

Environmental Assessment and Review Framework

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Uzbekistan: Distribution Network Modernization Project

Prepared by Joint Stock Company Regional Electric Power Networks for the Asian Development Bank.

CURRENCY EQUIVALENTS

(as of October 2020)

Currency Unit – Uzbek Som (UZS)

UZS1.00 = 0.0001 USD

USD1.00 = 10,300UZS

ABBREVIATIONS

AIP	-	Annual Investment Plan
DSEI	-	Draft Statement of Environmental Impact
EA	-	Executing Agency
EARF	-	Environmental Assessment and Review Framework
EHS	-	Environmental Health and Safety
EIA	-	Environmental Impact Assessment
EMP	-	Environmental Management Plan
FGD	-	Focus Group Discussion
F-TRTA	-	Transaction Technical Assistance Facility
GRM	-	Grievance Redress Mechanism
IEE	-	Initial Environmental Examination
OHS	-	Occupational Health and Safety
PCB	-	Polychlorinated Biphenyl
PMU	-	Project Management Unit
PTES	-	REN Territorial Distribution Company
REN	-	Regional Electricity Networks JSC
SCNP	-	State Committee for Nature Protection
SEE	-	State Ecological Expertise
SEI	-	Statement of Environmental Impact
SFP	-	Safeguard Focal Point
SPS	-	Safeguard Policy Statement
SS	-	Safeguard Specialist
WBG	-	World Bank Group
ZEP	-	State Environmental Consequences

NOTE

In this report \$ refers to United States dollars unless otherwise stated.

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I. INTRODUCTION

A. Background

1. The project forms part of the transaction technical assistance facility (F-TRTA) which will provide project preparation support to a series of ensuing projects, comprising the:

- **Distribution Network Modernization Project, the focus of the EARF in hand;**
- Regional Gas Transmission Efficiency Enhancement Project; and
- Regional Energy Transmission and Dispatch Enhancement Project.

2. All ensuing projects are among the Government of Uzbekistan's priorities for energy sector development under Uzbekistan's 2030 strategy.

3. The three ensuing energy projects to be prepared under the F-TRTA are of similar nature. These projects are aligned with the government's objectives to strengthen reliability of the energy sector to increase its sustainability and efficiency and mobilize private sector investments. The projects aim to improve the quality of energy supply, reduce aggregate technical and commercial losses, and improve the financial performance of energy utilities.

4. The **Distribution Network Modernization Project comprises** four outputs: (i) distribution system modernized and expanded, (ii) digitalization of distribution network operations (iii) institutional capacity enhanced for improved sector sustainability, and (iv) energy-based innovations in support of the *Obod qishloq* (prosperous villages) program. The objectives of the project are:

- Distribution system modernized and augmented.
- Institutional capacity enhanced for improved sector.
- Renewable energy use promoted in the distribution system.

5. The proposed nature of activities under the program shall consist primarily of: (a) construction/rehabilitation of distribution poles and lines (up to 10kV), (b) the replacement of transformer sets (up to 10kV), and (c) the construction of community based small-scale solar pilot projects (approximate capacity 200kW).

6. Project activities be undertaken over a five-year period and will be limited to the following regions of Uzbekistan:

- Samarkand
- Bukhara
- Jizzak

7. The Joint-Stock Company Regional Electricity Power Networks (REN) is the Executing Agency (EA) for the program, and its subsidiary territorial distribution companies are the implementing agencies (IA). Physical works will be completed by the REN Territorial Distribution Company (PTES)¹ and their subcontractors.

B. Purpose of Environmental Assessment and Review Framework (EARF)

8. The EARF aims to provide guidance on safeguard screening, assessment, institutional arrangements, and processes to be followed for components of the project, where design and/or

¹ REN comprises fourteen regional companies (e.g. Bukhara, Samarkand, Ferghana, etc) that are known as Territorial Distribution Companies, or 'PTES' as they are generally referred to in REN (PTES being a Russian acronym).

activity selection takes place after ADB Board approval. The activity selection will be in accordance with the environmental activity selection criteria as outlined in this EARF. The implementing agency (REN) will agree with ADB on screening and categorization, environmental assessment, preparation and implementation, monitoring of the activities to facilitate compliance with the requirements specified in ADB Safeguard Policy Statement (SPS, 2009) and government rules and laws.

9. This EARF (i) describes the program and its components; (ii) explains the general anticipated environmental impacts and mitigation measures for the proposed activities, which will be financed under the program after ADB Board approval; (iii) specifies the requirements that will be followed in relation to screening and categorization, assessment, and planning, including arrangements for meaningful consultation with affected people and other stakeholders and information disclosure requirements; (iv) assesses the capability of the project proponents to implement national laws and ADB's requirements, and identifies needs for capacity building; (v) specifies implementation procedures, institutional arrangements, and capacity development requirements; and (vi) specifies monitoring and reporting requirements.

10. This EARF provides guidance towards environmental assessment and reporting requirements to comply with both ADB and government policies.

C. Environmental Categorization

11. Based on the existing ADB Environmental Safeguards Policy (2009), this project falls under ADB's project Category B as the proposed project's potential adverse environmental impacts are site-specific, few if any of them are irreversible, and in most cases mitigation measures can be designed more readily than for category A projects.

II. OVERVIEW OF PROJECT COMPONENTS

12. The typology of construction works that will be conducted under this project is provided in the table below. As can be observed, the Project activities are all site specific, short term in nature and would result in minor impacts with no Category 'A' activity planned under this project.

Table 1: Typology of Activities in Program

Activities	Pictures of Proposed Tasks
<p>Distribution Infrastructure</p> <p><u>Replacement/Construction of Transformer Pad-mounted 'Kiosks' (up to 10 kV)</u></p> <p>Tasks involved:</p> <ul style="list-style-type: none"> • Inform local community in advance of works and any potential electricity disruptions. • Move equipment and pre-fabricated kiosk to site, 4-5 persons using a truck and truck mounted crane. • Prepare worksite, including erection of warning signs and safety fences if required. • Dismantle and remove old kiosk (this may be done separately if kiosk is being placed in another location close by). • Transport old transformer to PTES maintenance yard for repair / recycling / disposal. • Prepare base for kiosk, simple concrete base or footings which may require minor excavation. • Place kiosk onto the site footings using crane. • Connect kiosk to the existing network. • Remove any waste materials, such as packaging waste, scrap wires, etc. 	
<p><u>Replacement / Construction of Pole-mounted Transformers (up to 10kV)</u></p> <p>Tasks involved:</p> <ul style="list-style-type: none"> • Inform local community in advance of works and any potential electricity disruptions. • Move equipment to site (2-3 persons). • Prepare worksite, including erection of warning signs and safety fences if required. • Dismantle and remove old transformer using cherry picker. • Transport old transformer to PTES maintenance yard for repair / recycling / disposal. • Install new transformer using cherry picker. • Connect unit to the existing network. • Remove any waste materials, such as packaging waste, scrap wires, etc. 	

Replacement / Construction of Distribution Line (up to 10kV)**Tasks involved:**

- Inform local community in advance of works and any potential electricity disruptions.
- Move equipment to site using trucks.
- Prepare worksite, including erection of warning signs and safety fences if required.
- Dismantle old poles and transport old poles to PTES maintenance yard.
- Drill / dig new footings for poles.
- Erect new poles.
- String lines using cherry pickers.
- Remove any waste materials, such as packaging waste, scrap wires, etc.

**Rooftop Solar Pilot Projects****Construction of small-scale rooftop solar power (no greater than 200kW)****Tasks involved:**

- Transport of equipment / materials to site in trucks
- Installation of panel footings.
- Installation of panels frames.
- Installation of solar panels.
- Connection to network.
- Removal of waste materials from site.



III. POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

A. Legal Framework for Environmental Assessment and Management

13. The main normative documents governing the environmental protection activities relevant to the program are:

- (i) **Law on Nature Protection, №754-XII dd. 09.12.1992 (last amended on 18.04.2018**, law of Uzbekistan on amendments and additions to certain legislative acts of the republic of Uzbekistan **№3PY-584 dd. 14.11.2019 Article 1.**) This law states legal, economic, and organizational bases for the conservation of the environment and the rational use of natural resources. Its purpose is to ensure balanced relations between man and nature, to protect the environmental system and to guarantee the rights of the population of a clean environment. Article 25 of this law states that State Environmental Expertise (SEE) is a mandatory measure for environmental protection, preceded to decision-making process. In addition, article 25 says that the implementation of the project without a positive conclusion of SEE is prohibited.
- (ii) **Law "ON ATMOSPHERIC AIR PROTECTION, №353-I dd. 27.12.1996** (and it's amended with Law of Uzbekistan «on amendments and additions to the law of the republic of **Uzbekistan** "on atmospheric air protection» **№3PY-529 dd. 13.03.2019**). It describes regulations on atmosphere protection and its objectives. It specifies standards, quality and deleterious effect norms, requirements on fuels and lubricants, production and operation of vehicles and other transport means and equipment, ozone layer protection requirements, obligations of enterprises, institutions and organizations toward atmospheric protection, and compensations for damages from atmospheric pollutions.
- (iii) **Law on Water and Water Use, №837-XII dd. 06.05.1993**. (it's amended the law of the republic of Uzbekistan, introducing amendments and additions to some legislative acts of Uzbekistan in connection with deepening economic reforms in agriculture and water sector **№3PY-240 dd. 25.12.2009**). This law regulates the water relations, rational use of water by the population and economy. The law also regulates the protection of waters from pollution and **depletion**, and prevention and liquidation of harmful effects of water, improvement of water bodies and the protection of the rights of enterprises and institutions, organizations and dehqan ² farms and individuals in the field of water relations.
- (iv) **Land Code, dd. 30.04.1998**. (it's amended law of Uzbekistan on amendments and additions to certain legislative acts of the republic of Uzbekistan **№3PY-533 dd. 04.04.2019**). The Land Code of the Republic of Uzbekistan regulates land relations to ensure that present and future generations have science-based, sustainable use and conservation of land, breeding and improvement of soil fertility, conservation and improvement of the environment and creating conditions for equitable development of all forms of management, the protection of individuals and legal entities' right for land, as well as strengthening the rule of law in this area.
- (v) **Law on Ecological Expertise, № 73-II dd. 25.05.2000**. Ensures a mandatory expert assessment of impacts on the environment and human health, as well as a legal basis for conducting expert assessments. (**Resolution of the cabinet of ministers of the republic of Uzbekistan on approval of the regulations on state environmental expertise № 949 dd. 22.11.2018.**)
- (vi) **Law on Wastes, № 362-II dd. 05.04. 2002** (and it's amendments law of Uzbekistan

² Individual or family farm.

on amendments and additions to certain legislative acts of the republic of Uzbekistan **№3PY-584 dd. 14.11.2019 Article 7.**). Addresses waste management, exclusive of emissions and air and water pollution, and confers authority to the SNPC concerning inspections, coordination, ecological expertise and establishing certain parameters regarding the locations where waste may be processed. Enterprises are responsible for their waste, but, if they recycle, they may be provided with assistance from the state budget, the National Fund for Nature Protection or voluntary payments. The principal objective of this law is to prevent negative effects of solid wastes on people's lives and health, as well as on the environment, reduce wastes generations, and encourage rational use of waste reduction techniques in household activities.

- (vii) **Law on Protected Natural Territories, № 710-II dd. 3.12.2004.** (it's amendments law of **Uzbekistan** on amendments and additions to certain legislative acts of the republic of Uzbekistan **№3PY-373 dd. 4.09.2014 Article 24.**). This law regulates relations in term of organization, protection and use of protected natural territories. The main tasks of this Law are the preservation of typical, unique, valuable natural objects and complexes, the genetic fund of plants and animals, the prevention of the negative impact of human activities on nature, the study of natural processes, the monitoring of the environment, the improvement of environmental education.
- (viii) **Law on Environmental Control, №3PY-363 dd. 27.12.2013.** The purpose of this Law is to regulate relations in the field of environmental control. The main objectives of environmental control are: (i) prevention, detection and suppression of violation of the requirements of legislation in the field of environmental protection and rational use of natural resources;(ii) monitoring the state of the environment, identifying situations that can lead to environmental pollution, irrational use of natural resources, create a threat to life and health of citizens; (iii) determination of compliance with the environmental requirements of the planned or ongoing economic and other activities; (iv) ensuring compliance with the rights and legitimate interests of legal entities and individuals, performing their duties in the field of environmental protection and rational use of natural resources.
- (ix) **Law on Protection and Use of the Wildlife, № 545-I dd. 26.12.1997.** (it's amendments law of Uzbekistan amendments and additions in the law of the republic of Uzbekistan "on protection and use of wildlife» **№3PY-408 dd. 19.09.2016 (This act is currently being amended)**) This law regulates relations in the field of protection, use, restoration and reproduction of the wildlife in order to ensure the conditions of its existence, conservation of species diversity, integrity of natural communities and habitat.
- (x) **Law on Occupational Health and Safety (1993). Law «On labor protection» № 839-XII dd. 06.05.1993** (it's amendments law of Uzbekistan amendments and additions in the law of the republic of Uzbekistan "on protection and use of wildlife» **№3PY-410 dd. 22.09.2016**). The Law on Occupational safety establishes a system of social, economic, organizational, technical, sanitary and health as well as medical and preventive arrangements aimed at providing safety and health protection and capacity for persons at the workplace. Part II of the Law on Occupational Safety (Articles 8 through 14) establishes the norms for labor safety, including requirements in design, construction and installation of production facilities, training in labor safety measures, financing of labor safety measures at the workplace and ensuring safe and healthy working conditions. Part III of the Law on Occupational Safety (Articles 16 through 19) establishes procedures for guarantee of rights of workers to safety at the workplace, in particular ensuring access to medical examinations, measures of labor safety and sanitary and healthy working conditions, training and information on labor safety procedures and rights to information on working conditions and safety.

Part IV and Part V of the Law on Occupational Safety deals with State and Public Supervision and Control and Liabilities, respectively.

- (xi) **The Law on Protection and Use of Objects of Archaeological Heritage (№3PY-229 dd. 13.10.2009) and Law on Protection and Use of Cultural Heritage (№269-II 30.08.2001).** (it's amendments law of Uzbekistan on amendments to the law of the republic of Uzbekistan "on the protection and use of cultural heritage objects» **№3PY-228 dd. 09.10.2009, №3PY-436 dd.13.06.2017. Article 23, 33**) Regulate the protection and use of cultural and archaeological objects, but these relate more explicitly to State measures for preservation, excavation and use of objects of cultural heritage. The Law on the Protection and Use of Cultural Heritage is directed at primarily preservation and management of important elements of the built environment, but also addresses protection of historical, archaeological, aesthetic, ethnological or anthropological territories, as well as natural landscapes connected with historical event.
- (xii) **Land Expropriation Laws.** A number of national laws and legislation related to land acquisition and compensation policy help guarantee the rights of project affected people in Uzbekistan. This legislation is listed here for completeness, as it is potentially applicable to Project activities. A more detailed discussion of this legislation will be presented within a Resettlement and Livelihood Restoration Framework, should this be required in relation to the installation of distribution lines across agricultural land plots.

B. Institutional Framework for Environmental Assessment and Management

14. A range of government departments are responsible for management and protection of environment in Uzbekistan. The State Committee for Environmental Protection (SCNP or Goskomecologiya) is the primary agency and environmental regulator responsible for implementing the Law on Environmental Protection (1992). The committee reports to Parliament and is accountable to the Cabinet of Ministers of the Republic of Uzbekistan. The SCNP is responsible for supervising, coordinating and implementing environmental protection and controlling the usage and renewal of natural resources at the central, region and district levels.

Table 2: Major Government Bodies Performing Functions on Environmental Protection

Agency	Relevant Functions	Source of ecological information
The State Committee for Nature Protection (SCNP or Goskomecologiya)	<ul style="list-style-type: none"> • Sets the state policy on environmental protection; • Promulgates norms of quality and standards of environmental protection; • Establishes special protected areas; • Establishes the environmental monitoring system; • Carries out ecological review on project design and performing economic activity. 	<ul style="list-style-type: none"> • Atmospheric air and climate change • Water resources • Land resources • Biodiversity • State Forest Resources • Wastes
Sanoatgeokontekhnazorat	<ul style="list-style-type: none"> ▪ Sanoatgeokontekhnazorat, (The State Inspectorate for Supervision of Subsurface Resources Geological Investigation, Safe Work in Industry, Mining, Utilities and Household Sector) works together with the SCNP and 	<ul style="list-style-type: none"> ▪ Use and protection of subsurface resources.

Agency	Relevant Functions	Source of ecological information
	carries out control in the field of geological investigation	
State Committee for Geology and Mineral Resources	<ul style="list-style-type: none"> ▪ The State Committee for Geology and Mineral Resources, together with Geological Survey Services of the neighbouring countries, work on identifying and studying the focal points of radioactive and toxic pollution within trans-boundary territories, prepare geological maps and atlases reflecting especially hazardous zones and sections. 	<ul style="list-style-type: none"> ▪ In accordance with the procedure established by legislation, exercises control over protection of geological and mineralogical facilities as well as underground water from pollution and depletion.
Ministry of Health	<ul style="list-style-type: none"> ▪ The Ministry of Health develops and approves sanitary regulations, rules, and hygienic standards, carries out state sanitary supervision over their observance as well as methodological supervision of the work of sanitary and epidemiological services, regardless of their departmental subordination. 	<ul style="list-style-type: none"> ▪ Drinking water quality Morbidity rate.
Uzhydromet	<ul style="list-style-type: none"> ▪ Uzhydromet establishes and maintains the State Hydro-meteorological Fund of Data, the State Fund of data on environment pollution, state accounting of surface waters; systematic observations of air, soil, surface water, as well as formation and development of disastrous hydro-meteorological phenomena. 	<ul style="list-style-type: none"> ▪ The quality of atmospheric air ▪ The quality of water resources ▪ Wastes (uranium and etc) ▪ Hydrological data
Ministry of Water Resources	<ul style="list-style-type: none"> ▪ It is responsible for water allocation among different users within Republic of Uzbekistan. Based on forecast and limits provided by Interstate Commission for Water Coordination (ICWC), water is allocated among users with the priority given to drinking water supply sector. 	<ul style="list-style-type: none"> ▪ Use of water resources, including intergovernmental water apportioning
The Scientific Institute of Zoology	<ul style="list-style-type: none"> ▪ The Scientific Institute of Zoology under the Academy of Sciences of Republic of Uzbekistan in the field of the comprehensive study of fauna, current state and development of recommendations on sustainable use of animals; identification of key zoological areas, development of scientific bases for the conservation of rare and endemic species of fauna; development and maintenance of national information and analytical database of fauna, maintenance of the state cadastre for rare and endangered species of wild animals, the Red Book of the Republic of Uzbekistan and monitoring of the animal world, etc. 	<ul style="list-style-type: none"> ▪ Flora, ▪ Fauna, ▪ Endemics listed in the Red Book of the Kyrgyz Republic

C. Environmental Assessment Procedure of Uzbekistan

15. The national EIA procedure is regulated by the Law "On the Environmental Examination" and the Regulations "On the State Environmental Expertise" (SEE), approved by DCM # 949 On approval of the Regulation of the State Ecological Expertise (22.11.2018). The Resolution specifies the legal requirements for EIA in Uzbekistan. According to the Resolution, SEE is a type of environmental examination carried out by specialized expert divisions to set up the compliance of the planned activities with the environmental requirements and determination of the permissibility of the environmental examination object implementation.

16. The special authorized state body in the field of SEE is the SCNP. SEE is carried out by the three specialized expert divisions of the SCNP:

- The state unitary enterprise "The Center of the State Environmental Examination" of the SCNP, hereinafter referred to as "The Center of the State Environmental Examination SUE" - carries out the state environmental examination of EIA of the objects of economic activity classified as the I and II categories of environmental impact (high and medium risk);
- The state unitary enterprise "The Center of the State Environmental Examination" of the Republic of Karakalpakstan - carry out environmental examination of EIA of the objects of economic activity classified as the III and IV categories of environmental impact (low risk and local impact);
- The state unitary enterprises "The Center of the State Environmental Examination" of regions and Tashkent city - carry out environmental examination of EIA of the objects of economic activity classified as the III and IV categories of environmental impact (low risk and local impact).

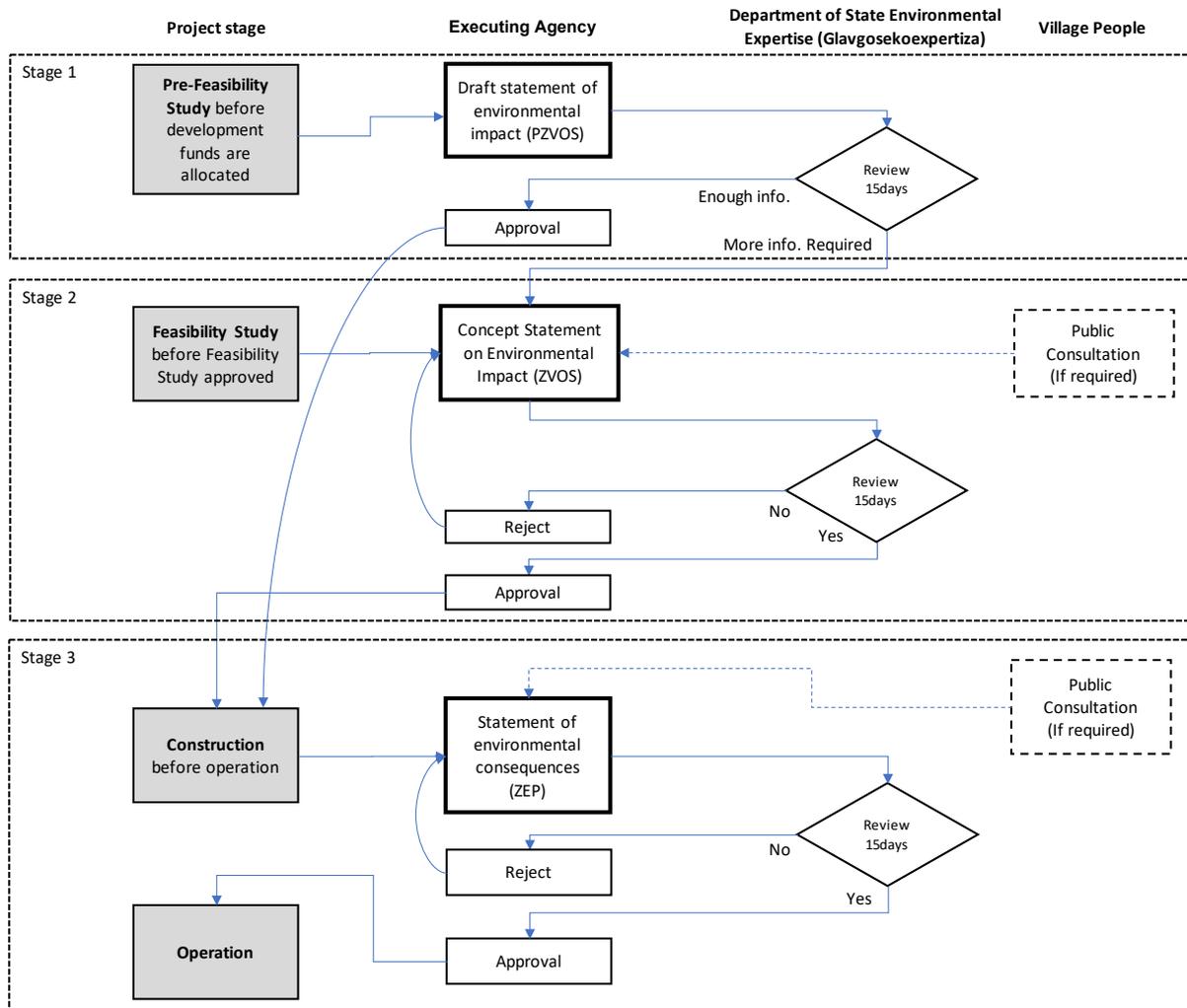
17. The three stages of the EIA and their required results are summarized as follows:

18. **Stage I:** "A Draft Statement of the Environmental Impact ("DSEI") shall be carry out at the planning stage of the proposed project prior to the allocation of funds for development. The DSEI is prepared at the planning stage of the Project. A DSEI shall include:

- The state of the environment prior to the implementation of the planned activities, the population of the territory, land development, analysis of environmental features;
- Situational plan with an indication of the geographical coordinates of the object in question, available recreational areas, settlements, irrigation, land-improvement facilities, farmland, power lines, transport, water, gas pipelines and other information about the area;
- The envisaged (planned) main and auxiliary objects, used equipment, technologies, natural resources, materials, raw materials, fuel, analysis of their impact on the environment;
- Expected emissions, discharges, wastes, their negative impact on the environment and ways to minimize them;
- Storage, storage and disposal of waste;
- Analysis of alternatives to the planned or ongoing activities and technological solutions from the standpoint of nature conservation, taking into account the achievements of science, technology and best practices;
- Organizational, technical, technological solutions and measures that exclude negative environmental consequences and reduce the impact of the object of examination on the environment;
- Analysis of emergency situations (with an assessment of the likelihood and scenario of preventing their negative consequences), and

- Forecast of environmental changes and environmental consequences as a result of the implementation of the object of examination.

Figure 1: State Environmental Expertise Procedure



19. The DSEI shall be reviewed and approved at the national level (for projects relating to category I and II) or at the regional level (for projects relating to category III and IV) under the SCNP. The SEE confirms the category of the project and identifies the main issues that the project beneficiary shall focus on in the next stages of the environmental assessment process and during the project implementation (construction or rehabilitation works).

20. **Stage II: "A Statement of the Environmental Impact" ("SEI")** shall be prepared based on the conclusions of the SEE on the DSEI. The SEI shall include:

- assessment of environmental problems of the selected site based on the results of engineering and geological surveys, model and other necessary studies;
- environmental analysis of technology in relation to identified problems of the site;
- results of public hearings; and
- reasoned studies of environmental measures to prevent the negative effects of the implementation of the object of examination.

21. **Stage III: "State Environmental Consequences" ("ZEP")** is the final stage of the SEE process and shall be carried out prior to the start of the project. The report describes in detail the changes in the project made as a result of the analysis of the SEE during the first two stages of the EIA process, the comments received during public consultations, the environmental standards applicable to the project, and the environmental monitoring requirements related to the project, as well as the main conclusions.

22. The Conclusion of SEE shall be valid for three years from the date of its issuance. If the object is not implemented within three years from the date of issue of the Conclusion of the SEE needs to be revised and re-submitted to the SCNP for revision and approval.

23. The Conclusion of the SEE shall be sent to the relevant regional (city) control inspections in the field of ecology and environmental protection for control. Such inspections under the SCNP supervise the compliance with the requirements and conditions specified in the Conclusion of the SEE.

Box 1. Status of Project SEE

As part of the Project, the Projects Feasibility study provided the following conclusions regarding environmental assessment:

'Under this project, environmental protection measures are not provided. In accordance with the letter of the State Committee for Nature Protection of the Republic of Uzbekistan dated 10.04.02, No. 18/66, electric networks of 0.4-6 kV belong to IV, the lowest category of environmental activities. In accordance with the "Sanitary norms and rules for protecting the population from exposure to an electric field", approved by the Main Sanitary and Epidemiological Administration No. 2971, protection of the population from the effects of an electric field created by power lines of alternating current of industrial frequency with a voltage of up to 10 kV is not required.

The project will not have a negative impact on the environment. An environmental assessment is not required. Due to the absence of factors negatively affecting the environment during automation of the electricity metering process, as well as in accordance with the statement of work, these issues were not considered.

The technological processes considered in the project are non-waste and are not accompanied by harmful emissions into the environment (both air and water). In this regard, the implementation of air-water protection measures to reduce harmful emissions is not provided.'

D. Environmental Regulations and Standards

24. Uzbekistan has a large set of specific standards that refer to emissions, effluent discharge, and noise standards, as well as standard to handle and dispose specific wastes ranging from sewage to hazardous wastes. The following summarizes these laws and standards along with other international best practice standards.

Air Quality and Emissions

25. National Standards – Air quality in Uzbekistan is measured against Maximum Permissible Concentrations (MPC) and Maximum Permissible Emissions (MPE).

26. Ambient Air Quality Standards, or MPCs, are established by SanPiN 0293-11 (May 16, 2011). According to the United Nations Environment Program (UNEP), Uzbek national ambient air quality standards meet World Health Organization (WHO) standards.³ The MPCs relevant to the project are shown in Table 4.

Table 1: National Air Quality MPCs

Parameter	Uzbekistan MPC (mg/m ³)			
	30 min	24 Hour	Monthly	Annually
Nitrogen Dioxide (NO ₂)	0.085	0.06	0.05	0.05
Nitrogen Oxide (NO)	0.6	0.25	0.12	0.06
Sulphur Dioxide (SO ₂)	0.5	0.2	0.1	0.05
Dust	0.15	0.1	0.08	0.05
Carbon Monoxide (CO)	5.0	4.0	3.5	3.0

27. Emission standards are stipulated by The Resolution of the Cabinet of Ministers of the Republic of Uzbekistan No. 14 of January 21, 2014 “On Approval of the Regulation on the Procedure for Developing and Coordinating Environmental Draft Projects”. It states that the main criterion for establishing MPE are quotas for pollutants.

28. IFC / WBG Standards – The International Finance Corporation (IFC), part of the World Bank Group (WBG), have established ambient air quality standards based on WHO guidelines. WBG guideline limits will be followed during the construction and operational phase of the Project. The following table illustrates the guidelines.

Table 2: WBG Ambient Air Quality Guidelines⁴

Parameter	Averaging Period	Guideline Value (mg/m ³)
Sulphur Dioxide (SO ₂)	10 minute	20
	24 Hour	500
Nitrogen Dioxide (NO ₂)	1 Hour	40
	1 Year	200
Particulate Matter PM ₁₀	24 Hour	20
	1 Year	50
Particulate Matter PM _{2.5}	24 Hour	10
	1 Year	25

29. Project Air Quality Standards - Any air quality monitoring during the construction phase will be undertaken against national standards. This is based on the criteria adopted by the WBG which state that:

‘Emissions do not result in pollutant concentrations that reach or exceed relevant ambient quality guidelines and standards by applying national legislated standards, or in their absence, the current WHO Air Quality Guidelines.’⁵

³ <https://wedocs.unep.org/bitstream/handle/20.500.11822/17141/Uzbekistan.pdf?sequence=1&isAllowed=y>.

⁴ Not including interim targets.

⁵ Environmental, Health and Safety Guidelines. Air Emissions and Ambient Air Quality. WBG. 2007.

30. As noted above, Uzbekistan have their own national legislated standards and as such they will be applied to the Project in the event that air quality monitoring is required as a result of complaints from members of the public.

Water quality

31. The scope of works does not suggest that there will be any significant wastewater discharge from Project work sites, or any significant impacts to water bodies and as such no water quality monitoring will be required.

32. Project Standards - Not applicable.

Noise

33. National Standards - SanPiN No. 0267-09 is used to ensure the rules of acceptable noise levels for residential areas in Uzbekistan. These rules and regulations establish permissible noise parameters in residential, public buildings and residential buildings of populated areas created by external and internal sources, as well as general requirements for measurements, measurement methods and hygienic noise assessment at research sites. Evaluation of the sound level at the calculation point is performed for the day and night period of the day (from 7 to 23 hours and from 23 to 7 hours) and takes into account the maximum intensity of the sound source level during the half-hour period. Table 6 presents the permissible noise levels in the territories that are most significant for the project. The levels are almost identical to IFC standards shown below, with the exception of the periods where IFC are slightly more stringent.

Table 3: Noise limits from SanPiN No. 0267-09

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 11 pm	55 dB(D)
	From 11 pm to 7 am	45 dB(A)

34. IFC / WBG Standards – To meet WBG guideline requirements noise impacts should not exceed the levels presented in Table 7 or result in a maximum increase in background levels of 3 dB at the nearest receptor location off site. This project will comply with both WBG Guidelines and Uzbek Standards.

Table 4: WBG Noise Level Guidelines

Receptor	One-hour L_{aeq} (dBA)	
	Daytime 07.00–22.00	Night-time 22.00–07.00
Residential; institutional; educational	55	45
Industrial; commercial	70	70

35. Workplace Noise - In order to protect the health of staff in the workplace Uzbekistan, utilizes the law (SanPiN) No. 0120-01 - "Sanitary norms and rules to ensure acceptable noise levels in the workplace". This document provides acceptable noise levels for various types of work, the most significant of which are listed below in Table 8. In addition, WBG provides noise limits for various working environments, which are also illustrated in Table 11.

Table 5: Working environment Noise Limits

Type of work, workplace	SanPiN No. 0120-01	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.

36. Project Noise Standards - For any construction phase monitoring, WBG guideline limits will be followed as the nighttime period is slightly longer than Uzbek standards. For workplace noise, national guidelines shall be followed.

Vibration

37. International Standards – The German Standard DIN 4150-3 – Vibration in Buildings – Part 3: Effects on structures provides short term and long-term limits⁶ for vibration at the foundation for various structures. This standard is considered international best practice and will be followed as part of the project.

Table 6: Guideline Values for Vibration Velocity to be Used When Evaluating the Effects of Short-term and Long-term Vibration on Structures

Group	Type of structure	Guideline Values for Velocity (mm/s)				
		Short-term			Long-term	
		At foundation			Uppermost Floor	Uppermost Floor
		Less than 10 Hz	10 Hz to 50 Hz	50 to 100 Hz	All frequencies	All frequencies
1	Buildings used for commercial purposes, industrial buildings and buildings of similar design	20	20 to 40	40 to 50	40	10
2	Residential dwellings and buildings of similar design and/or use	5 (105 dB)	5 to 15	15 to 20	15	5 (105 dB)
3	Structures that because of their particular sensitivity to vibration, do not correspond to those listed in Lines 1 or 2 and have intrinsic value (e.g. buildings that are under a preservation order)	3 (100.5 dB)	2 to 8	8 to 10	8	2.5 (99.0 dB)

Source: DIN 4150-3, Structural Vibration, Part 3: Effect of vibration on structures.

38. DIN 4150-3 notes that “experience has shown that if these values are complied with, damage that reduces the serviceability of the building will not occur. If damage nevertheless occurs, it is to be assumed that other causes are responsible. Exceeding the value in the table does not necessarily lead to damage”.

⁶ Short-term vibrations are defined as those that do not occur often enough to cause structural fatigue and do not produce resonance in the structure being evaluated and long-term vibrations are all the other types of vibration.

39. Project Vibration Standards - Vibration impacts are not anticipated to be significant. However, in the event that complaints are received and monitoring is required, the project shall follow German Standard DIN 4150-3 during the construction phase.

International Electromagnetic Field (EMF) Standards

40. WBG EHS guidelines for Electric Power Transmission and Distribution refer to International Commission on Non-Ionizing Radiation Protection (ICNIRP), which establish reference levels for general public exposure to electric field as 5 kV/m and for magnetic fields 200 μ T. In the UK, the exposure limit is 360 μ T⁷ (reference level 100 μ T) and according to the UK Energy Network Association (ENA) no distribution circuit will ever produce fields this high.⁸ The typical level of magnetic field and electric fields under a power line are shown in the table below. The table shows that at voltages below 10kV EMF values are well below exposure limits.

Table 7: Typical Ground-level Field Levels from Overhead Power Lines (11 / 33 kV)

Description	Magnetic Field (microteslas)	Electric Field (kV/m)
Maximum field (under lines)	7	0.7
Typical Field (under line)	0.2–0.5	0.2
Typical field (25m to side)	0.01–0.05	0.01–0.02
Typical Field (100m to side)	Less than 0.01	Less than 0.001

Source: Electric and Magnetic Fields – The Facts. Energy Networks Association. 2012.

41. Underground cables do not produce external electric fields because they are surrounded by a metal sheath which screens the electric field. A 132 kV below ground cable buried at 1m depth would produce a magnetic field of 72 μ T.⁹

42. Corresponding ICNIRP limits for general occupational exposure to electric and magnetic fields are significantly higher at 10 kV/m and 1,000 μ T, respectively. In the UK, the occupational exposure limits (high action level) are 6000 μ T and 20 kV/m and 1000 μ T and 10 kV/m (low action level).

Box 3: Occupational Effects of EMF – UK Case

The main effects the UK occupational exposure limits are protecting against is that the external electric or magnetic field induces a smaller internal field in the body. That internal electric fields in the body can then interfere with nerves.

If you are below **both the sensory and the health effects limits**, there should be no direct effects on the body. There may be indirect effects, either through microshocks or on implanted medical devices such as pacemakers. Whilst microshocks may be present, they should be limited to acceptable levels below the sensory effects limits.

If you are **above the sensory effects limits** but still **below the health effects limits**, you could potentially experience some sensory effects. The main example would be magnetophosphenes, a flickering sensation in the vision. These effects are transient - they disappear as soon as the field is removed - and they are not known to be harmful. That is why the Regulations allow you to exceed these sensory effects limits under certain conditions.

⁷ Only where the time of exposure is significant.

⁸ <https://www.energynetworks.org/assets/files/electricity/she/emfs/ENA%20training%20distribution%20EMFs%20v5.pdf>.

⁹ <http://www.emfs.info/compliance/public/>.

If you are **above the health effects limits**, you may experience "peripheral nerve stimulation". This means there could be interference with the nerves of, for example, the limbs, which could be painful and, for example if you were working at height, possibly dangerous. Even so, there is no suggestion of permanent harm, except at much higher levels.

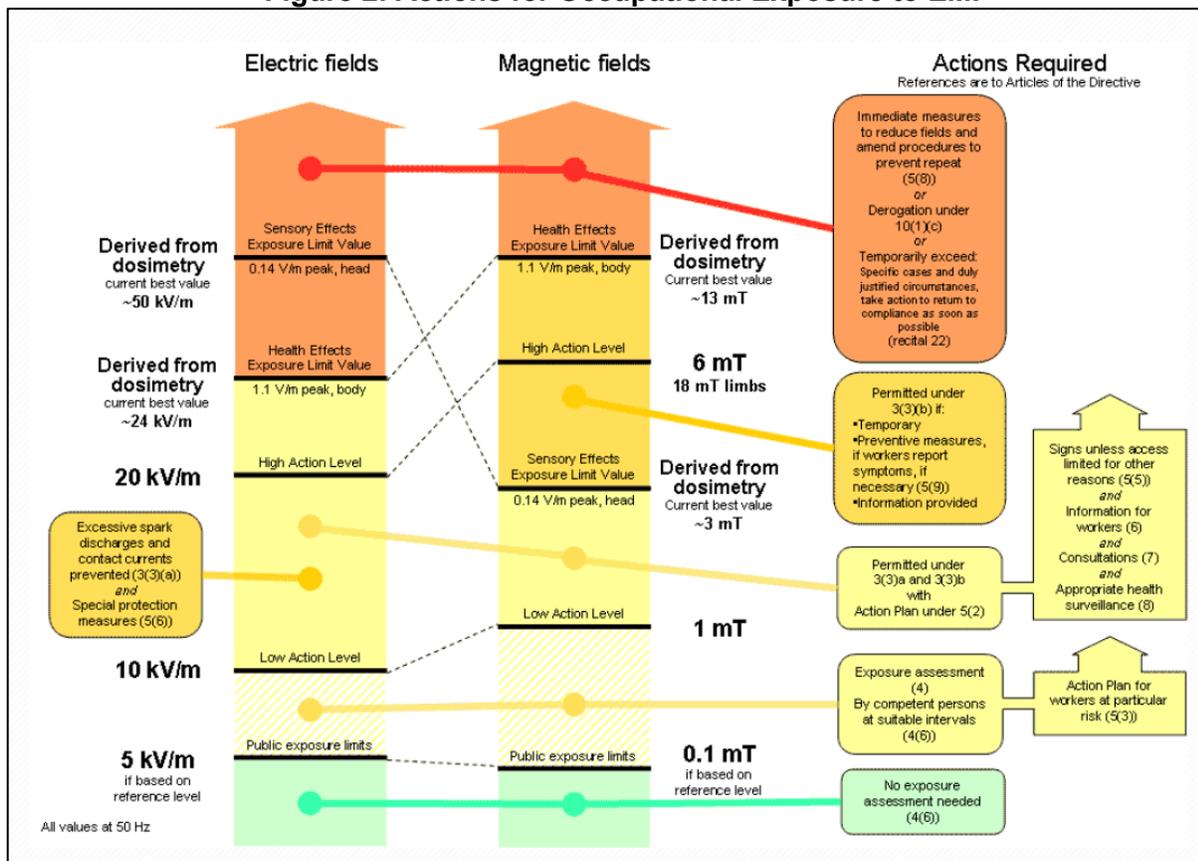
Source: <http://www.emfs.info/limits/limits-organisations/regulations-2016/>.

43. The EU have also provided guidance via a Directive on occupational exposure to EMF (2013/35/EU) on EMF exposure which is closely based in ICNIRP guidelines. The Directive requires different actions at successive action levels and exposure limit values. They are shown in the figure below and summarised as follows:

- You have to do an exposure assessment as soon as you exceed the public exposure limits.
- You can exceed the action levels provided you have put in place various provisions.
- You can exceed the sensory exposure limit values provided you control any sensory effects that might arise.
- You cannot exceed the health exposure limit value.

44. As noted above, maximum EMF levels are anticipated to be below the limit for public exposure. Therefore, no exposure assessment is therefore required.

Figure 2: Actions for Occupational Exposure to EMF



National Security Zones

45. The security zone is installed depending on the type of protected object. The list of types of zones is established by the Land Code, according to which 28 types of zones with special conditions of use of the territory are defined, for example, security zones of pipelines, electric grid facilities, lines of structures and communication, roadside lanes, etc. The security zone of the gas pipeline or the power line can entail the ban on construction of any buildings, buildings and constructions. The presence of a sanitary protection zone indicates a ban on the construction of residential facilities. The presence of a cable means that any earthworks are carried out only if the organization - owner of such a cable line - agrees. Land plots are not seized from their owners, land users, landowners and tenants, but within the boundaries of these plots a special regime may be introduced for their use, limiting or prohibiting those activities that are incompatible with the purpose of establishing such zones.

46. The following table provides the security zones for various types of distribution lines.

Table 8: Electrical Network Security Zones

#	Type	Standard Width of Security Zone (m)
1	Low-voltage cable line (0,4 kV)	2
2	Low-voltage air-line (0,4 kV)	2
3	High-voltage cable line (10/6 kV)	20
4	High-voltage air-line (10/6 kV)	20

47. Note that in special cases, with the permission of the Cabinet of Ministers of the Republic of Uzbekistan, it is allowed to build electric grid facilities in protected natural areas, state reserves, protected areas of natural parks, state biosphere reserves, etc.¹⁰

Waste

48. National Standards - The Law on Waste No.362-II of April 5, 2002 (modified January 4, 2011) regulates solid waste treatment procedures and defines the authority of various institutions involved in solid waste management. The law also provides rules for the transport of solid waste. Hazardous wastes that are transported must undergo environmental certification and be transported by special vehicles.

Hazardous Material

49. National Standards - The order to place hazardous chemicals and hazardous materials in special landfills, their protection and disposal, approved by the State Committee for Nature Protection, the Ministry of Emergency Situations, the Ministry of Finance, the Ministry of Health No. 2438 of March 20, 2013. The provision identifies hazardous chemicals, toxic materials, special landfills and special vehicles. The state organization "Kishlokkime" (Agricultural Chemicals) is responsible for the transportation and disposal of hazardous materials.

50. Transportation of such materials should be carried out in accordance with the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan No. 35 dated February 16, 2011 "On rules of transportation of hazardous materials in the territory of Uzbekistan". The Ministry of Health and the State Committee for Nature Protection approve proper performance of work.

¹⁰ The Analysis of Lands in Security Zones of High-Voltage Power Lines on the Example of Ferghana Valley. International Journal of Multidisciplinary Research. February 2020.

Occupational Health and Safety Standards

51. All works on construction of power lines will be carried out with observance of measures on environmental protection and on the basis of the following regulatory documents, norms and standards:

- ShNK 4.02.33-04 Transmission lines.
- ShNK 4.02.67-07 Electric installation works. Repair and construction works.
- KMK 2.01.11-97 Engineering protection of the territories, buildings and constructions against the hazardous geological processes. Main provisions of the design KMK 3.05.06.97 "Electrotechnical devices"
- KMK 3.01.02-00 * "Safety measures in construction"
- The Rules for Electrical Equipment Installation.
- RD (Ruling Document) 34.20.501-05. Operating Rules for the Power Plants and Electric Networks.
- RD (Ruling Document) 34.03.202.95. Safety Rules for the Electrical Equipment Operation.
- Sanitary norms and rules (SNR) on the effects of the electric field generated by overhead transmission lines of alternating currents of industrial frequency;
- "Instructions for design of fire protection of the power enterprises"

52. The GOU have created a Special Republican Commission on preparation of the Program of measures to prevent the introduction and spread of coronavirus in the Republic of Uzbekistan (Commission) in accordance with ORDER President of Uzbekistan (On the formation of a special republican commission to prepare a program of measures to prevent the import and spread of a new type of coronavirus in the Republic of Uzbekistan dated January 29, 2020, № P-5537).

E. Asian Development Bank Safeguard Policies 2009

53. The ADB has three safeguard policies that seek to avoid, minimize or mitigate adverse environmental impacts and social costs to third parties, or vulnerable groups as a result of development projects. The project requires the application of both environmental safeguard and social safeguard.

Safeguard Requirements 1: Environment

54. The objectives are to ensure the environmental soundness and sustainability of projects, and to support the integration of environmental considerations into the project decision-making process. Environmental safeguards are triggered if a project is likely to have potential environmental risks and impacts. Eleven 'Policy Principles' have been adopted as part of the ADBs Safeguard Policy Statement (SPS 2009), including:

55. Use a screening process for each proposed project, as early as possible, to determine the appropriate extent and type of environmental assessment so that appropriate studies are undertaken commensurate with the significance of potential impacts and risks.

56. Conduct an environmental assessment for the proposed project to identify potential direct, indirect, cumulative, and induced impacts and risks to physical, biological, socioeconomic (including impacts on livelihood through environmental media, health and safety, vulnerable groups, and gender issues), and physical cultural resources in the context of the project's area of influence. Assess potential transboundary and global impacts, including climate change. Use strategic environmental assessment where appropriate.

57. Examine alternatives to the project's location, design, technology, and components and their potential environmental and social impacts and document the rationale for selecting the particular alternative proposed. Also consider the no project alternative.

58. Avoid, and where avoidance is not possible, minimize, mitigate, and/or offset adverse impacts and enhance positive impacts by means of environmental planning and management. Prepare an environmental management plan (EMP) that includes the proposed mitigation measures, environmental monitoring and reporting requirements, related institutional or organizational arrangements, capacity development and training measures, implementation schedule, cost estimates, and performance indicators. Key considerations for EMP preparation include mitigation of potential adverse impacts to the level of no significant harm to third parties, and the polluter pays principle.

59. Carry out meaningful consultation with affected people and facilitate their informed participation. Ensure women's participation in consultation. Involve stakeholders, including affected people and concerned nongovernment organizations, early in the project preparation process and ensure that their views and concerns are made known to and understood by decision makers and taken into account. Continue consultations with stakeholders throughout project implementation as necessary to address issues related to environmental assessment. Establish a grievance redress mechanism to receive and facilitate resolution of the affected people's concerns and grievances regarding the project's environmental performance.

60. Disclose a draft environmental assessment (including the EMP) in a timely manner, before project appraisal, in an accessible place and in a form and language(s) understandable to affected people and other stakeholders. Disclose the final environmental assessment, and its updates if any, to affected people and other stakeholders.

61. Implement the EMP and monitor its effectiveness. Document monitoring results, including the development and implementation of corrective actions, and disclose monitoring reports.

62. Do not implement project activities in areas of critical habitats, unless (i) there are no measurable adverse impacts on the critical habitat that could impair its ability to function, (ii) there is no reduction in the population of any recognized endangered or critically endangered species, and (iii) any lesser impacts are mitigated. If a project is located within a legally protected area, implement additional programs to promote and enhance the conservation aims of the protected area. In an area of natural habitats, there must be no significant conversion or degradation, unless (i) alternatives are not available, (ii) the overall benefits from the project substantially outweigh the environmental costs, and (iii) any conversion or degradation is appropriately mitigated. Use a precautionary approach to the use, development, and management of renewable natural resources.

63. Apply pollution prevention and control technologies and practices consistent with international good practices as reflected in internationally recognized standards such as the World Bank Group's Environmental, Health and Safety Guidelines. Adopt cleaner production processes and good energy efficiency practices. Avoid pollution, or, when avoidance is not possible, minimize or control the intensity or load of pollutant emissions and discharges, including direct and indirect greenhouse gases emissions, waste generation, and release of hazardous materials from their production, transportation, handling, and storage. Avoid the use of hazardous materials subject to international bans or phase-outs. Purchase, use, and manage pesticides based on integrated pest management approaches and reduce reliance on synthetic chemical pesticides.

64. Provide workers with safe and healthy working conditions and prevent accidents, injuries, and disease. Establish preventive and emergency preparedness and response measures to avoid, and where avoidance is not possible, to minimize, adverse impacts and risks to the health and safety of local communities.

65. Conserve physical cultural resources and avoid destroying or damaging them by using field-based surveys that employ qualified and experienced experts during environmental assessment. Provide for the use of “chance find” procedures that include a pre-approved management and conservation approach for materials that may be discovered during project implementation.

Safeguard Requirements 2: Involuntary Resettlement.

66. The objectives are to avoid involuntary resettlement wherever possible; to minimize involuntary resettlement by exploring project and design alternatives; to enhance, or at least restore, the livelihoods of all displaced persons in real terms relative to pre-project levels; and to improve the standards of living of the displaced poor and other vulnerable groups. The safeguard requirements underscore the requirements for undertaking the social impact assessment and resettlement planning process, preparing social impact assessment reports and resettlement planning documents, exploring negotiated land acquisition, disclosing information and engaging in consultations, establishing a grievance mechanism, and resettlement monitoring and reporting.

67. The involuntary resettlement requirements apply to full or partial, permanent or temporary physical displacement (relocation, loss of residential land, or loss of shelter) and economic displacement (loss of land, assets, access to assets, income sources, or means of livelihoods) resulting from (i) involuntary acquisition of land, or (ii) involuntary restrictions on land use or on access to legally designated parks and protected areas. Resettlement is considered involuntary when displaced individuals or communities do not have the right to refuse land acquisition that results in displacement.

Safeguard Requirements 3: Indigenous Peoples.

68. The objective is to design and implement projects in a way that fosters full respect for Indigenous Peoples’ identity, dignity, human rights, livelihood systems, and cultural uniqueness as defined by the Indigenous Peoples themselves so that they (i) receive culturally appropriate social and economic benefits, (ii) do not suffer adverse impacts as a result of projects, and (iii) can participate actively in projects that affect them.

69. The IEE of the project will need to satisfy both, the national requirements of Uzbekistan and ADB. A harmonized safeguard framework is developed for conducting the IEE study of the project. The framework is given below.

Table 9: Comparison of ADB and Uzbekistan Legislation Requirements

Aspect	ADB	Uzbekistan	Harmonized Framework
Environmental Policy and Regulations	ADB’s SPS (2009) sets out the policy objectives, scope and triggers, and principles for three key safeguard areas: -Environmental safeguards,	EIA is called State Environmental Expertise (SEE) in Uzbekistan. SEE is stipulated in the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan	The Project follows both ADB’s SPS (2009) and Resolution No.491, December 2001.

Aspect	ADB	Uzbekistan	Harmonized Framework
	-Involuntary resettlement safeguards, and -Indigenous peoples safeguards	No. 491 dated December 31, 2001.	
Screening	This project is category B.	This project falls into Category II of the environmental impact with medium risk.	All the requirement of ADB will cover the requirement of Uzbekistan requirement. Then the project will follow the category B of ADB.
Alternatives	Examination of financially and technically feasible alternatives to the project location, design, technology and components, their potential environmental and social impacts.	Alternative assessments are to be carried as per request of the Center for State Ecological Expertise.	Assessment of alternatives will be included.
EIA Report	Guidelines and Table of Contents are provided for IEE report in SPS (2009). EMP will include proposed mitigation measures, monitoring and reporting requirements, institutional arrangements, schedules and cost estimates. The report should be in English.	Draft of Concept Statement on Environmental Impact (national acronym PZVOS) requires, Baseline, analysis of alternatives, Pollution prevention plan, Waste storage, and other mitigation. The report should be in Russian.	The Project shall prepare IEE report in English following the form of ADB. After that IEE report is translated in Russian or Uzbek and change the format in Uzbekistan style. The contents of two reports are same but layout and language is different.
Public Consultations	“Meaningful” consultation with affected people are required for the project.	Public consultation is not required in the process of Draft of Concept Statement (PZVOS).	A wide range of public consultations shall be undertaken to ensure they are ‘meaningful’.
Public Disclosure	Draft IEE will be published in ADB website before Project approval by the Board.	If the report has secrets of official or private organization, it should not be disclosed.	Draft IEE report (English and Russian or Uzbek) will be published in ADB Website. The copies of the Russian version of Draft of Concept Statement on Environmental Impact will be made available at the affected villages.

70. Accountability Mechanism - The ADB Accountability Mechanism (AM) provides an independent forum and process for people to voice and seek solutions to their problem as well as alleged non-compliance by ADB with its operational policies and procedures. As ADB adheres to early problem prevention and problem-solving, Project complaints and concerns should first be addressed promptly and effectively at the Project, through the Grievance Redress Mechanism, and operational levels. The AM is the “last resort” process for dealing with problems and compliance issues that were not prevented or solved at GRM and operational levels.

IV. ANTICIPATED ENVIRONMENTAL IMPACTS

71. The anticipated environmental impacts and mitigation measures related to the construction and operation phases of the proposed program are provided in the **Table 5** below. The indicative impacts discussed below are not considered to be significant and can be mitigated via implementation of the proposed mitigation measures and therefore the project has been assigned the category 'B'.

Table 10: Indicative Impacts

Potential Environmental Impacts	Mitigation Measures
Construction Phase	
Construction of Distribution Lines (up to 10kV)	
Noise from construction works, e.g. digging pole foundations	<ul style="list-style-type: none"> • Inform local community in advance of noisy works. • Restrict noisy work activities to daytime period only (8am to 6pm).
Dust from vehicle movements and emissions from construction vehicles	<ul style="list-style-type: none"> • Equipment and vehicles will be regularly maintained in accordance with the manufacturer's recommendations to maximise fuel efficiency and help minimise emissions. • Controlled or uncontrolled burning of waste will not be allowed. • Sprinkling of water in dusty / recently excavated areas will avoid dust pollution.
Occupational health and safety of workers working at height and with high voltage equipment	<ul style="list-style-type: none"> • Follow national occupational health and safety (OHS) legislation and World Bank Group Environmental Health and Safety (WBG EHS) guidelines for Occupational Health and Safety, specifically relating to electrical safety and working at height.
Safety of local community, e.g. exposure to live electrical equipment.	<ul style="list-style-type: none"> • Inform local community in advance of hazardous work areas / activities. • Demarcate work sites with fencing / safety barriers to ensure no unauthorized entry to hazardous work areas. • Erect safety signs warning local community of specific hazards and restricted areas.
Bird Collisions and Electrocutions	<ul style="list-style-type: none"> • Avoid works in designated areas. • Incorporate international best practice design measures, such as those prepared by the US Fish and Wildlife Service.
Generation of construction waste, mainly old distribution poles.	<ul style="list-style-type: none"> • Return all old distribution poles to PTES facilities. • Provision of suitably sized waste containers on site for the various waste streams, e.g. plastic, metal, wood, etc. • Disposal of inert / non-hazardous waste to state authorized disposal facilities. • Recycling of waste materials where local recycling facilities exist.
Impacts to PCR	<ul style="list-style-type: none"> • The regulations to protect the core cultural heritage zones of Bukhara and Samarkand are considered to be compliant with ADB Safeguard Principle 11 for PCR. ¹¹ It is unlikely that any other works outside of these core areas will significantly impact upon PCR as it is unlikely below-ground distribution lines will be constructed outside of these areas. Nonetheless, a chance

¹¹ Principle 11 - Conserve physical cultural resources (PCRs) and avoid destroying or damaging them by using field-based surveys that employ qualified and experienced experts during environmental assessment. Provide for the use of "chance find" procedures that include a pre-approved management and conservation approach for materials that may be discovered during project implementation.

Potential Environmental Impacts	Mitigation Measures
	find procedure shall be required and followed as part of the impact management measures. Further, as part of the EAS process for future sub-activities, consultation shall be undertaken with the Provincial Department for Cultural Heritage Protection if sites are located in or close to PCR sites (including UNESCO sites).
Installation of Pole-mounted Transformers (up to 10kV)	
Dust generated by vehicle movements and emissions to air from construction vehicles	<ul style="list-style-type: none"> • Equipment and vehicles will be regularly maintained in accordance with the manufacturer's recommendations to maximise fuel efficiency and help minimise emissions. • Controlled or uncontrolled burning of waste will not be allowed. • Sprinkling of water in dusty / recently excavated areas will avoid dust pollution.
Occupational health and safety of workers working at height and with high voltage equipment	<ul style="list-style-type: none"> • Follow national OHS legislation and WBG EHS guidelines for Occupational Health and Safety, specifically relating to electrical safety and working at height.
Safety of local community, e.g. exposure to live electrical equipment.	<ul style="list-style-type: none"> • Inform local community in advance of hazardous work areas / activities. • Demarcate work sites with fencing / safety barriers to ensure no unauthorized entry to hazardous work areas. • Erect safety signs warning local community of specific hazards and restricted areas.
Generation of construction waste, mainly old transformers containing oil possibly containing PCBs	<ul style="list-style-type: none"> • Return all old transformers to PTES facilities. • Follow PCB procedures provided by the IEE. • Provision of suitably sized waste containers on site for the various waste streams, e.g. plastic, metal, wood, etc. • Disposal of inert / non-hazardous waste to state authorized disposal facilities. • Recycling of waste materials where local recycling facilities exist.
Installation of Pad-mounted Transformers (up to 10kV)	
Noise from general installation works	<ul style="list-style-type: none"> • Inform local community in advance of noisy works. • Restrict noisy work activities to daytime period only (8am to 6pm).
Dust generated by vehicle movements and emissions to air from construction vehicles	<ul style="list-style-type: none"> • Equipment and vehicles will be regularly maintained in accordance with the manufacturer's recommendations to maximise fuel efficiency and help minimise emissions. • Controlled or uncontrolled burning of waste will not be allowed.
Occupational health and safety of workers working with high voltage equipment	<ul style="list-style-type: none"> • Follow national OHS legislation and WBG EHS guidelines for Occupational Health and Safety, specifically relating to electrical safety and working at height. Follow national guidelines relating to COVID (On the formation of a special republican commission to prepare a program of measures to prevent the import and spread of a new type of coronavirus in the Republic of Uzbekistan dated January 29, 2020, № P-5537).
Safety of local community, e.g. exposure to live electrical equipment.	<ul style="list-style-type: none"> • Inform local community in advance of hazardous work areas / activities. • Demarcate work sites with fencing / safety barriers to ensure no unauthorized entry to hazardous work areas. • Erect safety signs warning local community of specific hazards and restricted areas.

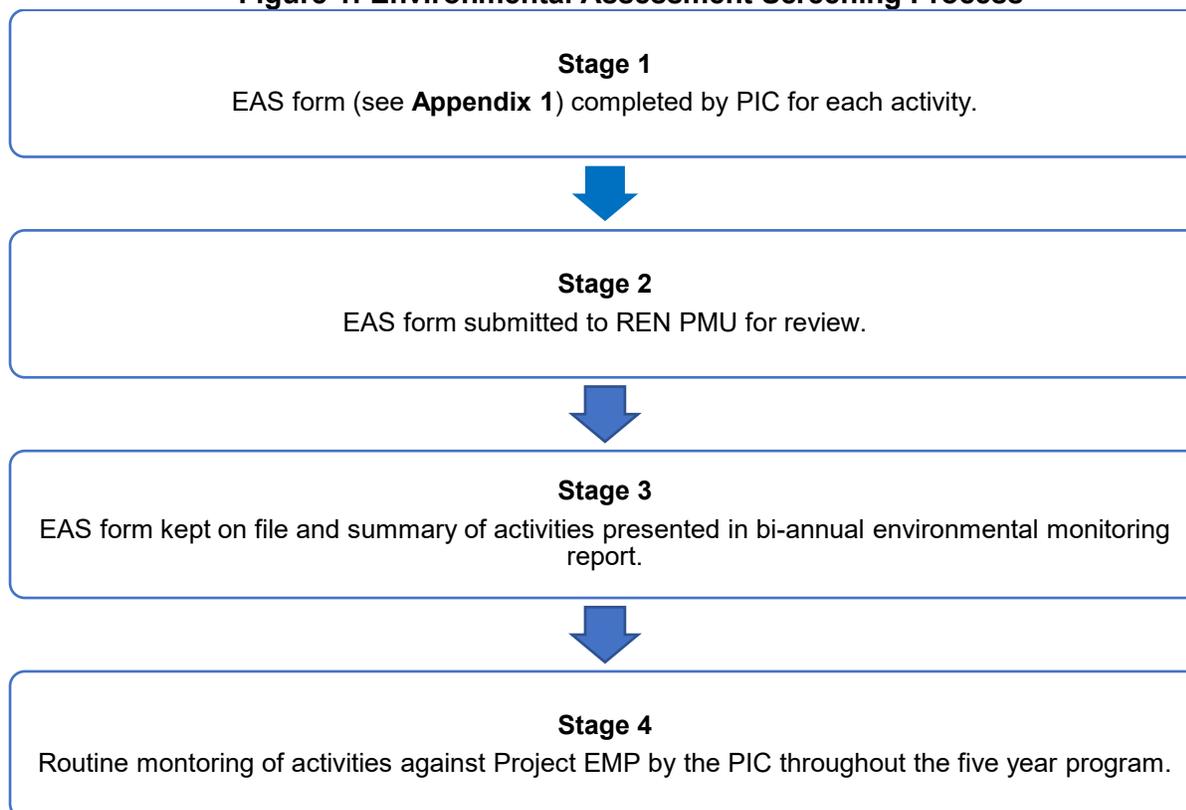
Potential Environmental Impacts	Mitigation Measures
Generation of construction waste, mainly old transformers containing oil possibly containing PCBs	<ul style="list-style-type: none"> • Return all old transformers to PTES facilities. • Follow PCB procedures provided by the IEE. • Provision of suitably sized waste containers on site for the various waste streams, e.g. plastic, metal, wood, etc. • Disposal of inert / non-hazardous waste to state authorized disposal facilities. • Recycling of waste materials where local recycling facilities exist.
Construction of pilot rooftop solar power project (approximate capacity 200kW)	
Installation of panels by workers	<ul style="list-style-type: none"> • Follow national OHS legislation and WBG EHS guidelines for Occupational Health and Safety, specifically relating to electrical safety and working at height.
Disposal of waste materials	<ul style="list-style-type: none"> • Provision of suitably sized waste containers on site for the various waste streams, e.g. plastic, metal, wood, etc. • Disposal of inert / non-hazardous waste to state authorized disposal facilities. • Recycling of waste materials where local recycling facilities exist.
Impacts to PCR	<ul style="list-style-type: none"> • Ensure that any proposed site for the rooftop solar project in Samarkand or Bukhara is constructed outside of the core and buffer UNESCO sites.
Operation and Maintenance	
Waste batteries from pilot solar power project	<ul style="list-style-type: none"> • Ensure only lithium ion batteries are procured and used.
Storage and disposal of waste oil	<ul style="list-style-type: none"> • Develop standard operational procedures for waste management, including site specific plans for maintenance areas and warehouses. • Integrity testing of all bulk oil storage containers. • Ensure oils (and any other hazardous liquids) are stored at PTES maintenance yards / warehouses in impermeable containment areas consistent with best practice.
Community health and safety	<ul style="list-style-type: none"> • Develop a community health and safety program. This should involve initial consultations in the affected villages or neighborhoods before works commence and distribution of leaflets to neighboring residences and schools informing the local community of the proposed works and the potential safety hazards (of rehabilitation activities and operational phase activities). • Ensure all new and existing pad-mounted transformers are fitted with suitable locks to prevent unauthorized access.
Occupational health and safety	<ul style="list-style-type: none"> • Undertake a detailed OHS audit of the PTES maintenance and warehouse areas and implement any corrective actions. The audit shall include the assessment of any emergency procedures.

V. ENVIRONMENTAL ASSESSMENT OF PROJECT ACTIVITIES

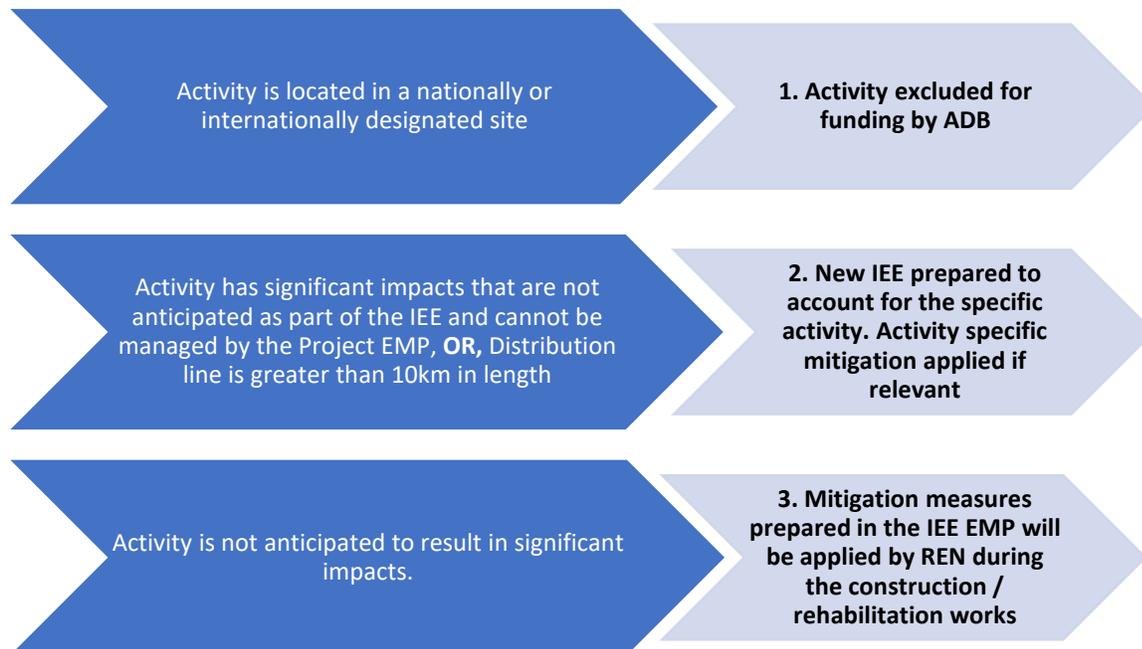
72. The project includes approximately 1,800 activities annually across three regions of Uzbekistan. The project IEE has visited 18 of the sites proposed by REN under the first year portion of a five year investment program and prepared a set of corrective actions for existing REN facilities and environmental mitigation and monitoring plans for the project as a whole.

73. It is necessary to ensure that all sites where ADB funded works are to be undertaken are assessed for their potential environmental and social impacts. Therefore, the remaining sites proposed for funding under year one, as well as years two to five, will be subject to environmental assessment screening (EAS) according to the procedures outlined in the flow diagram below and the detailed description which follows.

Figure 1: Environmental Assessment Screening Process



74. **Stage 1** - The PIC, via his National Environmental and Social Specialist (NESS) will complete the EAS which is provided below as Appendix 1. The NESS will be required to visit every activity site to complete the assessment. The EAS will result in one of three actions based on the following findings:



75. **Stage 2:** The NESS will submit the EAS to REN PMU for review and concurrence. Recommendations of the EAS will be followed up and no works on the specific activity shall commence until the recommendations of the EAS have been implemented, if any. The PIC, through his NESS and International Environmental and Social Specialist (IESS) will be responsible for preparing a new IEE, if required. A consolidated IEE can be prepared for multiple sites in a similar geographical area. A Terms of Reference for the IEE is provided in Appendix 2.

76. **Stage 3:** The NESS will keep a record of all of the conclusions of the EAS prepared in a spreadsheet which will be submitted as part of the PICs bi-annual environmental monitoring report.

77. **Stage 4:** The PIC, through his NESS and IESS will undertake routine monitoring of activities throughout the Project. Naturally it will be impossible to monitor all sites continuously due to the high number, therefore specific attention shall be paid to monitoring any sites that have been identified as having significant impacts. Otherwise sites shall be visited in a random basis to monitor the application of the EMP requirements.

VI. CONSULTATION, INFORMATION DISCLOSURE AND GRIEVANCE REDRESS MECHANISM

A. Public Consultation and Information Disclosure

78. The project has already included consultation as part of the projects Initial Environmental Examination. The PIC will also undertake consultation with stakeholders adjacent to work sites as part of the EAS. Comments received from stakeholders will be recorded in the EAS, and actions taken where required. Stakeholders will also be informed of the grievance redress mechanism.

79. The ADB operations department ensures that the following safeguard documents are posted on ADB's website: (i) draft EARF before subproject appraisal; and (ii) the final or updated IEE upon receipt. The project team makes the draft IEE reports available to interested stakeholders before project approval by the Board on request. In addition, if the final IEE is not available upon Board approval, the draft IEE is posted on ADB's website.

B. Grievance Redress Mechanism

80. A grievance redress mechanism (GRM) will be established to receive, evaluate, and facilitate the resolution of affected people's concerns, complaints, and grievances about the social and environmental performance at the level of the project. The GRM aims to provide a trusted way to voice and resolve concerns linked to the program of activities, and to be an effective way to address affected people's concerns.

81. The GRM should be established and operated in compliance with the Uzbek Regulations and ADB Policy requirements.

82. Based on the experience from other ADB-assisted projects in Uzbekistan and local practices, and also taking into account the complaints mechanisms that already exist in the REN at the regional level (i.e. telephone hotlines), the grievance resolution process presented in **Table 11** is envisaged under the project.

Table 11: Grievance resolution process

Level	Summary of the Process
Level 1 Local Makhalla Committee, Contractor and the District Hokimiyat	<ul style="list-style-type: none"> • The aggrieved person can forward his/her grievance directly to Makhalla, Hokimiyat or the REN by telephone, post/in person/or electronic form (emails/social media/messengers). • The responsible staff who accept the grievances, shall register it in the grievances registration Logbook and provide a written acknowledgment of receipt to the aggravated party within two days. • The staff of these actors will put efforts to solve the grievance at the entry point if possible. If the grievance is not related directly to the Project, the complainant will be recommended to contact the relevant agency. • At the same time, they will forward/email information about all grievances to the Safeguards Specialist of REN PMU/GRM Focal Point. The database of all grievances with their status and measures undertaken will be in the REN PMU. • The REN PMU's Safeguards Specialist will review the received grievances, coordinates with the related actors to resolve it within 15 days. • The complainant shall be provided written notification about the decision taken, and information about that she/he shall inform the REN PMU within 15 days if not agree with the decision (contact information of REN PMU shall be provided).

Level	Summary of the Process
Level 2 PMU Secretariat in Tashkent	<ul style="list-style-type: none"> • If the grievance was not redressed at the first level or the complainant is not satisfied with the decision, the REN PMU Safeguard Specialist shall forward the complaint with any additional information provided by the complaining party, to the REN PMU Secretariat in Tashkent. • The Secretariat of REN PMU will review the complaint and coordinates with the respective agencies to find resolution. • If the complaint requires more time and/or higher competence for resolution, the REN PMU will form an ad-hoc complaint resolution commission represented by REN PMU Secretariat, District Hokimiyat and Makhalla or village assembly of citizens or/and farmer's councils, or/and women association, independent experts. • The complaint shall be resolved in 15 days in this level. In case if additional details or expertise are required, within a maximum of 30 days. The complainant shall will be provided a written notification about the decision.
Level 3 Economic Court	<ul style="list-style-type: none"> • If the issue was not solved or the aggrieved person is dissatisfied with the decision, he/she may apply to the Economic Court. Nevertheless, the project GRM shall not impede the access of aggrieved person (s) to the country's judicial and administrative system at any time.

83. Residents usually approach to the Mahallas and Hokimiyats for issues or complaints. District hokimiyats are obliged by law to address the complaints and concerns of the citizens.

84. The people also can contact directly REN through telephone hotlines. Therefore, complaints can be received at the offices of all these three actors, registered and forwarded by email to the assigned staff/GRM focal person at REN PMU who shall have a consolidated database of all grievances and resolution status.

85. According to the "Law on the order of submission of appeals of physical and legal entities", the complaint shall be processed within **fifteen days** from the date of receipt, or **up to one month** if the case requires additional documents or investigation.

86. The REN PMU will ensure all grievances and resolution process are documented in a Logbook at the offices of the REN PMU in paper and in the electronic form. The Mahalla and Hokimiyats of the project districts may use their procedures for registration and addressing the citizens' complaints. The staff of the REN, Makhalla or district hokimiyats who registered the grievance, shall, forward it to the REN PMU Social Safeguards Specialist (GRM Focal Person) along with all information. The complainant should be informed about the decision and actions to be taken at every resolution level.

87. The REN should incorporate the grievance cases in their semi-annual monitoring reports to be submitted to ADB. All grievances and their resolution status will be monitored and reflected in the project's progress reports. Complaints will also be accepted by any ADB office such as a resident mission, regional office or representative office, which will forward them unopened to the CRO.

Complaints Receiving Officer, Accountability Mechanism
 Asian Development Bank Headquarters
 6 ADB Avenue, Mandaluyong City 1550, Philippines
 Email: amcro@adb.org, Fax +63-2-636-2086

VII. INSTITUTIONAL ARRANGEMENT AND RESPONSIBILITIES

88. The Project Management Unit (PMU) of REN and the PTES will be responsible for ensuring correct implementation of the Environmental Management Plan (EMP), the EAS and the SEMP in order to comply with ADB's safeguards requirements and environmental national regulations.

89. For this, the REN PMU will hire a national safeguard specialist. The REN PMU will be supported by PTES safeguard focal points and will also be guided by the environmental, health and safety specialists of the PIC in supervising the implementation of EMP / SEMP.

90. The cost for implementing mitigation measures as outlined in the EMP will be included in the contract between the REN and ADB, and the cost for oversight of the EMP and SEMP will be included in the consulting service of the PIC.

A. REN

91. REN has the overall responsibility for the implementation of the Project works via the REN PMU, PTES and their Sub-contractors.

REN Project Management Unit

92. Currently, the environmental capacity with REN centrally is weak primarily due to the fact that REN do not have a significant amount of experience implementing donor funded Projects, particularly from ADB. There is no specific person in charge of environmental and social issues within REN itself. REN have however hired one safeguard specialist (SS) to work within the REN PMU. The SS has helped contribute to this IEE and helped facilitate site visit, consultations and other meetings. However, the SS needs further training in order for him to effectively manage the Project. Ideally the SS should be RENs Environmental Manager coordinating all of RENs environmental management across all of the PTES to ensure that safeguards are applied consistently across REN, not just in the ADB funded regions.

93. The PMU SS will be responsible for the following activities during the course of the project:

- Following the procedures set in the project IEE and EARF;
- Obtaining all necessary government permits and license, including ecological expertise for all civil works if needed;
- Preparing the Project SEMP which will be endorsed by the PIC;
- Reviewing the EAS and any updated IEE prepared by the PIC;
- Updating the SEMP on an annual basis based on any new IEE;
- Ensure best practice designs and measures for transformer kiosks and pole-mounted transformers are applied;
- Ensure that the program for PCB identification and management is strictly followed;
- Preparing and submitting semi-annual environmental monitoring reports to ADB for disclosure on their website;
- Reporting to ADB of any non-compliance or breaches with ADB safeguard requirements in a timely manner and take corrective actions promptly;
- Managing the Grievance Redress Mechanism (GRM);
- Conducting public awareness programs, and

- Coordinate throughout with ADB's program team in applying ADB's environmental safeguard procedures.

94. As noted above, the PMU SS needs additional training, and this should be provided to the PMU SS (as well as the PTES Focal Points – described further below) by the PIC prior to the start of the project.

95. The training program will have modules specifically relating to; a) ADB Safeguards, b) Waste Management Procedures, c) PCB Management, d) Oil management, e) Environmental Management, Auditing and Reporting, and f) Identification and management of PCR.

PTES

96. During the development of this IEE several discussions were held with management of PTES, including several staff who hold the position of 'environmental focal point'. For example, Samarkand PTES has an 'environmental focal point' focal points who sits in their Production and Technical Department and provides quarterly reports on air emissions, waste (including oils), and water. These reports are sent to REN and the SCNP. The focal points are not engaged full time in this activity, rather it forms a part of their day to day work activities. They are not specifically trained in environmental or social issues. However, they are necessary for the successful implementation of the project. As such, the 'Safeguard Focal Points (SFPs) will be required to:

- Ensure that all necessary national and regional environmental permits and approvals are obtained;
- Participate in training programs provided by ADB;
- Monitoring and reporting on Project activities according to the requirements outlined below;
- Coordinate all activities with REN PMU SS.

B. Project Implementation Consultant (PIC)

97. The PIC will ensure the correct implementation of the project's EMP, and all related documents. In addition, PIC will provide training to the REN PMU and also complete the Environmental Assessment Screening for all project activities. The PIC shall be responsible for the following tasks outlined in the table below.

Table 12: PIC Tasks

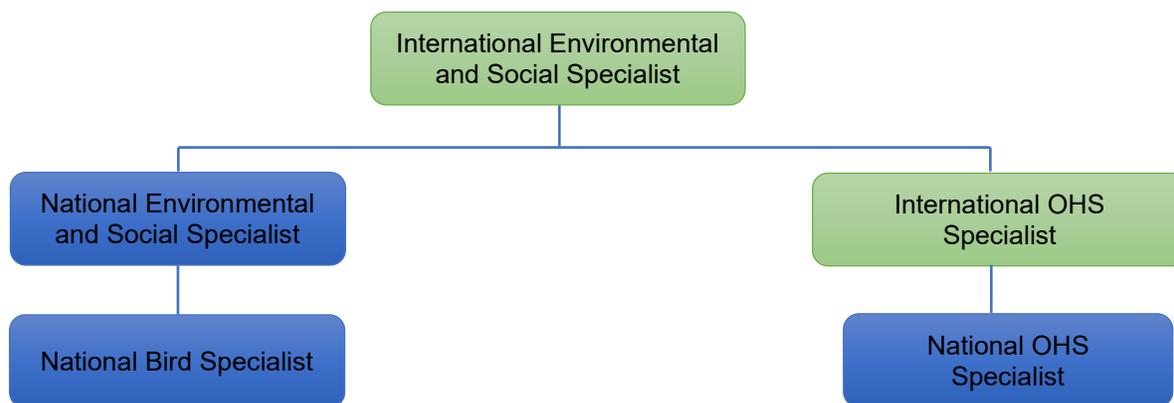
Action	Staffing	Schedule
Prior to the Commencement of Works		
Provide guidance to the PMU SS on the environmental and social aspects of the project with emphasis on compliance monitoring and reporting.	IESS, NESS	Prior to the commencement of works
Assist the PMU with establishing and operating the grievance redress mechanism, including creating a grievance chart which is to be updated on a weekly basis.	IESS, NESS	Prior to the commencement of works
Review the SEMP and recommend any modifications to these documents to be compliant with: (a) the environmental and social requirements of the construction contracts as reflected in the EMP, and (b) the conditions of environmental approvals of the Government, if required.	IESS, NESS	Prior to the commencement of works

Action	Staffing	Schedule
Develop the compliance monitoring system to be used during the construction period for monitoring the PTES (and their Sub-contractors) performance relative to environmental requirements, including the preparation of: (a) monitoring and corrective action forms and checklists, (b) inspection procedures, and (c) documentation procedures.	IESS, NESS	Prior to the commencement of works
Conduct orientation sessions with PTES (and their Sub-contractors) on the compliance monitoring system to be used, notification of non-compliance, and the process of requiring contractors to implement corrective measures when necessary.	IESS, NESS	Prior to the commencement of works
Provide guidance to the REN PMU SS and PTES SFPs on how their respective SEMP will be implemented including the: (a) requirements for each mitigation measure, and (b) implementation schedule of each mitigation measure taking into consideration the general requirement that no specific construction activity will be approved to be commenced if the associated mitigation measures for such activity are not ready before work commences.	IESS, NESS	Prior to the commencement of works
OHS audit of REN and community health and safety assessment.	International OHS Specialist, National OHS Specialist	Prior to the commencement of works
Develop standard operational procedures for waste management, including site-specific plans for maintenance areas and warehouses.	IESS, NESS	Prior to the commencement of works
During Implementation of the Works		
Preparation of EAS for all Project activities in all three regions, including consultation with local stakeholders.	NESS	Prior to the confirmation of works at any activity site.
Engaging a bird specialist for surveys of activity sites where warranted by the EAS.	NESS	When identified by the EAS
Preparing new IEEs where the EAS identifies significant impacts.	IESS	When identified by the EAS
Supervise the implementation of the SEMPs and its relevant topic and site specific EMPs.	IESS, NESS	Throughout the Project
Evaluate the PTES (and their Sub-contractors) submitted works activities and schedules relative to the requirements of the approved SEMP.	NESS	Throughout the Project
Undertake inspection, monitoring and reporting of construction sites and all construction-related facilities to assess the PTES (and their Sub-contractors) compliance with the SEMP and the Project EMP.	NESS	Monthly, throughout the Project
Require the REN PMU to prepare new SEMP when necessary.	NESS	When new IEEs are prepared.
Monitor the PTES (and their Sub-contractors) compliance with health and safety, and labor requirements of the project as stipulated in the contract documents.	International OHS Specialist, National OHS Specialist	Throughout the Project

Action	Staffing	Schedule
Record non-conformance cases, inform PTES (and their Sub-contractors) of improvements needed, prepare corrective action plans for PTES (and their Sub-contractors), and monitor their implementation.	National OHS Specialist, NESS	Throughout the Project
Monitor the status of the PCB identification plan.	National OHS Specialist, NESS	Throughout the Project
Include environmental and social monitoring and OHS monitoring in monthly monitoring reports for submission to the REN PMU.	National OHS Specialist, NESS	Monthly, throughout the Project
Draft semi-annual safeguard monitoring reports, as required by ADB.	International OHS Specialist, IESS	Every six months, throughout the Project.
Upon Completion of the Works		
The PIC shall prepare a report on the Project's environmental and social compliance performance, including lessons learned that may help REN PMU in their environmental and OHS monitoring of future projects. The report will be an input to the overall project completion report.	International OHS Specialist, IESS	Upon completion of works

98. The PIC will retain the use of a team of environmental, social and health and safety specialists as shown in the figure below to provide oversight of the PTES environmental performance as outlined above. Qualifications of the specialists is provided below.

Figure 3: PIC Environmental and Social Team



C. ADB

99. ADB will be responsible for reviewing the biannual environmental monitoring reports prepared by the PIC.

VIII. MONITORING AND REPORTING

100. All works will be implemented by PTES units or their sub-consultants.

A. PIC Monitoring and Reporting

101. The PIC shall make monthly site inspections in accordance with his/her own schedule. Each ADB funded region shall be visited at least once per month. The task of the PIC shall be to verify the compliance of the fulfilment of work with the requirements of the EMP and national legislation.

102. The PIC shall conduct visual monitoring of the entire area and if violations are observed, he/she will record it in his/her checklist and then all violations will be reported to the work site manager, the PTES Chief Engineer, PTES SFP and REN SS. At the end of the inspection, the PIC will prepare the corrective action plan that will be submitted to the work site manager, the PTES Chief Engineer and the PTES SFP for implementation.

103. With regards to reporting, the PIC shall:

- Prepare monthly Safeguards Reports for internal use reporting on the findings of the monthly site visits. Reports will be submitted to PTES SFPs and PTES Chief Engineer and REN PMU;
- Based on the monthly reports, the PIC will prepare and submit semiannual reports to ADB.

B. Monitoring Reporting by PTES SFP

104. Routine monitoring of work sites shall be carried out by the PTES SFPs at least once per week, unless no specific work activities are ongoing. If violations are observed, he/she will record it in his/her checklist and then all violations will be reported to the work site manager, the PTES Chief Engineer and the REN SS. In addition, the PTES SFP shall prepare weekly summary reports of the findings of site visits for submission to the REN PMU SS and PTES Management (no more than 1 page).

C. Monitoring by SCNP

105. SCNP are responsible for monitoring the implementation of SEE documentation, including any mitigation actions required. These monitoring activities are the duty of the SCNP and beyond the scope of control of this program.

EARF APPENDIX 1: ENVIRONMENTAL ASSESSMENT SCREENING

Activity Description	
Region	
Town / Village	
Rehabilitation	Construction
Pole Mounted Transformer Replaced	Pad Mounted Transformer Replaced
Pole Mounted Transformer Installed	Pad Mounted Transformer Installed
Length of Distribution Line	Voltage of Distribution Line

Designated Sites, Sensitive Habitat and Birds			
Question	Yes	No	Remark
Is the site located within Nationally or Internationally Designated Site?			
If yes, activity to be excluded from ADB funding			
Is the site located within 1km of an important bird area (IBA)?			
If yes, a national bird specialist will be required to visit the site and complete an assessment of potential impacts to special status species. If significant impacts are anticipated an IEE shall be prepared by the PIC.			
Is the site located in a rural area, e.g. areas outside city limits or beyond incorporated areas with commercial or residential development?			
If yes, a national bird specialist will be required to visit the site and complete an assessment of potential impacts to special status species. If significant impacts are anticipated an IEE shall be prepared by the PIC.			
Are any red-book flora species present, or identified?			
If yes, follow the procedures for red-book species as described in the Project IEE. If significant impacts are anticipated an IEE shall be prepared by the PIC.			

^a For locations of nationally designated sites, visit <https://www.protectedplanet.net/country/UZ>.

^b For locations of internationally designated sites, visit <http://www.keybiodiversityareas.org/site/mapsearch>, <https://www.ramsar.org/wetland/uzbekistan>, and <http://datazone.birdlife.org/site/mapsearch>.

Distribution Line Length			
Question	Yes	No	Remark
Is the length of distribution line longer than ten kilometers and more than 0.4kV in voltage?			

If yes, activity to be subject to further assessment via a new IEE.

Environmental and Social Aspects			
Assessment Question	Yes	No	Remark
Is the site located within a UNESCO World Heritage site, or its buffer zone?			
If yes, coordinate activities with the Province Department for Cultural Heritage Protection			
Is the project located adjacent or within 50m of a cultural heritage site?			
If yes, coordinate activities with the Province Department for Cultural Heritage Protection			
Is the site located within 50m of a surface water course, or water body?			
If yes, ensure that the measures for water quality protection outlined in the IEE are followed.			
Is the site located adjacent to a sensitive receptor, e.g. a school or hospital?			

<i>If yes, ensure all measures outlined in the Project IEE relating to air quality, noise and community health and safety are followed.</i>		
Are there any signs of significant oil contamination around the site?	<input type="checkbox"/>	<input type="checkbox"/>
<i>If yes, remove contaminated soil in accordance with the procedures outlined in the Project IEE</i>		
Is the site adjacent to any residential receptors?	<input type="checkbox"/>	<input type="checkbox"/>
<i>If yes, ensure all measures outlined in the Project IEE relating to air quality, noise and community health and safety are followed.</i>		
Have any bird nests been identified on poles?	<input type="checkbox"/>	<input type="checkbox"/>
<i>If yes, follow the measures for nest management outlined in the Project IEE.</i>		

Site Map (Insert google map of activity, including any distribution line and location of transformer)

Site / Consultation Photos	
Photo 1	Photo 2
Photo 3	Photo 4

Photo 5	Photo 6

Consultation Notes	
Name	Comment

Completed by, on behalf of PIC	Name:	Date
Approved by, on behalf of PIC	Name:	Date
Approved by REN PMU	Name:	Date

EARF APPENDIX 2: IEE TERMS OF REFERENCE

A. Objectives

The objective of the assignment is to ensure the environmental soundness and sustainability of the project and to support the integration of environmental safeguard considerations into the project-preparation and implementation process. This will be achieved by conducting an initial environmental examination (IEE) of the future subprojects to identify potential environmental impacts on physical, ecological, socioeconomic, and physical cultural resources, preparing IEE report with environmental management plan in accordance with the ADB's Safeguard Policy Statement (2009) and preparing semi-annual safeguards monitoring reports (SMRs) on the SSEMP implementation, emerging environmental and social safeguards issues arising during construction and preparation of appropriate corrective actions.

B. Scope of Work

The PICs scope of work will include the following tasks:

- **Analysis of the background materials.** Background materials of the earlier studies including, geotechnical, hydrogeological, and other relevant studies for each subproject will be collected from the relevant organizations and analyzed;
- **Assessment of Environmental Impacts and Development of Mitigation Measures.** An IEE study to assess potential direct, indirect, cumulative, induced, as well as transboundary and global impacts of the project to physical, biological, socioeconomic, and physical cultural resources during design, construction and operation stages will be conducted. Adverse environmental impacts will be avoided, or where it is not possible
- **Examination of Alternatives.** Alternatives to the project's location, design, technology, as well as "no project" alternative will be assessed;
- **Public consultations.** Meaningful public consultations with affected people (at least one round of consultation for IEE) ensuring participation of all stakeholders including non-governmental organizations, women will be conducted. The list of people attended the consultation, time and locations, subjects discussed during consultation will be recorded in systematic manner and attached in the IEE report as an appendix;
- **Grievance Redress Mechanism** will be established;
- **Preparation of IEE report.** An IEE report including executive summary, policy, legal, and environmental framework, description of the project, baseline data, expected environmental impacts and mitigation measures, analysis of alternatives, information disclosure, consultation and participation, grievance redress mechanism, in accordance with ADB's Safeguard Policy Statement (2009);
- **Preparation of EMP.** Site-specific environmental management plan will be prepared within the framework of this activity.

C. Team Composition and Organization

The assignment will be for a team comprising of one (1) international environmental and social specialist and one (1) national environmental and social specialist. The indicative duration for each IEE study is 1 month. Safeguards monitoring will be done for the entire duration of the project implementation.

The assignment will be based on the following requirements:

- Both international and national environmental specialists will be involved in preparing the IEE study;
- the International Environmental and Social Specialist will have 10-15 years of experience in environmental assessment, environmental management and monitoring, construction supervision of projects including medical facilities, team management skills, experience working in teams of multi-discipline experts and leading a national team of consultants, understanding of administrative, procedural, and technical requirements of environmental assessment. Moreover he/she should also be experienced in preparation and implementation of medical waste management plans;
- National Specialists will be graduates in environmental science, environmental engineering, geological science, engineering hydrology, biology or related discipline with significant experience in environmental management and monitoring of similar projects, environmental assessment and/or design and implementation of environmental mitigation measures.
- The following reports/documents will be expected from the consulting team:
 - (i) IEE study for all the subprojects and EMP