

Semi-annual Social Monitoring Report

Project Number: 47017-003 G0417
Reporting period: July-December 2018

Republic of Tajikistan: Wholesale Metering and Transmission Reinforcement Project (Financed by the Asian Development Bank)

Prepared by: AF Mercados EMI -Project Implementation Consultant

For:	Executing Agency:	Open Stock Holding Company «Barqi Tojik»(BT)
	Implementing Agency:	State Establishment «Project Management Unit for Electro-Energy Sector»(SE «PMUES»)

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February 2019

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Abbreviations

ADB	Asian Development Bank
BT	Barqi Tojik
EHS	Environmental, Health & Safety
HSE	Health, Safety and Environment
FAT	Factory Acceptance Test
kV	Kilovolt
LARP	Land Acquisition and Resettlement Plan
MVA	Megavolt Ampere (unit used to measure apparent power)
OHTL	Overhead Transmission Line
PIC	Project Implementation Consultant
PMU	Project Management Unit

SS Substation

1 INTRODUCTION

1.1 Preamble

1. This report represents the Semi - Annual Social Monitoring Review (SASMR) for the Wholesale Metering and Transmission Reinforcement Project on the implementation of the Land Acquisition and Resettlement Plan. The health and safety aspects have been covered in the Semi - Annual Environmental Monitoring Review report.

2. This report is the 7th SASMR for the project. The dates of the previous monitoring reports are November 2016, July 2017, September 2017, October 2017 (only for lot 2), February 2018 (joint monitoring of environmental and social safeguards), March 2018 and September 2018.

1.2 Headline Information

3. In Lot 1 on Wholesale Metering System, the meters Factory Acceptance Test (FAT) was conducted successfully in July 2018 by the Contractor Huawei/ TBEA. The software part of the project was rejected, and the Contractor shall propose new software suppliers. The construction of the foundations and erection of the Current and Voltage Transformers inside the substations has started in Dushanbe. Meter deployment has not started so far. The works under lot 1 are expected to be completed by July 2019 in all the subject substations (SSs) located along the country.

4. Regarding the Amendment 2 of Lot 2's work, which is the renovation of 110 kV switchyard at Rudaki Substation, it started in April 2018. Every activity was developed inside the plot of the Substation and on a working installation. TBEA completed most of the works for the variation order on 13 September 2018. It is pending to finalize setting concrete floors in the protections room, deliver one more training on maintenance and the final check on the equipment.

5. Lot 3 on the feasibility study of the interconnection between Tajikistan and Uzbekistan to re-incorporate Tajikistan to the Central Asia Power System has been completed during the reporting period. The implementation of the interconnection activities became part of an independent project.

6. This is the summary of the findings of the LARP audit undertaken in the current period:

Table 1. Summary of findings.

Main finding	Corrective actions applied or needed	Status
<u>Lot 2</u> -No grievance book available at Rudaki SS. TBEA brought it with them when finalizing most of the works. A complaints book must be made available until one year after the implementation is completed (around July 2020).	In the letter attached as Annex IV, the Contractor has expressed that "we have created a new register of complaints at the Rudaki Substation".	Solved. Physical check to be performed in the next site visit.
<u>Lot 2</u> -Need to bring the workers camp	In the letter attached as Annex IV, the Contractor has expressed that	Partially solved. It will be checked in the next visit by

Main finding	Corrective actions applied or needed	Status
near Ayni SS back to the previous condition. During the visit in December 2018 the was presence of concrete floors and construction material waste after dismantling the camp, pictures can be checked in Annex III.	"After agreeing with the landowner and the local government, we were informed that concrete floors would be used for other purposed, and this is the reason why we did not disassemble the concrete floors".	the PMU, ADB and/or PIC that there is no waste dumped around the former workers camp area.
Lot 2 - It is important that the land acquired under the scope of the Project is legally registered under Barki Tojik to avoid a situation where the previous land use owners would still pay taxes for it. BT has not explained on the land use titles status in relation to Ayni and Rudaki SSs as well as the land acquired for the foundation of 88 transmission towers.	Requested information and supporting documents shall be provided by BT. They will be inserted in the next semi-annual monitoring report.	Pending. No information and documents provided yet by BT.

2 BACKGROUND OF THE PROJECT AND SCOPE

2.1 Project Description

7. The Republic of Tajikistan has received financing (grant) from the Asian Development Bank (ADB) towards the cost of the Wholesale Metering and Transmission Reinforcement Project. It is expected that the proposed project will improve electricity supply to households and industries in the country by reducing losses through metering entire high and medium voltage transmission grid and expand transmission capacity in Panjakent region presently suffering from load shedding.

8. Parts of this financing are being used for payments under the contract for: Lot 1) Installation of 1,682 wholesale meters and settlement system including 846 current transformers and 744 voltage transformers in most of the substations along the country, introduction of an advanced metering infrastructure, and introduction of a settlement system; Lot 2) Rehabilitation of Substation Rudaki, Extension of Substation Ayni and Construction of new 220 kV Over Head Transmission Line (OHTL) between Substation (SS) Ayni 220 kV and SS Rudaki 220 kV, approximately 95 km of new single circuit single conductor with rated capacity of 320 MVA; and Lot 3) feasibility study of the interconnection between Tajikistan and Uzbekistan to re-incorporate Tajikistan to the Central Asia Power System.

9. The location of the Project component Lot 2 is presented below in Figure 1 in the scale of the Country.



Figure 1. Location of the Project (Lot 2)

10. Ayni Substation 220/110/10 kV is located in these coordinates: latitude $39^{\circ}25'58.79''$; longitude $68^{\circ}29'12.74''$. It is located 6km away from the closets village, beside the main road. The satellite image showing the location of Ayni SS of can be found below.



Figure 2. Satellite image of Ayni SS and surroundings.

11. Rudaki Substation 220/110/35/10 kV is located in these coordinates: latitude $39^{\circ}29'45.5''$; longitude $67^{\circ}35'18.3''$, at Sughd SS, in the outskirts of Penjakent city. The satellite image showing the location of Rudaki SS can be found below.



Figure 3. Satellite image of Rudaki SS and surroundings.

2.2 Institutional Arrangements and Management Capacity for Safeguards

12. The Executing Agency for the Project is the Open Stock Holding Company Barqi Tojik. The Executing Agency has set up a Project Management Unit (PMU) to manage daily coordination, implementation, monitoring and administration activities of the Project.

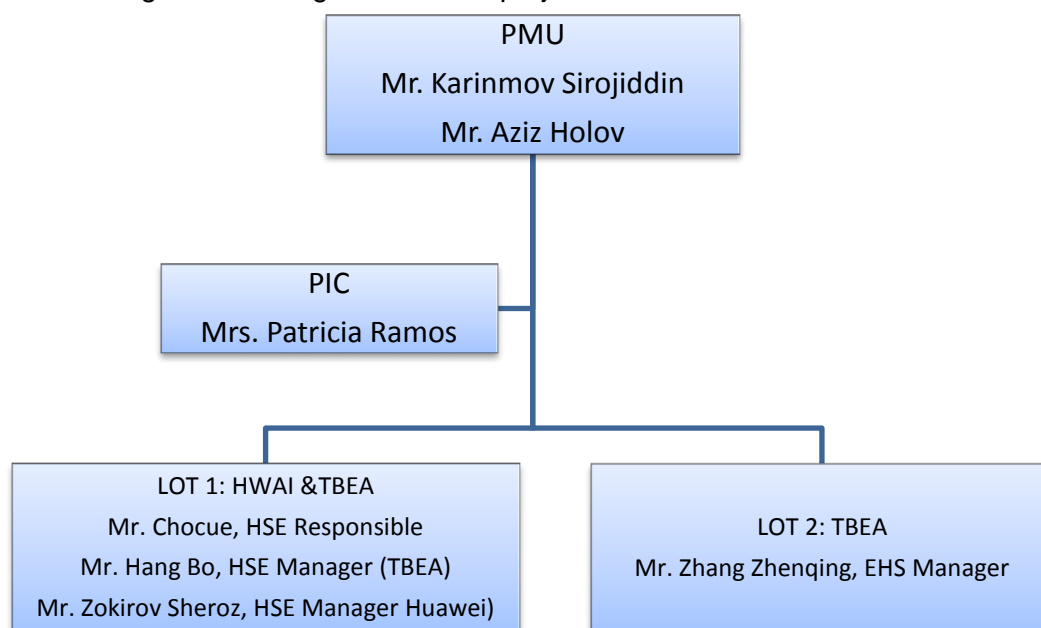
13. The PMU includes the Environmental Sector of the Projects Monitoring Department whose responsibilities include, among other things, the management of all social aspects of the project. The Head of the Environmental Sector of the Projects Monitoring Department is Mr. Karimov Sirojiddin. The Chief EHS Specialist at the PMU is Mr. Aziz Holov. Both of them take also formally care of the LARP aspects.

14. The Project Implementation Consultant (AF Mercados) is providing technical assistance to the PMU in the management and reporting of the project. The PIC is responsible for supervising and reporting on the Contractor's performance in the implementation of the LARP. The contract with AF Mercados was signed on August 2015 and the expected closing date is December 2019.

15. The PIC's international safeguards specialist was Mr. Pasi Vahanne and the national safeguards specialist was Ms. Muazama Burkhanova until July 2018. From that date, the international safeguards specialist is Mrs. Patricia Ramos Peinado.

16. The safeguards management of the project is as shown in Figure 4.

Figure 4. Safeguards management of the project.



17. The names of the main parties and focal points involved in the project can found in Annex I.

2.3 Project Activities During Current Reporting Period

18. Construction activities for the reporting period are described in the Table 2 below.

Table 2. Progress on the construction activities on Lot 2, Lot 2 Amendment and Lot 1.

N	Month 2018	Construction activities	Percentage of completion
1	July	Lot 2, second amendment: civil works at 110 kV Switchyard in Rudaki SS	100%
2	August	Lot 2, second amendment: electromechanical assembly in Rudaki SS	100%
3	September	Lot 2, second amendment: commissioning of the works in Rudaki SS	100%
4	October	-	-
5	November	-	-
6	December	Lot 1: start of the works. Construction of the new foundations at the substations for the installation of CTs/ VTs.	2%

19. In Lot 1 on Wholesale Metering System, the meters Factory Acceptance Test (FAT) was conducted successfully in July 2018 by the Contractor Huawei/ TBEA. The software part of the project was rejected, and the Contractor has to propose new software suppliers. The construction of the foundations and erection of the Current Transformers (for commercial metering points in 110 kV, 35 kV, 10 kV and 6 kV systems) and Voltage Transformers (for commercial metering points in 110 kV, 35 kV, 10kV, 6kV and 0.4 kV) inside the substations as started in Dushanbe. Meter deployment has not started so far. The construction works on installation of CTS and VTs under lot 1 are expected to be completed by July 2019. A total of 233 substations are covered by Lot 1 of the Project. The list of the substations and the network they belong to can be found in Annex II of this document.



Figure 5. Safeguards responsible from the contractor BTEA. Picture taken at “Shajari” SS (lot 1), Dushanbe, December 2018.

20. The project activities of Lot 2 are the Reinforcement of the Transmission grid in the Panjakent area, through the construction of a 220 kV Over Head Transmission Line (OHTL) between Ainy and Rudaki Substations, the enhancement and renovation of Rudaki SS, and the construction of a new bay in Ainy SS. The Contractor TBEA completed the works on 25 January 2018 for the original scope.



Figure 6. New bay built at Ayni SS, Panjakent Province. Completed at a previous reporting period. December 2018.



Figure 7. Tower that belongs to the constructed OHTL that was completed at a previous period. December 2018.

21. Regarding the Amendment 2 of Lot 2's work, which is the renovation of 110 kV switchyard at Rudaki Substation, it started in April 2018. Every activity was developed inside the plot of the Substation and on a working installation. TBEA completed most of the works for the variation order on 13 September 2018. It is pending to finalize setting concrete floors in the protections room, deliver one more training on maintenance and the final check on the equipment.



Figure 8. Renovation of 110 kV switchyard at Rudaki Substation, Panjakent Province. December 2018.

22. Lot 3 on the feasibility study of the interconnection between Tajikistan and Uzbekistan to re-incorporate Tajikistan to the Central Asia Power System has been completed during the

reporting period. The implementation of the interconnection activities became part of an independent project.

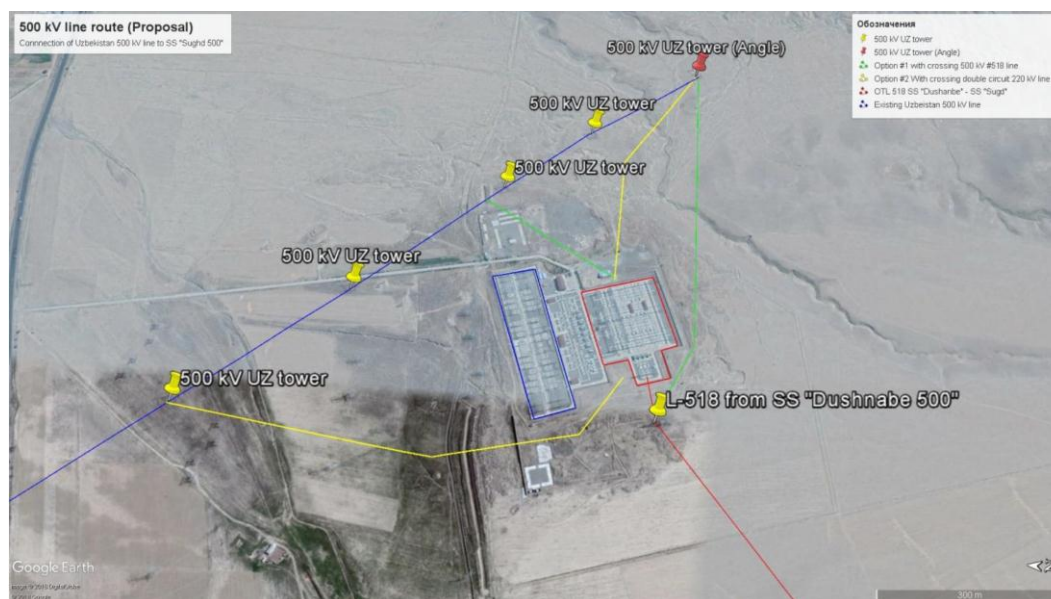


Figure 9. Possible line routes for the new OHTL sections which preliminary technical feasibility study and environmental and social due diligence has been performed under Lot 3.

2.4 Description of Any Changes to Project Design

23. An Amendment number 2 to the contract with the Lot 2 contractor and the Project Implementation Consultant (PIC) were signed in order to include in the project scope the rehabilitation of the 110kV bays at Rudaki SS. The related public consultations were performed in 2017 and the social due-diligence is done as part of the overall Project and reported in the previous SASMRs. The implementation of this variation order started in 16 February 2018 and it got mostly completed by 13 September 2018. The completion certificate was signed on 27 September 2018.

3 LARP DOCUMENTS

24. The initial LARP (Land Acquisition and Resettlement Plan) was drafted in September 2014. An updated version of the LARP for Lot 2 was produced in September 2016. An addendum to the original LARP was produced in June 2017 taking into account the final design of the OHTL and updating of the inventory of losses, performed joint verification and meetings with stakeholders in the project area.

25. The Contractor and the PMU are able in general terms to implement the LARP. The reporting by the Contractor is not being done as frequently as set in the LARP.

26. The measures set out in the LARP are still appropriate and they are working as intended. No updates to the LARP were required during the reporting period.

4. PROJECT IMPACTS

27. There is no physical resettlement involved in the Project.
28. These are the land acquisition implications of each lot and their status,
 - Lot 1: no land acquisition. All the installation of new equipment at the involved 233 substations occurs within the boundaries of the substations.
 - Lot 2: acquisition of the land for the foundation of 88 transmission line towers (out of the total 244 new transmission towers) affected to 1888.5 m² of land which land use owners (affected households) were a total number of 309 and a total crop of 205 AHs were affected. The compensation for agricultural land was already provided to the land use rights owners for a total amount around EUR 18,000. The costs associated with temporary or permanent land acquisition were funded by Barki Tojik and the related taxes and duties were funded by the Government of Tajikistan. The implementation of the LARP was performed in 2017 after the consultations performed in 2016 and 2017 and the very initial Project consultations in 2004 and 2005. The installation of new equipment and other upgrades at Ayni and Rudaki Substations occurs within the boundaries of the substations and does not involve land acquisition.
 - Lot 3: the funds under this lot were used for a project preparation technical assistance. A specific LARP for the activities related for the interconnection of Tajikistan to the Central Asia Power System was produced in October 2018 and now the project has been approved and it became an independent project.
29. The activities performed during the current period did not involve any temporary or permanent land acquisition.

5. RESULTS OF LARP MONITORING

5.1 General Description of Social Safeguard Monitoring Activities

30. For the monitoring purposes, both desk review method and field visits have been carried out as follows:
 - The PIC Safeguards Specialist was on mission in Tajikistan from 27 November to 5 December 2018, visiting several project sites to perform direct site observations and holding meetings with Barqi Tojik, the ADB, and the Specialist of the Environmental Committee of Panjakent District. The findings of that mission have been incorporated in this report.
 - On the weeks previous to the mission, a desk review of the initial LARP, the updated LARP, the Initial Poverty and Social Analysis and the previous social safeguards monitoring reports was performed. Besides, the GRM logbook was checked.

5.2 Site Audits

31. These are the details of the formal audits undertaken by safeguards process staff during the current reporting period.

Table 3. Audits undertaken during the current period.

	Date of Visit	Auditors Name	Purpose of Audit	Significant Findings
PMU	17/06/18 Visit of: Rudaki SS,	Karimov S.	Audit of the environmental	Checked the state of construction camp, the

	Date of Visit	Auditors Name	Purpose of Audit	Significant Findings
	the OHTL (lot 2).		and social aspects	availability of first-aid set on the site and taking of safety instruction by the Contractor's employer who met the requirements
	05/09/18 Visit of: Rudaki SS, the OHTL (lot 2).	Karimov S.		After completion of construction, the ground has not been brought back to previous condition near the 235 towers. During site visit was fulfilled.
PIC	27/11/18-06/12/18. Visit of: Ayni SS, Rudaki SS, the OHTL (lot 2), "Shahri" SS and "Bustot" SS (lot 1).	Patricia Ramos	Audit of the LARP aspects of the project activities performed during the last 6 months	<u>Lot 2</u> - Ayni SS workers camp has to be brought back to previous condition. -No grievance book available at Rudaki SS. -BT has not explained on the land titles status in relation to Ayni and Rudaki SSs as well as the land acquired for the foundation of 88 transmission towers.

32. The Specialist of the Environmental Committee of Panjakent City, Mr. Pulodov Murod, expressed his interest in visiting the line in a future mission together with other City Committees in order to check the restoration status. A detailed audit on the status of the access roads and RoW will be performed and added in the next semi-annual social monitoring report. Same way, the ADB national environmental and social specialists expressed their will to perform site visits next time that the PIC international environmental and social specialist is in the country. Therefore, all of them will be given notice about the next mission of the PIC international environmental and social specialist in order for the joint site visits to take place.

33. This is the summary of the findings of the audits undertaken in the current period:

Table 4. Summary of the findings in the current period.

Main finding	Corrective actions applied or needed	Status
<u>Lot 2</u> -Need to bring the workers camp near Ayni SS back to the previous condition.	In the letter attached as Annex II, the Contractor has expressed that "After agreeing with the landowner and the local government, we were informed that concrete floors would be used for other purposed, and this is the reason why we did not disassemble the concrete floors".	Partially solved. It will be checked in the next visit by the PMU, ADB and/or PIC that there is no waste dumped around the former workers camp area.
Lot 2 -No grievance book available at Rudaki SS. A complaints book must be made available until end September 2019.	In the letter attached as Annex II, the Contractor has expressed that "we have created a new register of complaints at the Rudaki Substation".	Solved. Visual check to be performed in the next site visit.
Lot 2 -BT has not explained on the	Requested information and supporting	Pending. No information

Main finding	Corrective actions applied or needed	Status
land use titles status in relation to Ayni and Rudaki SSs as well as the land acquired for the foundation of 88 transmission towers.	documents have to be provided by BT. They will be inserted in the next semi-annual monitoring report.	and documents provided yet by BT.

5.3 Issues Tracking (Based on Non-Conformance Notices)

34. There are no pending actions in relation to the non-conformities found during the previous reporting period.

Table 5. Status of non-conformities found in the previous reporting period.

Non-conformity	Corrective actions applied or needed	Status
Rudaki SS		
The book of complaints, titled "Opinions of the district residents" exists and contains the letters of gratitude for the project from the employed workers of the construction site;	The complaints book was put at a conspicuous place, (preferably at the entrance to Substation) for enrolling the records by the local population;	Completed
OHTL		
Towers 7,73,100,142,1 71,197,223	Everything was cleaned.	Completed
Towers 142, 164, 183, 201, 221, 223,	The Contractor fixed the backfilling	Completed

35. The percentage of issues that get closed early is very high. There is a recurrent trend for Contractor not submitting the Monthly Safeguards Monitoring Reports.

6. PUBLIC CONSULTATION AND DISCLOSURE

36. No public consultation or disclosure took place over the reported period. All the required public consultations were implemented in previous periods.

7. GRIEVANCE AND REDRESS MECHANISM

37. No complaint was filed during the reporting period, nor any redress happened.

8. INDIGENOUS PEOPLE

38. Non-applicable. There are no indigenous people affected by the Project. There are no indigenous people's groups in Tajikistan.

9. GENDER

39. This Project does not include any gender design features. Therefore, the Project was

categorized as having “No Gender Elements”.

40. On a secondary note, the built transmission line connecting Panjakent and Ayni regions will contribute to meet rising demand for power and the improvement in the metering at the substations will reduce losses, which will also have as a consequence more power will be available to meet the increasing demand. Saved time by women on the traditionally household chores assigned to them due to access to more reliable energy will mean higher availability of time that could be devoted by them to paid work, improving then their access to resources and opportunities, and therefore becoming more empowered. Reduced energy shortages will have a positive impact on businesses. The types of businesses that women typically engage in, such as tailoring and sewing, and baking and food production, are associated with high electricity consumption¹.

10. POVERTY AND SOCIAL

41. This project provides updated metering in existing substations which affects the overall grid as well as a new transmission line, therefore the benefits on improved power supply reliability are generalized and indirect, and do not target particular communities. The project has an effect on improving the quality of life of the beneficiaries but not on poverty alleviation.

42. Another social aspect to look at is the short blackouts due to the project.

- Lot 1: no blackouts will happen since it is possible to supply power from other SSs when installing the new current transformers and voltage transformers.
- Lot 2: no blackouts were required at any point in relation to Rudaki SS. A 5 hours blackout was required in relation to Ayni SS for the connection of the protections since it was not possible to supplement the power from other SSs.

11. SUMMARY AND RECOMMENDATIONS

11.1 Summary

43. The implementation of the LARP during the reporting period and for the overall project construction period to date is being effective. Main weaknesses are suggested to be tackled through the recommendations below.

11.2 Recommendations

44. It is suggested that an EHS seminar to the BT's supervisors is organized on the next mission of the international safeguards specialist of the PIC. Aspects such as the complaints logbooks having to remain available until at least one year after the completion of the activities will also be covered, becoming a broader training on safeguards implementation.

¹ Source: ADB Tajikistan Gender Country Assessment, 2016

12. ANNEXES

12.1 Annex I: Main parties involved and their contact details

Party	Focal point	Contact details of the focal point
Implementing Agency: BarkiTojik	Head of the Project Management Unit, Mr. Nazar Rajab	pmu_tj@mail.ru
	Head of the Environmental Sector of the PMU, Mr. S. Karimov Sirojiddin	pmu_tj@mail.ru
	Chief EHS Specialist at the PMU, Mr. Aziz Holov	pmu_tj@mail.ru
Funding institution: ADB	ADB Regional Environmental Safeguards Consultant. Mrs. Malika Babadzhanova	mbabadjanova1.consultant@adb.org
	ADB National Resettlement Specialist. Mr. Faizullo Kudratov	fkudratov.consultant@adb.org +992918420944
Project Implementation Consultant	AF Mercados EMI Project Director and also directly responsible for lot 1 and 3. Mr. Jose Ignacio Alcon.	Joselgnacio.Alcon@afconsult.com
	AF Mercados EMI responsible for Lot 2. Mr. Stefan Rose	Stefan.Rose@afconsult.com
	AF Mercados EMI Environmental and Social Specialist, Mrs. Patricia Ramos	Patricia.ramos@afconsult.com
Lot 1 Contractor: Huawei& TBEA	Mr. Chocue, HSE Responsible Mr. Hang Bo, HSE Manager (TBEA) Mr. ZokirovSheroz, HSE Manager Huawei Mr. Jin Dean, EHS Site Manager (TBEA) Mr. Huseynov Ilhom, EHS Site Manager (Huawei) Mr. Guan Yonggang, EHS Site Manager (TBEA) Mr. Nazarhudoev, HSE Site Manager (Huawei) Mr. ZhurakulovDoshod, HSE Site Manager (Huawei)	
Lot 2 Contractor: TBEA	Mr. Zhang Zhenqing, EHS Manager Mr. GuangYonggang, EHS Ayni Site Manager Mr. Jin Dean, EHS OHL Site Manager Mr. Che Jinlu, EHS Rudaki Site Manager	
In relation to Lot 2	Specialist of the Environmental Committee of Panjakent District. Mr. PulodovMurod	92 760 13 20
Lot 3	Representative of the Land Committee at JamoatLolazor. Mr. Timur Rakhmonov	+992 928470448
	Head of Sughud Substation	+992 929803058

12.2 Annex II: List of Substations Covered by Lot 1

No	Name of Network	Name of Substation
1	Baypaza Hydro power plant	Power generation
2	Baypaza Hydro power plant	Switchyard- 220kV
3	Central (Markazi) EN	SS «Regar-500» - 500/220/35 kV
4	Central (Markazi) EN	SS «Orjonikidzeabad-2» - 220/110/10 kV
5	Central (Markazi) EN	SS «Djangal» - 220/110/10 kV
6	Central (Markazi) EN	SS «Dushanbe-500» - 500/220/35 kV
7	Central (Markazi) EN	SS «Novaya» - 220/110/10 kV
8	Central (Markazi) EN	SS «Rogun» - 220/110/35/10 kV
9	Central (Markazi) EN	SS «Zhukovo» - 110/35/10 kV
10	Central (Markazi) EN	SS «Severnaya» - 110/35/10 kV
11	Central (Markazi) EN	SS «Gisar» - 110/35/10 kV
12	Central (Markazi) EN	SS «Chorokoron» - 110/35/10 kV
13	Central (Markazi) EN	SS «Dzherzhinskaya» - 110/35/10 kV
14	Central (Markazi) EN	SS «Lyar» - 110/35/6 kV
15	Central (Markazi) EN	SS «Ptitsefabrika» - 110/35/10 kV
16	Central (Markazi) EN	SS «Pugus» - 110/35/10 kV
17	Central (Markazi) EN	SS «Orjonikidzeabad -1» - 110/35/10 kV
18	Central (Markazi) EN	SS «Obi-Garm» - 110/35/10 kV
19	Central (Markazi) EN	SS «Fayzabad» - 110/35/10 kV
20	Central (Markazi) EN	SS «Mayhura» - 110/10 kV
21	Central (Markazi) EN	SS «DSK» - 110/10 kV
22	Central (Markazi) EN	SS «Simiganch» - 110/10 kV
23	Central (Markazi) EN	SS «Prombasa» - 110/10 kV
24	Central (Markazi) EN	SS «Sultonobod» - 110/6 kV
25	Central (Markazi) EN	SS «Dashtibeg» - 110/6 kV
26	Central (Markazi) EN	SS «Navruz» - 110/6 kV
27	Central (Markazi) EN	SS «Khamza» - 110/10 kV
28	Central (Markazi) EN	SS «Karamgul» - 110/10 kV
29	Central (Markazi) EN	SS «Turgak» - 110/10 kV
30	Central (Markazi) EN	SS «Bobotag» - 110/10 kV
31	Central (Markazi) EN	SS «H.Bulbulon» - 110/6 kV
32	Central (Markazi) EN	SS «Lakayon» - 110/6 kV
33	Central (Markazi) EN	SS «Varzob» - 110/10 kV
34	Central (Markazi) EN	SS «Shakhrinav-2» - 220/110/35/10 kV
35	Central (Markazi) EN	SS «Loihavi» - 110/10 kV
36	Central (Markazi) EN	SS «Chormazak» - 220/10 kV
37	Chanubi EN	SS «Kolhozobod» - 220/110/10 kV
38	Chanubi EN	SS «Rumi» - 220/110/10 kV
39	Chanubi EN	SS «Praydelnaya» - 220/110/10 kV
40	Chanubi EN	SS «Promvodhoz» - 110/35/10 kV
41	Chanubi EN	SS «Chapaeva» - 110/35/10 kV
42	Chanubi EN	SS «Kalinina» - 110/35/10 kV
43	Chanubi EN	SS «Dusty» - 110/35/10 kV
44	Chanubi EN	SS «Lomonosova» - 110/35/10 kV
45	Chanubi EN	SS «Pogranichnik» - 110/6 kV

№	Name of Network	Name of Substation
46	Chanubi EN	SS «Karadum» - 110/35/6 kV
47	Chanubi EN	SS «Iskra» - 110/35/6 kV
48	Chanubi EN	SS «Kurgan-Tube» - 110/35/6 kV
49	Chanubi EN	SS «Gidrouzel» - 110/35/10 kV
50	Chanubi EN	SS «Guliston» - 110/35/10 kV
51	Chanubi EN	SS «Beshkent» - 110/35/10 kV
52	Chanubi EN	SS «Orositelnaya» - 110/35/6 kV
53	Chanubi EN	SS «Garauty» - 110/35/6 kV
54	Chanubi EN	SS «Oj-Kamar» - 110/35/6 kV
55	Chanubi EN	SS «Kirovobad» - 110/10 kV
56	Chanubi EN	SS «Toshrabad» - 110/6 kV
57	Chanubi EN	SS «Beregovaya» - 110/35/6 kV
58	Chanubi EN	SS «Djilikul» - 110/10 kV
59	Chanubi EN	SS «Sverdlova» - 110/10 kV
60	Chanubi EN	SS «Istiklol» - 110/35/10 kV
61	Chanubi EN	SS «Pyandzh» - 110/10 kV
62	Chanubi EN	SS «Geran-2» - 220/110/10 kV
63	Chkalovsk city EN	SS «Ubilejnaya» - 110/35/10 kV
64	Dangara City	SS «Lolazor» - 220/110/10 kV
65	Dangara City	SS «Sebiston» - 220/35/6 kV
66	Dangara City	SS «Korgar» - 110/35/10 kV
67	Dushanbe City	SS «Glavnaya» - 110/35/6 kV
68	Dushanbe City	SS «XBK» - 110/35/10 kV
69	Dushanbe City	SS «TTM» - 110/10 kV
70	Dushanbe City	SS «Kafer.vodozabor» - 110/35/6 kV
71	Dushanbe City	SS «Vostochnaya» - 110/35/6 kV
72	Dushanbe City	SS «Akademgorodok» - 110/35/10 kV
73	Dushanbe City	SS «Shursay» - 110/10 kV
74	Dushanbe City	SS «Vakhdat» - 110/6 kV
75	Dushanbe City	SS «Karamova» - 110/35/10 kV
76	Dushanbe City	SS «Bahor» - 110/10 kV
77	Dushanbe City	SS «Bustion» - 110/10 kV
78	Dushanbe City	SS «Botsad» - 110/10 kV
79	Dushanbe City	SS «Zavodskaya» - 110/35/10 kV
80	Dushanbe City	SS «O. Sooruzheniya» - 110/35/6 kV
81	Dushanbe City	SS «Sovetskaya» - 110/10 kV
82	Dushanbe City	SS «Sportivnaya» - 110/35/10 kV
83	Dushanbe City	SS «Sohili» - 110/10 kV
84	Dushanbe City	SS «Promishlenaya» - 110/35/10 kV
85	Dushanbe City	SS «Kasri Milat» - 110/10 kV
86	Dushanbe City	SS «Shahri» - 110/10 kV
87	Dushanbe City	SS «Jugo-Zapadny Vodozabor» - 110/6 kV
88	Dushanbe City	SS «Firdavsy» - 110/10 kV
89	Dushanbe City	SS «Navbahor» - 110/10 kV
90	Dushanbe City	SS «Luchob» - 110/10 kV
91	Dushanbe City	SS «Anzob» - 110/6 kV
92	Dushanbe City	SS «Kaharova» - 110/10 kV

№	Name of Network	Name of Substation
93	Dushanbe City	SS «Aviator» - 110/6 kV
94	Dushanbe TPP-2	TPP Power generation
95	Dushanbe TPP-9	Substation own needs
96	Dushanbe TPP-9	Switchyard 6 kV
97	Dushanbe TPP-9	Switchyard- 220kV
98	Isfara EN	SS "Isfara" 110/35/10 kV
99	Isfara EN	SS "Kulkent" 110/35/10 kV
100	Isfara EN	SS "Shurob" 110/35/6 kV
101	Isfara EN	SS "October" 110/35/10 kV
102	Isfara EN	SS "Zumrad" 110/10 kV
103	Isfara EN	SS "Matpary" 110/6 kV
104	Isfara EN	SS "Shorsu" 110/10 kV
105	Istarafshan	SS «Uzlovaya» - 220/110/10 kV
106	Istarafshan	SS «Nov» - 110/35/6kV
107	Istarafshan	SS «Sugd-500» - 500/220/35 kV
108	Istarafshan	SS «Shahriston» - 220/10 kV
109	Istarafshan	SS "KNS-2" 220/110/10 kV
110	Istarafshan	SS "KNS-1" 220/10 kV
111	Istarafshan	"KNS-3" 110/10 kV
112	Istarafshan	SS "KNS-4" 110/10 kV
113	Istarafshan	SS "Mekhnat" 110/35/10 kV
114	Istarafshan	SS "Digmay" 110/6 kV
115	Istarafshan	SS "Partsesd" 110/10 kV
116	Istarafshan	SS "Gonji" 110/10 kV
117	Istarafshan	SS "Kaftar" 110/10 kV
118	Istarafshan	SS "Jomi" 110/35/10 kV
119	Istarafshan	SS "Fabrichnaya" 110/10 kV
120	Istarafshan	SS "Ura-Tube" 110/35/10 kV
121	Istarafshan	SS "Chorbog" 110/35/10 kV
122	Istarafshan	SS "Proletarsk" 110/35/10 kV
123	Istarafshan	SS "Gulakandoz" 110/10 kV
124	Kayrakkumskaya	Power generation
125	Khujand city EN	SS «Zarechnaya» - 110/10 kV
126	Khujand city EN	SS «Novaya» - 110/35/10 kV
127	Khujand city EN	SS «Avichena» - 110/6 kV
128	Khujand city EN	SS «Nagornaya» - 110/10 kV
129	Kulyab City	SS «Bohtar» - 110/10 kV
130	Kulyab City	SS «Somoni» - 110/6 kV
131	Kulyab City	SS «Ismailova» - 110/35/6 kV
132	Kulyab City	SS «Amirshoeva» - 110/10 kV
133	Kulyab EN	SS «Hatlon» - 220/110/10 kV
134	Kulyab EN	SS «Kulob» - 110/35/10 kV
135	Kulyab EN	SS «Bose» - 110/35/10 kV
136	Kulyab EN	SS «Kizil-su» - 110/35/6 kV
137	Kulyab EN	SS «Farkhor» - 110/35/6 kV
138	Kulyab EN	SS «Toakala» - 110/10 kV
139	Kulyab EN	SS «Hovaling» - 110/10 kV

№	Name of Network	Name of Substation
140	Kulyab EN	SS «Sijarfak» - 110/10 kV
141	Kulyab EN	SS «Kulob-Darje» - 110/35/6 kV
142	Kulyab EN	SS «Shugnou» - 110/35/6 kV
143	Kulyab EN	SS «Dahana» - 110/35/10 kV
144	Nurek City EN	SS «Shar-Shar» - 220/35/10 kV
145	Nurek City EN	SS «Nurek» - 220/35/6 kV
146	Nurek HPP-7	Power generation
147	Nurek HPP-7	Substation own needs
148	Nurek HPP-7	Switchyard 220 kV
149	Penjikent EN	SS "Ajni-220" 220/110/10 kV
150	Penjikent EN	SS "Pudaki-220" 220/110/35/10 kV
151	Penjikent EN	SS "Sitara" 110/10 kV
152	Penjikent EN	SS "Istiglol" 110/6 kV
153	Penjikent EN	SS "Dshishikrut" 110/6 kV
154	Penjikent EN	SS "Sarvoda" 110/6 kV
155	Penjikent EN	SS "Kolhozchien" 110/10 kV
156	Penjikent EN	SS "Jery" 110/6 kV
157	Penjikent EN	SS "Koshona" 110/10 kV
158	Penjikent EN	SS "Zarafshon" 110/10 kV
159	Penjikent EN	SS "Ainy" 110/35/10 kV
160	Rasht EN	SS «Tegermi» - 110/10 kV
161	Rasht EN	SS «Komsomolobod» - 110/10 kV
162	Rasht EN	SS «Plemsovkhoz» - 110/10 kV
163	Rasht EN	SS «Fedina» - 110/10 kV
164	Rasht EN	SS «Dzhirgital» - 110/10 kV
165	Rasht EN	SS «Tojikobod» - 110/35/10 kV
166	Rasht EN	SS «Garm» - 110/35/10 kV
167	Rasht EN	SS «Lyahsh» - 110/35/10 kV
168	Rasht EN	SS «Hakimi» - 110/10 kV
169	Sugd EN	SS «Hodjend» - 220/110/10 kV
170	Sugd EN	SS «Leninabadskaya» - 220/110/10 kV
171	Sugd EN	SS «H.Bakirgan» - 110/35/10 kV
172	Sugd EN	SS «Kanibadam» - 220/110/35/10 kV
173	Sugd EN	SS "Asht" 220/110/10 kV
174	Sugd EN	SS "Buston" 220/110/10 kV
175	Sugd EN	SS «Bulok-2» - 110/35/10 kV
176	Sugd EN	SS «Zarya» - 110/35/6 kV
177	Sugd EN	SS «Sovetobod» - 110/35/6 kV
178	Sugd EN	SS «Dzharbulak» - 110/35/10 kV
179	Sugd EN	SS «Sumchak» - 110/35/6 kV
180	Sugd EN	SS «ANS-5» - 110/35/6 kV
181	Sugd EN	SS «Vstrecha» - 110/35/10 kV
182	Sugd EN	SS «Mahram» - 110/35/6 kV
183	Sugd EN	SS «Hlopzavodskaya» - 110/35/6 kV
184	Sugd EN	SS «Kovrovaya» - 110/35/6 kV
185	Sugd EN	SS «Dargot» - 110/35/6 kV
186	Sugd EN	SS «Yantak-1» - 110/35/10/6 kV

№	Name of Network	Name of Substation
187	Sugd EN	SS «DVZ-1» - 110/35/6 kV
188	Sugd EN	SS «Gozien» - 110/6 kV
189	Sugd EN	SS «Gafurov» - 110/10 kV
190	Sugd EN	SS «ANS-1» - 110/10 kV
191	Sugd EN	SS «Collectornaya» - 110/6 kV
192	Sugd EN	SS «Eti-tepa» - 110/6 kV
193	Sugd EN	SS «Navruz» - 110/10 kV
194	Sugd EN	SS «Ak-dzhar» - 110/6 kV
195	Sugd EN	SS «SFK» - 110/6 kV
196	Sugd EN	SS «Adrasman» - 110/35/6 kV
197	Sugd EN	SS «DVZ-2» - 110/6 kV
198	Sugd EN	SS «DVZ-3» - 110/6 kV
199	Sugd EN	SS «ANS-3» - 110/6 kV
200	Sugd EN	SS «ANS-4» - 110/6 kV
201	Tursunzoda EN	SS «Ravshan» - 220/35/10 kV
202	Vaksh HPP	HPP - 5 Power generation
203	Vaksh HPP	Switchyard 220 kV
204	Vaksh HPP	Switchyard 110 kV
205	Vaksh HPP	Switchyard 35 kV
206	Vaksh HPP	Substation own needs
207	Vaksh HPP	HPP - 4 Power generation
208	Vaksh HPP	Switchyard 110 kV
209	Vaksh HPP	Switchyard 35 kV
210	Vaksh HPP	HPP - 6 Power generation
211	Vaksh HPP	Switchyard 6 kV
212	Vaksh HPP	Substation own needs
213	Varzob HPP	Varzob HPP-1
214	Varzob HPP	Varzob HPP-2
215	Yavan TPP-10	Power Generation
216	Yavan TPP-10	Substation own needs
217	Yavan TPP-10	Switchyard 220 kV
218	Yavan TPP-10	SS 110/6 kV «Nasosnaya stanchiya №1» (YTPP)
219	Yavan TPP-10	SS 110/6 kV «Nasosnaya stanchiya №2» (YTPP)
220	Yavan TPP-10	SS 110/6 kV «Nasosnaya stanchiya №3» (YTPP)
221	Central (Markazi) EN	SS «TMK» - 110/35/10 kV
222	Central (Markazi) EN	SS «Парвоз» - 110/10 kV
223	Central (Markazi) EN	«Ushniya Porta» - 110/35/10 kV
224	Chanubi EN	SS «Vodii Zarrin» - 110/10kV
225	Chanubi EN	SS «Navobod» - 110/10kV
226	Dushanbe City	SS «Касри теннис» - 110/10 kV
227	Istarafshan	SS "Zafarobod" 110/35/10 kV
228	Istarafshan	SS "Stepnaya" 110/35/10 kV
229	Istarafshan	SS "Ulduzkok" 110/35/6 kV
230	Khujand city EN	SS «Radiy»- 110/10 kV
231	Sugd EN	SS «Aprelevskaya» - 110/6 kV

№	Name of Network	Name of Substation
232	Sugd EN	SS «Metalzavod» - 110/6 kV
233	Sugd EN	SS «Tajikskaya» - 110/35/6 kV

12.3 Annex III: Pictures

Pictures taken at “Ayni”SS, Lot 2, December 2018.



Figure 1: condition of the former workers' camp located near Ayni SS. Presence of concrete floors.



Figure 2: condition of the former workers' camp located near Ayni SS. Presence of construction material waste after dismantling the camp.

12.4 Annex IV: Letter from the contractor on the found non-compliances.

