Initial Environmental Examination

April 2021

Uzbekistan: Partial Credit Guarantee Facility for Uzbekistan Solar PPP Program

Appendix 4: Environmental, Health and Safety Audit Template
Appendix 5: Terms of Reference Project Implementation Consultancy Services

Prepared by the Ministry of Energy of the Republic of Uzbekistan for the Asian Development Bank.

Appendix 4
Environmental, Health and Safety Audit Template
Surkhan Substation

1. BASIC INFORMATION

SUBSTATION DATA		List Responses Here	
1.1	Location / Address North-Western outskirts of Jarkurgan town	District / Township: Jarkurgan	Village:
1.2	Geographic coordinates	37°31'17.10"N; 67°23'52.50"E	
1.3	Substation Plot (acres / hectares)	15ha	
1.4	Date substation was constructed / commissioned (year)	1977	
1.5	List of major equipment / components at the substation Type of Substation (e.g. Hybrid, AIS, GIS) Capacity (MVA)	e.g. number of transformers; switch bay sets, etc	2 x 500kV lines; 6 x 220kV lines; 500 kV outdoor switchgear; 220 kV outdoor switchgear; 110 kV outdoor switchgear; 35 kV outdoor switchgear; 2 x three-phase groups of single-phase autotransformers (T-2 and T-3), 167 MVA, 500/220/10 kV; shunt reactor (R-508) type RODC-60000/500-U1; three-phase autotransformer (T-1), 63 MVA, 220/110/10 kV; three-phase autotransformer (T-4), 63 MVA, 220/110/35 kV; building of substation control house; building of relay house on territory of 500 kV outdoor switchgear; 10 kV prefabricated switchboard; auxiliary buildings and structures.
1.6	Number of workers	Permanent:	Temporary:

2. OBSERVATIONS

SITE OBSERVATIONS		List Reponses Here
2.1	Description of substation within fenced boundary	Highly guarded. Clean and well maintained inside the fence.
2.1 (a)	Adequate to undertake upgrade / extension / renovation works?	Yes. Capacity to construct only 2 new 220kV bays without disturbing the fence area.
2.2	Description of neighboring area / type of land use of surrounding area (outside the substation boundary) e.g. households, farm, warehouse yard, government building, barren / dense vegetation, vacant plot, agricultural fields, trees / forests, etc.	Barren land. 
2.3	List any sensitive natural and/or human receptors in close proximity with distance in meters / km e.g. households, religious sites (pagodas, temples), schools, clinics, ponds, rivers, streams, trees / forests (including protected areas), etc.	Household are 600-700 m away from the substation.
2.4	Any observed water logging at substation facility and/or surrounding areas	No
2.5	Evidence of adequate fencing and other means of keeping the public and unauthorized persons away from the substation facility	Yes Guarded by military
2.6	Evidence of leaks from existing transformers or other equipment / provision of oil pits	No
2.7	Evidence of emergency planning e.g. Standard Operating Procedures (SOP) / Manual on Emergency Response Plan (ERP) on-site	
2.8	Evidence of safety signs , warning signs on-site.	Yes
2.9	Evidence of fire-fighting equipment e.g. fire extinguishers, sand buckets, etc., (List numbers)	Yes (not sure about the numbers)
2.10	Evidence of solid waste / hazardous waste management on-site	
2.11	Evidence of adequately sized drainage canals at the existing substation	

SITE OBSERVATIONS		List Reponses Here
	(This is to determine whether the drainage canals drain towards the road canal and/or towards adjoining areas and agricultural fields / vacant plots.)	
2.12	Evidence of adequate temporary storage space for new equipment /old and damaged equipment, materials on-site. (Also determine the condition of storage area e.g. permanent ('bunded') impermeable surface or temporary area)or directly on ground	Yes
2.13	Condition of approach road to substation facility, e.g. paved, unpaved, dusty, etc	Paved (200-300m of unpaved to the substation entry)

3. ISSUES INVESTIGATED DURING THE SITE VISITS

QUESTIONS FOR SITE ENGINEER		List responses here and ->		Remarks
	When was the substation first constructed / commissioned (year)? In general, check if substation facility was constructed prior to the UZB Environmental Impact Assessment or equivalent regulations or after the regulations came into effect.)	Prior to UZB EIA or equivalent regulations came into effect:	After UZB EIA or equivalent regulations came into effect:	1977
	Was an environmental clearance obtained at the time of the initial planning of the substation facility?	Yes	No	Document available on site / to be requested from Regional office, date of effect:
	Was resettlement or compensation required at the time of the initial planning of the substation facility?	Yes	No	If Yes, describe procedures If No, describe why
	Were any external donors involved in the financing of the substation facility? (This is to determine if there were environmental	Yes	No	If Yes, documentation of requirements to be requested from Regional office, date of effect:

QUESTIONS FOR SITE ENGINEER		List responses here and ->		Remarks
	assessment requirements from the donors.)			
	Provide a layout plan of the substation facility, with dimensions (This is to determine the area of the substations and check for environmental issues such as drainage.)			Documentation of layout to be requested from Regional office
	What is the age of the transformers? How many transformers? (Answer will be used to judge the general condition of the substation facility, evidence of maintenance, and likelihood of the presence of older transformers containing PCBs[1] or other hazardous chemicals.)			2 x three-phase groups of single-phase autotransformers (T-2 and T-3), 167 MVA, 500/220/10 kV; three-phase autotransformer (T-1), 63 MVA, 220/110/10 kV; three-phase autotransformer (T-4), 63 MVA, 220/110/35 kV; Age is not known
	What are your procedures for servicing of the transformers? When was the transformer last serviced? What do you do with the used transformer oil?			
	What type of circuit breakers do you use? (This is to determine if there are still sulphur hexafluoride (SF_6) circuit breakers with ceramic insulators at the substation which are more prone to breaking and explosion and release of SF_6 gas or with composite / rubber).	Ceramic insulators:	Composite / rubber insulators:	

[1] PCB - Polychlorinated Biphenyl.

QUESTIONS FOR SITE ENGINEER		List responses here and ->		Remarks
	Is there a written Environment, Health and Safety (EHS) plan on-site?	Yes	No	Or where is it?
	Is there a written Emergency Response Plan (ERP) on-site?	Yes	No	Or Where is it?
	Is training on Electrical works / Environment, Health and Safety / Emergency Response Plan done regularly? Is it quarterly, bi-annually or annually? (Please list type of training and number of times)	Yes	No	If Yes, type of training and number of times:
	Did you or do you regularly consultant with nearby communities on Environment, Health and Safety risks / Emergency Response Plan?	Yes	No	If Yes, type of consultation (formal / informal), when was it last done and number of times
	Do you conduct monitoring for Electro-magnetic fields (EMF)?	Yes	No	
	Describe your hazardous waste management procedures on-site. (This is to determine the measures on disposal of old batteries, transformers discarded / broken circuit breakers and other equipment)			
	Describe your solid waste management procedures on-site.			
	How do you handle any community complaints received?			
QUESTIONS FOR SITE STAFF / WORKERS				
	Have you participated in the Environment, Health and Safety training / Emergency Response Plan training?	Yes	No	IF Yes, when

QUESTIONS FOR SITE ENGINEER		List responses here and ->		Remarks
	Aware you aware of the Standard Operating Procedures for the substation?			
	Do you have adequate Personal Protective Equipment (PPE) such as helmets, gloves, boots, and eye and ear protection? Do you use them on daily basis?	Yes Yes, available on site.	No	
	Have there been any accidents in the substation facility that involved workers?	Yes	No	If Yes, when and details
	Have there been any accidents in the facility that involved the nearby community?	Yes	No	If Yes, when and details
	Are there wild animals which enter or live in the substation facility? Do you have any issues with birds?			
	Are you aware of the grievance redress mechanism to address community complaints?	Yes	No	

SUMMARY OF FINDINGS:_____
_____
_____
_____

CORRECTIVE ACTION PLAN:_____
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_____
_____
_____

Appendix 5
Terms of Reference Project Implementation Consultancy Services

Objective. The project implementation consultant (PIC) services will be engaged to assist PMU and SPV with the implementation of the project and safeguards requirements

Scope of Work

General:

(a) update, as necessary, the Initial Environmental Examination (IEE), Environment Management Plan (EMP), Biodiversity Action Plan (BAP), Biodiversity Management and Evaluation Plan (BMEP) and Social Safeguards Due Diligence Report (SSDDR) or preparation of Land Acquisition and Resettlement Plan (LARP), and, after obtaining ADB's approval, oversee their implementation;

(b) work and coordinate with PMU to complete Environmental, Health and Safety Audit (EHS) for existing Surkhan substation that will undergo upgrade / extension work;

(c) work and coordinate with SPV/SPV appointed contractors to develop and finalize site EMPs (SEMPs), and after obtaining PMU's approval, oversee SEMP implementation;

(d) work and coordinate with SPV to develop and finalize Environmental and Social Management System (ESMS)

(d) supervise the integration of safeguard measures into the design, installation, and commissioning of the solar PV plant and transmission interconnection infrastructure works by the SPV/SPV appointed contractors.

Team Composition. The PIC will consist of one international and two national specialists recruited for a total of 4 person-months and 14 person-months total over 18 months project implementation period, respectively.

Minimum Qualifications.

International Environmental Specialist will have a degree in the environmental or engineering, and at least 10 years of relevant experience in: (a) environmental management, planning and implementation; (b) conducting environmental assessments and monitoring construction impacts; (c) preparation of reports; and (iv) working on infrastructure projects, particularly power projects, funded by ADB. Country experience is preferred.
National Environmental Specialist will have a degree in the environmental or engineering, and at least 5 years of relevant experience in: (a) environmental management, planning and implementation; (b) conducting environmental assessments and monitoring construction impacts; (c) preparation of reports; and (iv) working on infrastructure projects, particularly power projects, funded by ADB.

Detailed Tasks

Pre-construction Stage

(i) **Task 1. Preparation of domestic environmental assessment reports for domestic clearance/ approval**

The PIC will assist SPV to work with local environmental agencies to prepare and submit an appropriate domestic environmental assessment documentation for the solar PV plant and transmission interconnection infrastructure for clearance and approval, as required, prior to any civil works contract award to contractors. Tasks are:

a) Assist SPV in preparation of domestic environmental assessment reports including translation into the local language (Uzbek / Russian)[1];
b) Ensuring all public consultation and information disclosure requirements are met; and
c) Assisting the SPV (and/or PMU) to submit and obtain approvals for domestic environmental assessment reports from local agencies / authorities at preliminary design state and/or detailed design stage.
d) In addition, coordinating with the local agencies/ authorities on all other relevant permits and approvals, and environmental regulatory compliance issues.

(ii) **Task 2. Project Readiness Compliance**

a) Assist SPV (and/or PMU) in project readiness monitoring against checklist and indicators set out in the EMP, in particular:
b) Update the IEE and EMP, BAP and BMEP to take account of detailed engineering designs of the project components, factoring any new details and developments into the mitigation and monitoring / evaluation plans including findings/ corrective actions obtained from physical EHS audit of Surkhan substation, budget and capacity development needs of PMU and SPV PIU staff.
c) Ensure that all relevant requirements of the EMP, BAP and BMEP including any updates, are adequately addressed and included in the EPC bidding documents and civil work contracts.
d) Ensure implementation of the environment safeguards documents is compliant with the partial credit guarantee (PCG) requirements of ADB
e) Implement and monitor meaningful consultations throughput project implementation period
f) Obtain ADB approval for the updated IEE and EMP, BAP and BMEP
g) Conduct additional surveys e.g. pre-construction surveys / bird surveys[2]
h) Implement the updated IEE and EMP, BAP and BMEP
i) Organize and conduct a training and capacity development program for the PMU, SPV PIU and SPV appointed key contractors on topics as set out in EMP (including SEMP implementation), BAP and BMEP compliance monitoring of construction activities and preparation of periodic monitoring reports, supervision responsibilities and interaction with contractors and communities, documentation, resolution and

[1] PIC contract will include a specific line item allowing sub-contracting of an experienced English to Uzb / Russian translator.
[2] Refer to Terms of Reference Appendix 3.1 (d).

reporting of non-compliances and complaints, provide on job trainings throughout the project implementation period.[3]

j) Ensure that a practicable Grievance Redress Mechanism (GRM) is in place and that affected persons / households, institutions and other relevant stakeholders are informed about it and procedures to place a complaint for any environment and social issues. Assist PMU and SPV PIU with: (a) building capacity of the grievance redress committee (GRC) members; (b) maintaining adequate recording of the complaints (grievance logs and forms); (c) responses to complaints from affected persons/ households and institutions and ensure their resolution in a timely manner; (d) ensure follow-ups with affected persons / households to check that issues have been resolved satisfactorily; and (e) establishing and regularly updating a database of complaints received and status of their resolution and any bottlenecks, and summarizing the status of the GRM in the periodic and safeguards monitoring reports to be submitted to ADB.

k) Assist with information disclosure, distribution of Project Information Booklet (PIB)[4], consultations, and participation with the public, ensuring at least 30% women's participation overall and conducting separate consultations with women, on an ongoing basis throughout project implementation.

l) Assist SPV (and/or PMU) in preparing monitoring reports for submission to the Government and ADB, including information on progress on gender mainstreaming.

Implementation Stage

(iii) **Task 3. Implementation of IEE and EMP, BAP and BMEP**

a) Assist PMU and SPV PIU in compliance assurance with relevant government laws and regulations and ADB SPS 2009 requirements.

b) Assist PMU and SPV PIU in implementing IEE, EMP, BAP, BMEP and GRM. Ensure construction mitigation measures as set out in EMP. BAP, BMEP are implemented.

c) Assist SPV PIU (and/or) PMU in drafting and/or updating the Public Information Booklet (PIB) that will include project information including grievance redress committee (GRC), key focal point person contacts and any other details as relevant.

d) Provide **training** to SPV appointed key contractors, relevant PMU and SPV PIU staff and facility operators on EMP, BAP and BMEP implementation, provide training and checklists for monitoring parameters and responsibilities; on conducting consultations with affected people/households and communities on ongoing basis during project implementation.

e) In coordination with SPV appointed contractors, prepare site environmental management plans (SEMPs) based on the updated EMP and on actual site conditions prior to mobilizing; take reference from SEMPs, and prepare Standard Operation & Maintenance Plans (SOMPs) for operation stage

[3] The PIC will be responsible for building PMU and SPV capacity in safeguards monitoring/evaluation and reporting. The PIC will also assist the PMU and SPV contractors in conducting project level COVID-19 risk assessment. The PIC will ensure that the SPV contractor's Occupational Health & Safety plans integrate measures to mitigate COVID-19 health risks that are aligned with Government guidelines and measures listed in the EMP.

[4] A Project Information Booklet (PIB) in Uzbek/Russian will be prepared (to be distributed and made available to affected persons/households in public consultation meetings, project construction field offices and at locations prescribed in the IEE. This will include the contact information including NENU/SPV website address, PMU, SPV PIU, PIC and contractors address and telephone number for local focal point persons.

f) Coordinate with the local agencies/authorities on all relevant environmental regulatory compliance issues.
g) Conduct environmental baseline/pre-construction surveys as set out in the EMP, BAP, BMEP.[5]
h) Assist PMU and SPV PIU with the information disclosure, meaningful consultation and participation on an ongoing basis throughput project implementation including dissemination of project information (e.g. PIBs, results of baseline/pre-construction surveys, environmental safeguards, emergency response plans (ERPs), community health and safety measures and GRM; and integrate public views in project planning.
i) Obtain monthly information from the SPV appointed key contractors in a simple report template to report on mitigation activities, environmental issues and corresponding corrective actions proposed or taken, including grievances reported and status of resolution.
j) Assist SPV appointed key contractors and SPV PIU staff in compliance monitoring, preparation of project quarterly progress report (QPRs) and semi-annual and annual safeguard reporting during construction and operation phase, respectively.
k) Assist the PMU and SPV PIU and SPV appointed key contractors in conducting project level COVID-19 risk assessment; ensure that the contractor's Occupational Health & Safety plans (OHSP) integrate measures to mitigate COVID-19 health risks that are aligned with government guidelines and measures listed in the EMP.[6]

(iv) **Task 4. Construction Supervision of SPV appointed Contractor(s)**

a) Conduct regular site visits and monitor construction, installation, testing, and commissioning of the works; identify any safeguards issues / problems during project implementation; propose remedial/corrective actions and report outstanding issues.
b) Ensure appointment of trained key focal persons on staff (C-ES, C-BO, C-GRM, etc) prior to civil works commencing
c) Coordinate with SPV appointed (EPC) contractor(s) to finalize Site Environmental Management Plans (SEMPs) prior to civil works commencing and obtain approval from PMU, supervise and regularly monitor implementation of EMP/SEMP, community and occupational environment, health and safety (EHS) measures and GRM by all parties on the site.
d) Coordinate with SPV appointed (EPC) contractor(s) to finalize Site Environmental Management Plans (SEMPs) prior to civil works commencing and obtain approval from PMU, supervise and regularly monitor implementation of EMP/SEMP, Supervise all environmental monitoring (air quality, noise, EMF) and biodiversity monitoring conducted by SPV appointed (EPC) contractors
e) Monitor compliance with applicable national labor laws and core labor standards, including but not limited to equal pay for equal work regardless of gender, race or ethnicity, and exclusion of child labor.

[5] SPV PPA agreement contract shall include a specific line item allowing SPV to sub-contract consultancy services for conducting baseline / pre-construction surveys across area of influence.
[6] The contractor's OHSP will be reviewed by PIC in consultation with public health inspectors of the area, local medical officers and other relevant health specialists; with a recommendation forwarded to the EA and IA for clearance.

All Phases

(v) **Task 5. Project Administration and Reporting**

a) Set up a project performance monitoring and document management system for safeguards documentation; maintain records of communications between PMU, other government agencies, SPV, SPV appointed key contractors, PIC and ADB.
b) Monitor safeguards implementation against the project's time schedules and work programs provided by the SPV and SPV appointed contractor(s)
c) Undertake other project-related tasks as can be reasonably inferred for the successful completion of the project.
d) Oversee and follow the reporting schedule:

Responsibility	**Reporting Requirements**	**Reporting to**
Contractor	Weekly inspection and monitoring reports	PIC/SPV PIU
Project Implementation Consultant Services (PIC)	Monthly inspection and monitoring reports	PMU/SPV PIU
	Environment input for Quarterly Progress Reports (QPRs) during construction stage	PMU/SPV PIU
	Draft QPRs and semiannual environmental monitoring reports during construction stage	PMU/SPV PIU