant stakeholder prior to the development of the facility on potential impacts, management measures and potential opportunities.
- Publicise the Project grievance mechanism with local communities.
- Maintain meaningful dialogue through consultations and information disclosure with local communities and other relevant stakeholders.
- Develop a communication records procedure that will log key information provided from and to stakeholders.

Responsibility for implementation of the requirements of the SEP will transfer to the EPC contractor upon appointment and be overseen by NEGU or remain with NEGU for the duration of the project supported by the EPC Contractor as necessary. The EPC Contractor or NEGU will appoint a dedicated person to manage the stakeholder relations as defined in the Project SEP and any new obligations as identified post finalisation of the ESIA for the construction phase.

Internal communication between the Project, EPC Contractor and workers must be defined in a Project Internal Communication Plan.

During operation, NEGU will be responsible for stakeholder engagement and grievance management in accordance with their corporate communication protocols.

9 Grievance mechanism

A preliminary grievance mechanism been prepared and is included in the stakeholder engagement plan (SEP). Juru is currently the main point of contact. However, the grievance mechanism will be adopted by the EPC Contractor following the completion of the ESIA preparation phase. A template grievance form has been prepared, that enables the registration of any grievances received and includes measures for the provision of a response to the applicant. It is provided in Annex A: GRM form.

The form contains of three main sections:

- Section I – general information, including the contact details of applicant. If the applicant prefers to submit an anonymous application his/her name and contact details will not be disclosed. Only the person responsible for responding to the grievances will have this information to deliver the response, or the applicant will be advised that in some cases a direct response may not be able to be provided to an anonymous grievance.
- Section II aimed to reflect main message of applicant.
- Section III demonstrates the response provided to applicant and by whom it is delivered.

Annex A: GRM form

a) English version

SARIMAY-MURUNTAU OHTL GRIEVANCE FORM *To be used for grievance(s) comments, suggestions, or/and inquires or any other matters*	
Reference number	*(to be filled in by Juru representative)* REF:
INSTRUCTIONS	Please fill in this Grievance form in clear handwriting and submit through one of the following means: - Directly to Juru - By email to: g.nematullaeva@juru.org l.bakhova@juru.org - Phone Number: +998 97 445 95 04 +998 91 009 16 39
Full Name	First Name:
	Last Name:
	☐ I wish to raise my grievance anonymously *(You can remain anonymous if you prefer but we may not be able to contact you with a response to your concern)*
	☐ I wish to raise my grievance confidentially *(You can remain confidential in all reporting if you prefer)*
Contact Information Please mark how you wish to be contacted (mail, telephone, e- mail)	☐ By Post: *Please provide:*
	☐ By telephone: *Please provide:*
	☐ By email: *Please provide:*
Preferred Language of Communication	☐ Uzbek
	☐ Russian
	☐ Turkmen
	☐ Kazakh
	☐ English

Description of Incident/Grievance *What happened?* *Where did it happen?* *Who did it happen to?* *What is the result of the problem?*			
Date of Incident/Grievance	☐ One-time incident/grievance (date…)		
	☐ Happened more than once (how many times?)		
	☐ Ongoing (currently experiencing problem)		
What would you like to see happen to resolve the problem?			
Signature:		Date:	

b) Uzbek version

SHIKOYAT MUROJAATNOMASI SHAKLI *Izohlar, takliflar yoki/va yoki boshqa masalalarni ko'tarish uchun foydalanilmaydi*	
YO'RIQNOMA	Iltimos, ushbu shikoyat murojaati shaklini aniq yozuvda to'ldiring va quyidagi aloqa vositalari orqali taqdim eting: - To'g'ridan-to'g'ri Juru ga - Elektron manzil orqali: g.nematullaeva@juru.org l.bakhova@juru.org - Telefon orqali: +998 97 445 95 04 +998 91 009 16 39
F.I.Sh	Ismi:
	Familiyasi:
	☐ Murojaatimni anonim tarzda bo'lishini istayman. (Hohishingizga ko'ra anonim tarzda murojaat qilishingiz mumkin, ammo u holda masalangiz yuzasidan sizga javob bilan murojaat qila olmaymiz)
Aloqa ma'lumotlari Murojaatga javob olish shaklini ko'rsating (pochta, telefon, e-mail).	☐ Pochta orqali: *Iltimos, manzilni ko'rsating:*
	☐ Telefon orqali: *Iltimos, manzilni ko'rsating:*
	☐ Email orqali: *Iltimos, manzilni ko'rsating:*
Afzal ko'riladigan aloqa tili	☐ O'zbek
	☐ Rus
	☐ Turkman
	☐ Qozoq
	☐ Ingliz
Murojaat/shikoyat mazmuni *Nima sodir bo'ldi?* *Qayerda?* *Kim buni boshidan o'tkazdi?*	

Natijada nima sodir bo'ldi?			
Murojaat/shikoyat sanasi	☐ Bir martalik murojaat/shokioyat (sana_____)		
	☐ Bir necha marta yuborilgan murojaat/shikoyat (necha marotaba _____)		
	☐ Davom etayotgan (ayni paytda yechimi topilayotgan murojaat)		
Muammoni hal qilish uchun qanday chora-tadbirlar qo'llanishini xohlaysiz?			
Imzo:		Sana:	

Annex B: Outline for key environmental management plans

Plan	Scope	Content
Occupational health and safety	All health and safety during the project	• Project description. • Responsibilities of personnel. • Consultation, induction and training. • Identification of hazards including assessment and control risks (physical, electrical, biological risks). • Managing subcontractors. • Managing incidents. • Monitoring and review of the plan.
Emergency preparedness and response plan	Dust storms Extreme heat Natural hazards Fire Explosion Spills	• Title. • Details of crisis management team. • List of contacts with external organizations (names), address, telephone numbers) and individual responsibilities for making these contacts. • List of individual responsibilities under the headings. • Preparation in the event of an accident. • Actions during the emergency (for each scenario). • Actions after the emergency. • Sources of necessary information and locations of the pollution control facilities. • Accident and incident reporting. • Spill response.
Vegetation clearance and rehabilitation	Active restoration of disturbed habitat following construction phase works	• Introduction. • Statutory requirements. • Existing environment. • Vegetation management objectives for different habitat types. • Vegetation to be retained. • Vegetation clearance. • Protection of PBF and other key habitats/species • Rehabilitation management (objectives for each vegetation type). • Rehabilitation methodology. • Supporting actions (invasive species management, topsoil stripping, recovery and stockpiling, erosion and sedimentation control, species selection and seed collection, fire management). • Completion criteria, remedial actions and rehabilitation monitoring.

Plan	Scope	Content
		• Financing and provision. • Training. • Reporting and review.
Site Waste management plan	General and hazardous waste disposal	• Identify who is responsible – different individuals may be responsible during the various stages of the Project i.e., planning, construction and operation. These individuals must be identified for each key stage and be aware of their responsibilities. They will be required to hold sufficient authority to ensure compliance with the WMP by other site operatives. • Identify the types and quantities of waste – all waste streams that will be produced during construction, operation and decommissioning require to be identified. • Hazardous Classes – hazardous wastes will be classified according to the requirements of the EU Hazardous Waste Directive classification system. • Identify waste management options – as described in the construction and operational EMMPs provided in above, a waste hierarchy for on and off-site options needs to be prepared. Where hazardous wastes are being generated, particular attention to the arrangements for identifying and managing such waste will need to be addressed and procedures put in place. • Identify waste management sites – the location of waste management sites will need to be identified, ideally the most local sites will be used to minimize transportation costs. It is important that legal contracts are in place when using waste disposal contractors and waste disposal contractors comply with the legal responsibilities of the local and national area. • Training – all staff must be trained to ensure they understand the requirements of the WMP and their responsibilities therein, this includes in-house teams and sub-contractors. • Plan - using the steps above, establish indicative percentages of the waste quantities to be produced over the life span of the Project. • Measures – the quantities of wastes produced will be recorded monthly, and where possible

Plan	Scope	Content
		measures taken to re-use, reduce or recycle waste as appropriate; and • Monitor – throughout the Project life cycle, waste management on site will be monitored, to ensure compliance with the WMP.
Cultural heritage plan	Pre-clearance surveys and chance finds procedure	• Procedure for undertaking systematic surveys. • Procedure for dealing with chance finds. • Method for recording, collecting and mapping using a global positioning system (GPS) any areas of interest. • Method for pre-cleanse surveys including any below ground assessment. • Method for ensuring that the handling and management of the resources will be done according to their tradition, typology and cultural sequence. • Documentation procedure; and • Key roles and responsibilities (EDM, Construction Contractors and Ministry). • *Chance finds procedure.*

Annex C: Outline for Social management plans

Plan	Scope	Content
Accommodation Management Plan	Construction camp (accommodation facility)	• Introduction (baseline conditions, profile of workers, accommodation principles). • Camp description. • Legal and policy framework. • Economic impacts. • Social impacts. • Management of worker accommodation (processes and procedures for accommodation, access entity, EPRP, fire, food, recreation, welfare etc.), organizational framework, workplan and schedule). • Management of grievances. • Monitoring and reporting.
Land Acquisition and Livelihood Restoration Framework (pre-construction)		• Introduction. • Overview of land required for the project. • Policy and Legal Context. • Impacts of the Project on Livelihoods Restoration (approach, mechanisms, entitlements matrix, assistance for vulnerable people, etc.) • Disclosure of information. • Monitoring, auditing and reporting. • Grievance mechanism.

Annex D: Labour reporting templates

- EBRD PR2 Tool 12: Reporting through the contracting chain template for Contractors – Sarimay-Muruntau 500 kV Transmission Line: Contractor reporting forms