

Semi-annual Environmental Monitoring Report

Project number: 48025-003

Period: January-June 2022

Date: June 2023

Uzbekistan: Central Asia Regional Economic Cooperation Corridor 2 (Pap-Namangan-Andijan) Railway Electrification Project

Loan No.3527-UZB

(Financed by the Asian Development Bank)

Prepared by: ITALFERR Consulting Company and PIU-ET JSC "O'zbekiston Temir Yo'llari" (UTY) for JSC "O'zbekiston Temir Yo'llari" and Asian Development Bank

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CONTENTS

1.	INTRODUCTION	4
1.1	Preamble	4
1.2	Main information.....	4
2.	PROJECT DESCRIPTION AND CURRENT ACTIVITIES	5
2.1.	Project Description.....	5
2.2.	Project Contracts and Project Management	6
2.3.	Project activities during the current reporting period.....	8
3.	ENVIRONMENTAL SAFEGUARDS ACTIVITIES.....	9
3.1	General Description of Environmental Safeguard Activities.....	9
3.2	Monitoring (site inspection) of work.....	10
3.3.	Tracking of non-compliances (outstanding problems).....	13
3.4.	Trends	16
3.5.	Unanticipated environmental impacts and risks	17
4.	RESULTS OF ENVIRONMENTAL MONITORING.....	18
4.1.	Trends.....	18
4.2.	Utilization of material resources	18
4.2.1.	Current period	18
4.3.	Waste Management	18
4.3.1.	Current period	18
4.3.2	Combined production of waste.....	18
4.4.	Health and safety.....	19
4.4.1.	Public health and safety	19
4.4.2.	Health and safety of workers	21
4.4.3.	Training.....	22
5.	GRIEVANCE REDRESS MECHANISM.....	23
6.	REVIEW OF SSEMP	24
7.	GOOD PRACTICES AND OPPORTUNITIES FOR IMPROVEMENT	44
7.1	Good Practice	44
7.2	Opportunities for improvement.....	44
7.3	Advanced methods	44
8.	CONCLUSIONS AND RECOMMENDATIONS.....	46
8.1	Conclusions.....	46
8.2	Recommendations	46
9.	Appendices	47

Abbreviations

ADB	-	Asian Development Bank
CAP	-	Corrective action plan
CCD	-	Capital construction directorate
CM	-	Cabinet of Ministers
EHS	-	Environmental, Health and Safety Guidelines
EIA	-	Environmental Impact Assessment
EMP	-	Environmental Management Plan
GRM	-	Grievance redress mechanism
HH	-	Household
IEE	-	Initial Environmental Examination
IFC	-	International Finance Corporation
LARP	-	Land Acquisition and Resettlement Plan
MAC	-	Maximum permissible concentration
PIU	-	Project Implementation Unit
PMC	-	Project Management Consultant
PNA	-	Pap-Namangan-Andijan
PPE	-	Personal Protective Equipment
PPTA	-	Project Preparation Technical Assistance
RRH	-	Regional railway hub
RUz	-	Republic of Uzbekistan
SanPiN	-	Acronymous for Sanitary norms and regulations
SEC	-	Statement on environmental consequences
SEE	-	State Environmental Expertise
SES	-	Sanitary and epidemiological service
SPS	-	Safeguard Policy Statement
SSEMP	-	Site Specific Environmental Management Plan
TA	-	Technical assistance
UTY	-	O'zbekiston Temir Yo'llari

1. INTRODUCTION

1.1 Preamble

1. This report represents the Semi-Annual Environmental Monitoring Report (SAEMR) for the Central Asia Regional Economic Cooperation Corridor 2 (Pap- Namangan-Andijan) Railway Electrification Project (the project) for the first half of 2022. The project provides for electrification of the last remaining non-electrified 145.1 km of tracks linking the main cities of the densely populated Fergana Valley with Tashkent, which will provide direct and efficient freight and passenger rail services for the economic and social development of the Fergana Valley.

2. This report is the eight semi-annual environmental monitoring reports of the Pap-Namangan-Andijan Railway Electrification Project. It is prepared by the environmental specialist of the Consulting Company ITALFERR. This semi-annual environmental monitoring report contains information on the status of implementation of the EMP and CAP for the period of January - June 2022. The project has been implemented since November 30, 2017, and was expected to be substantially completed by December 2020. Due to the global COVID-19 pandemic, the contract NC01 dated October 25, 2017 was extended until March 2021, based on the Additional Agreement No.2, dated May 11, 2020, due to the fact that construction and installation works were partially suspended at project sites. At the moment, the work is at the final stage.

1.2 Main information

3. The project expects the following results:

4. **Output 1:** Modernization of railway infrastructure on the Pap-Namangan-Andijan line with a length of 145.1 km of single-track main railway with 27.5 kilovolt AC power supply (Including electrification of locomotive depot in Andijan and turn out to Uchkurgan), construction of 2 traction substations and control points, procurement of equipment and machinery for maintenance, modernization of signalling and communication facilities, as well as construction of external power supply facilities for transmission of electricity from the main power system to traction substations. The project is accompanied by an initiative of the Government of the Republic of Uzbekistan and UTY to change the route of the 6.7 km railway line to bypass the section of the line that currently crosses the territory of Kyrgyzstan. Construction of the bypass site is not included in the ADB-funded project.

5. **Output 2:** Enhance railway safety. After the completion of the project, the load of the Pap-Namangan-Andijan line is expected to increase. Also, the presence of power transmission lines may pose additional risks of electric shock. To compensate for potential negative impacts, the project will support UTY in (i) assessing current and expected safety situations for the population, especially children; (ii) support for the development of practical countermeasures; And (iii) train staff in the planning and implementation of measures to further improve railway safety.

6. An Initial Environmental Examination¹ (IEE) was completed for the project, which includes a preliminary expertise of the electrified part of the railway (145.1 km), as well as a due diligence of the rebuilt area of 6.7 km. On the basis of the results of the due diligence of the new 6.7 km site, a Corrective Action Plan (CAP) was developed for the purpose of carrying out environmental measures at the construction site.

¹ Initial Environmental Examination: <https://www.adb.org/projects/documents/uzb-carec-corridor2-railway-electrification-iee>

2. PROJECT DESCRIPTION AND CURRENT ACTIVITIES

2.1. Project Description

7. The Pap-Namangan-Andijan railway line runs through two regions of the Fergana Valley of Uzbekistan: Namangan (Pap, Chust, Namangan, Chartak, Khakkulabad) and Andijan (Figure 1). About 112 km of railway passes through the territory of Namangan region, and about 33 km through Andijan region. The railway line runs through the territory of settlements and agricultural lands. Main settlements crossed by railway are: Pap, Namangan, Chartak, Uychi, Khakkulabad, Paytug, Kurgan-Yar and Andijan.

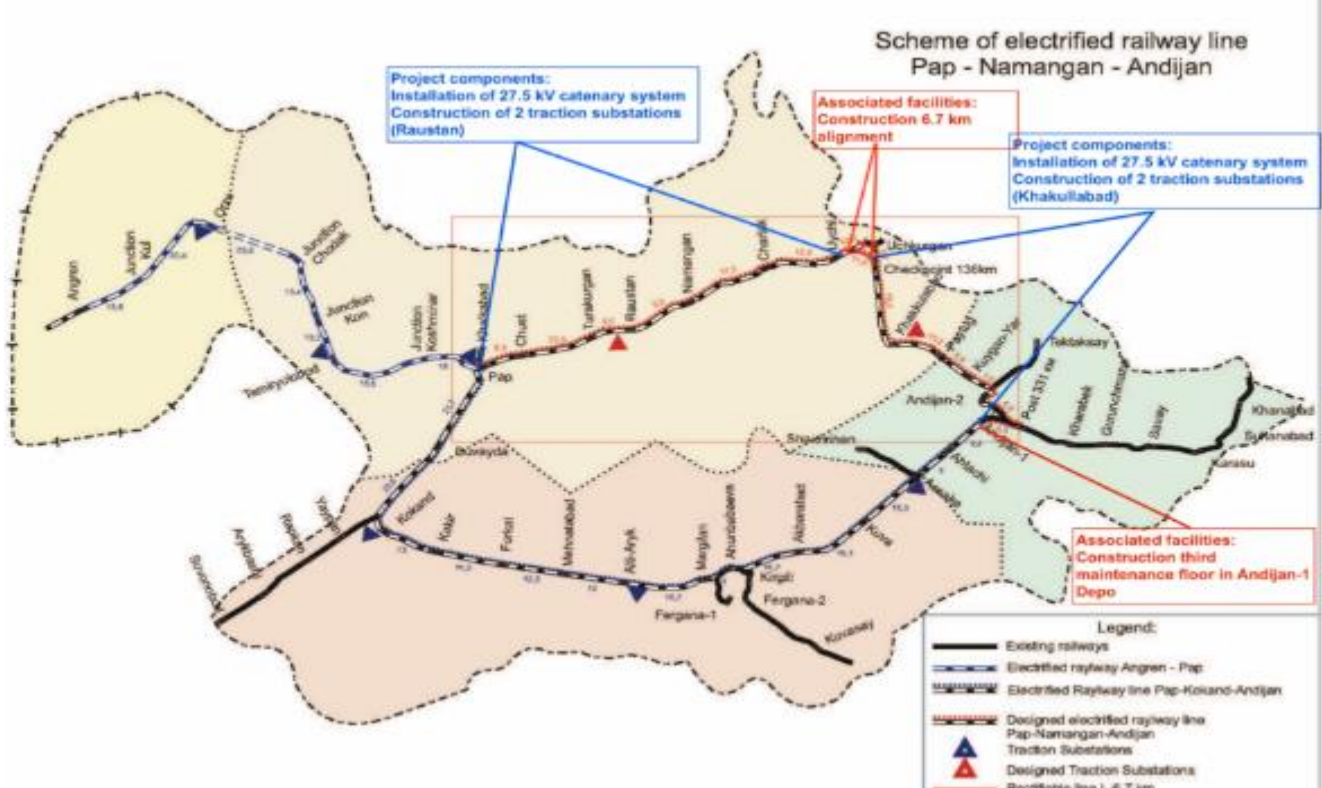


Figure 1. Scheme of the Pap-Namangan-Andijan railway line passing through the territory of Namangan and Andijan regions of Uzbekistan

8. The existing railway line is a single-track line, with an electrified section of 145.1 km. The railway line meets the requirements of Category III according to the railway regulations, with speeds up to 120 km/h, currently, the maximum speed of trains on the Pap-Namangan-Andijan section does not exceed 60 km/h.

9. A bypass of 6.7 km in length is a track currently being built by the government to bypass existing tracks passing through the territory of neighbouring Kyrgyzstan. Construction of this bypass site is not included in the scope of the project and is carried out by the State and UTU regardless of the funding allocated by ADB for the electrification of the line. The Government and UTU confirm that the construction of the bypass site was initiated earlier when funding for the project was not yet anticipated by ADB. There is another existing object, which is not included in

the scope of the project - modernization and reconstruction of the Andijan depot building. Table 1 provides an overview of the project components and activities.

Table 1. Information on project components, associated and existing facilities

Classification	Proposed facilities
Project components (Regardless of funding source)	<ul style="list-style-type: none"> • Contact system for existing tracks, 6.7 km bypass and inside Andijan depot • 2 traction substations • Signalling, communication and SCADA systems • External power supply
Accompanying facilities (Are not included in the project scope, but are needed for JSC UTY)	<ul style="list-style-type: none"> • New site with length 6.7 km – construction works • Andijan Depot: Construction of an additional floor
Existing facilities (Not included in project scope, already available in the field)	<ul style="list-style-type: none"> • Andijan depot: modernization and reconstruction of the building

Source: (IEE) for project electrification of PNA railway line, 2017.

2.2. Project Contracts and Project Management

10. The project of electrification of the Pap-Namangan-Andijan railway is implemented with the financing of ADB, the customer is JSC UTY, the main contractor is the Directorate of Capital Construction of JSC UTY.

11. Additional Contractors are: LLP "Temirzholzhondeu" (Kazakhstan) under contract P01-2, JSC " O'zelektroapparat-Electroshield" (Uzbekistan) under contract P01-1 and CNTIC (China) under contract P01-3. In these organizations, the first managers or authorized specialists are responsible for timely and high-quality implementation of the project.

12. The main organizations involved in the project, managers and key specialists in these organizations, who were instructed to monitor the implementation of protective measures, are shown in Table 2 below.

Table 2. Information about main organizations, managers and key experts involved in the project

Type of project participant	Name of Agency/ Company	Name	E-mail or Phone
Implementing Agency	PIU-ET, O'zbekiston Temir Yo'llari	Kudabekov Chingiz Acting Head of Head, PIU-ET	utypiu@gmail.com
		Ibatova Zulfiya Khojamyarova Guzal Environmental Specialists	zulfiya_99@mail.ru +998 98 124 01 40 guzal-@list.ru

			+998 99 877 22 10
Contractors	Bridge Construction Crew-2 Mostotrest of UTY Director/manager HSE regulatory compliance	Turgunov Doniyor, Director/HSE Manager	+998 90 930 65 81
	«Power assembly Train» (ЭП-1) UTY Director/manager HSE	Saparbekov Anvar, Director/HSE Manager	+998 93 329 02 25
	LLC "Omadfayz Qurilish Servis (site-TSS Raustan) Director/manager HSE	Mamatov Fayzulo, Director/HSE Manager	+998 93 501 68 78
	LLC «Taraqqiyot» (object - TSS Hakkulabad)	Turaev Maksud, Director/HSE Manager	+998 99 800 54 01
	PC "Kamalak Nur Sochar" (passing loop - crossing 13.7 km)	Xalimov Muzaffar, Director/HSE Manager	+998 99 800 54 01
	LLP « Temirzhol Zhondeu» (Kazakhstan) (objects signalling and telecommunication)	Shitikov Timur	+998 90 983 65 85
	"PE "Kamalak Nur Sochar" (passing siding 137 km)	Muzaffar Halimov Director / Manager of Health, Safety and Environment	+998 99 800 54 01
	CNTIC (People's Republic of China) (objects SCADA)	Li JianXiang	+998 97 783 61 68
	Namangan Main Power Networks JSC «National Electric Networks of Uzbekistan» Construction of external power supply TSS Raustan - 220kv/27.5/10kv 4 TSS Khakkulabad	Inomboev Abdumannop (supervising foreman)	+998 99 404 75 75
PMC Construction Consultant	Italferr	Odil Rajapov, HSE expert	radjabov.db@gmail.com
		Soltan Dosmetov, Technical Expert	sultan.dosmetov2015@yandex.ru

2.3. Project activities during the current reporting period

13. During the reporting period January - June 2022 construction and installation works are carried out at the facilities:

- Connection/welding/splicing of optical, copper and aluminium cables;
- Installation of outdoor equipment for railway systems: outdoor cabinets, mast and ground signals, switch drives and point machines, level-crossing signals and level crossings, control of overheating of axle boxes, dimension control, etc.;
- Installation of antennas and outdoor wireless communication equipment;
- Installation of loudspeaker communication systems;
- Installation of equipment inside the station premises and in outdoor cabinets in the railway right-of-way.
- Installation of in-post Signalling equipment at Namangan-Andijan-1 stations.
- Installation of rolling stock derailment monitoring system equipment.
- Installation of microprocessor-based crossing signalling system equipment at crossings.
- Installation of Frauscher axis counting sensors.
- Commissioning of microprocessor centralization devices.

14. Data on construction works of each section is presented below.

- **Namangan-Andijan-1 railway section** - continued installation of microprocessor-based crossing signalling system equipment at crossings in connection with installation of second cabinets, installation of microprocessor-based crossing signalling system cabinets at hauls, installation of in-post Signalling equipment.
- **Pap-Namangan-Andijan-1 railway section** - the completion of work on laying fibre optic cables and Signalling cables at stations and hauls.
- **Kilometre Post 869 + 69** - completion of installation of rolling stock derailment monitoring system equipment.

3. ENVIRONMENTAL SAFEGUARDS ACTIVITIES

3.1 General Description of Environmental Safeguard Activities

15. Environmental and safety measures are implemented at several levels: by the Client, CCD, contractors, supervision consultant and PIU-ET.

16. During the reporting period, the environmental situation at sites under the project was in good condition. There were no cases of environmental pollution. Construction work is carried out from 8 am to 18 pm, the level of noise created during construction is at an acceptable level.

17. Equipment installation operations. During the transportation of equipment, the equipment was closed and protected, there was no dust or noise pollution.

18. Processing of household waste in residential premises. In this month, all household waste was collected in garbage containers, and removed by the appropriate municipal organization every Tuesday. The following risk factors and environmental impacts of the above activities are taken into account:

- The remains of the cable sheath and insulation, wires during its cutting, connection, welding, splicing, as well as the remains of coloured varnish and protective layer after cleaning the fibres and cores with alcohol;
- Packing and fastening materials.
- Damage to existing infrastructure and risk of emergency or emergency situations;
- Material residues during installation of outdoor equipment to existing and newly laid communications;
- Packing and fastening materials.

19. To reduce the negative impact of the above factors, the following work is carried out:

- Preparation of the workplace before the start of work;
- Reducing the probability of material residues and process fluids entering the soil;
- Performance of works with prevention of environmental pollution;
- After completion of works, cleaning of residual materials, liquids and their removal from the facility.
- Carry out disposal in accordance with the requirements of the integrated quality management and environmental and labour protection.

20. At this stage of construction of the TSS Raustan Razezd (passing siding)-137km section, contractors performing construction and installation works (CIW) do not have any environmental specialists. Environmental functions are performed by contractor managers. In addition to the ITALFERR Environmental Inspection specialists, the sites were inspected by PIU-ET employees.

21. The railway passes through the village, it is located very close to houses, today all issues on the installation of security fences have not been completely resolved. A power line also runs near homes. Depending on the distance between the line and houses, as well as the number of trains per day that will run along the line, electromagnetic field measurements are carried out to avoid accidents.

3.2 Monitoring (site inspection) of work

22. Under the project of Pap-Namangan-Andijan railway line electrification, several official monitoring inspections of the work sites for compliance with environmental protection requirements were carried out during the reporting period January-June 2022.

23. Information on conclusions upon checks and field monitoring inspections results includes data on any identified circumstances and identified problematic issues. Below is a summary of the conclusions and work performed on the identified problematic issues of the electrification facilities of the Pap-Namangan-Andijan railway line.

24. During visual inspection of the site by ITALFERR consultants and PIU, all areas were fully handed over to CCD -Customer in compliance with all requirements of SanPiN (sanitary regulations and norms) and EMP at the construction site.

25. The visual inspection revealed that waste management was not fully implemented: some areas do not have waste containers, as well as contamination of areas with construction waste and scrap metal was observed (see Fig. 2).



Figure 2. Contamination of the area at Chust station.

26. RRH-Kokand specialists were given comments on the design of training journals on occupational health and safety. The observations, as a rule, were accepted and corrected within a short period of time during the inspection process.



Figure 3. Unpacking of equipment. The equipment was packed in boxes of plywood, boards and wrapped in foil.



Figure 4. Plywood box for metal waste.



Figure 5. Household waste storage. Waste is removed once a week by SUE (State unitary enterprise) Maksustrans on the basis of a verbal agreement.



Figure 6. A board with safety guidelines is installed in the foreman's office, where staff meetings with workers take place.

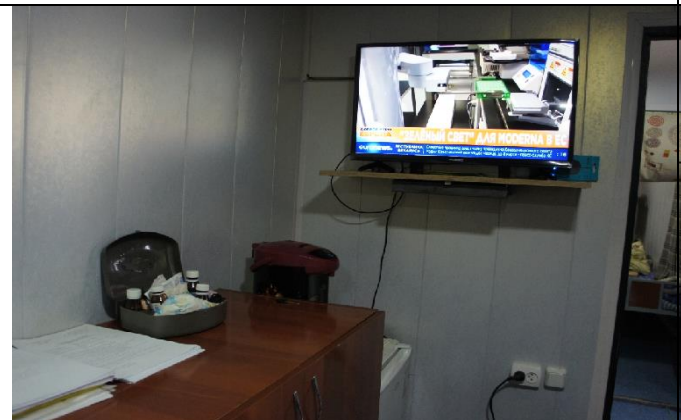


Figure 7. The first aid kit for first aid to workers, protective equipment and antiseptics for the prevention of COVID-19.



Figure 8. Kitchen for cooking and dining-room for meals.



Figure 9. Recreation room



Figure 10. Storeroom.



Figure 11. Shower



Figure 12. The construction camp is covered with crashed stone and the cleanliness of the territory is observed.

27. Based on the results of monitoring of construction facilities by ITALFERR environmental specialists and PIU-ET specialists for the previous period, a summary of problematic issues, corrective actions to solve those concerns was prepared with an indication of the persons responsible for the implementation of decisions, deadlines and stages of implementation. This information has been prepared to keep track of the issues. (Section 3.3).

3.3. Tracking of non-compliances (outstanding problems)

28. Following notifications of non-compliance based on the results of monitoring on environmental protective actions, we provide information and description of problematic issues, which were monitored during the reporting period July - December 2021.

29. According to the data of monitoring (inspection) of works on sites, a comprehensive table was prepared, indicating the problem areas and the status of implementation of the corrective actions to solve those problems, with the indication of those responsible for implementation of decisions, deadlines and state (status) of implementation. This information remains unchanged during the reporting period and has been prepared to track issues and is presented in Table 3.

Table 3. Information on problematic issues and implementation of corrective actions

№	Problematic issues	Corrective actions	Implemented by	Target date	Process of implementation
1	Installation of metal fences along the tunnel trench.	Fences were installed	CCD and RRH-Kokand	May, 2022	Resolved
a	Absence of pavement at roads located near construction sites and inside construction sites in the village of Kyzyl-Ravat, which entails difficulties in traffic and a high level of dust for adjacent territories.	Providing paving with crushed stone on roads located near and in the areas of construction sites.	CCD and RRH-Kokand	May, 2022	Resolved
3	Measurement of noise and dust pollution levels during construction works at and near sensitive receptors at the Hakkulabad and Raustan TSS.	It is carried out	LSES Kokand	Continuous monitoring	Resolved Construction and installation work has been completed. Measurements will be carried out as required.

4	Workers do not have PPE (personal protection equipment), especially during hot weather	PPE was provided and compliance with all safety requirements on the part of contractors was observed.	Subcontractors	Continuous monitoring	Resolved
5	Conduction of regular trainings on COVID-19 protective measures for subcontractors	It is carried out	Subcontractors	Continuous monitoring	Resolved
6	Insufficient control over waste management	Increasing control	Subcontractors	Continuous monitoring	Resolved

30. Thus, based on ongoing monitoring and tracking of issues for the previous period, Table 4 shows that the number, status and percentage of issues under the project.

Table 4. Summary of tracking problematic issues during the previous period

Total number of problematic issues under the project	During the reporting period
Total number of problematic issues for sections	6
Number of pending (on-going) issues	0
Number of resolved issues	100%

31. Most non-conformances related to waste management, usage of PPE and fire protection equipment. For the reported period all non-compliances were resolved.

32. Due to the spread of the new COVID-19 virus, the instruction for the fight and prevention of COVID-19 infection were developed by contractors Uzeletctroapparat-Electrochield JSC, Temirzhol Zhendeu LLP and CNTIC and are implemented at sites. Based on the instruction, the "Special Safety Plan during the New COVID-19 Virus," as developed; it was submitted to PIU-ET in May 2020. The document contains an effective action plan for the prevention and control of an outbreak of pneumonia caused by the virus, in accordance with the SanPiN standards of the Republic of Uzbekistan. Instructions, disinfectants, masks and gloves are available at all facilities.



Figure 13. Panel of fire-fighting accessories as well as sorting of construction waste



Figure 14. Antiseptics for surface treatment



Figure 15. Instructions, disinfectants, masks and gloves are available at all facilities.

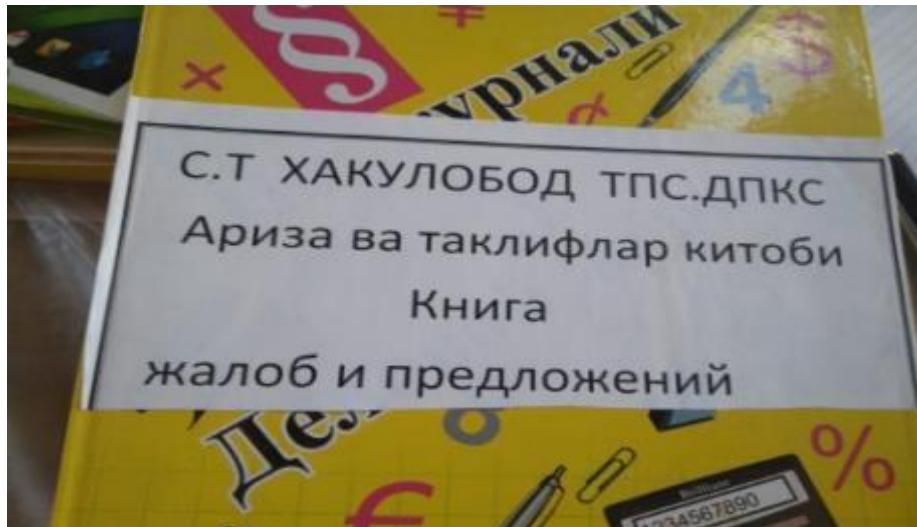


Figure 16. Journals regarding regarding various trainings, complaints and suggestions book for workers and the population

33. Non-conformities identified during the current period were associated with insufficient waste management.

3.4. Trends

34. Trends in problematic issues are determined based on notifications from inspections of non-compliance with environmental safeguards. Identification type of issue was based on the complexity of the problematic issues. Problematic issues are conditionally divided into easy, complex, long-term (which can be solved, for example, with the State Committee on Ecology and Environment Protection, Hokimiyat, Cadastral Organizations, etc.), closed and open.

35. Analysis of problematic trends shows the following features. Problematic issues related to HIGHER AUTHORITIES (State Committee for Natural Resources, Hokimiyat, Cadastral Organizations, etc.) relate to long-term issues requiring numerous approvals and considerable time. We do not have long-term problematic issues related to the State Committee for Natural Resources and Hokimiyat.

36. Complex issues are related to the adjustment of design solutions, conducting of interviews and awareness-raising and coordination with the population and rural citizens meetings, as well as the involvement of local subcontractors (for example, the construction of temporary crushed stone roads by local organizations or using local existing quarries inert materials quarries). We also do not have such complex problematic issues during this reporting period.

37. Easy problematic issues can be resolved by the contractors themselves. On these issues, oral requirements or written non-compliance notifications (NCN) with the obligatory indication of responsible performers and deadlines are sufficient. As an example, we can include rapid solutions of issues related to the development of SSEMP, provision of clothing and PPE to workers, a quick solution to the organization of special places for taking meals, storage of materials and waste, registration of logs at facilities, as well as compliance with sanitary standards and requirements in places of eating and recreation of workers.

3.5. Unanticipated environmental impacts and risks

38. On the project of electrification of the railway line Pap-Namangan-Andijan for the reporting period January - June 2022 no unforeseen environmental impacts and risks that had not been previously identified in the environmental impact assessment process have been identified.

4. RESULTS OF ENVIRONMENTAL MONITORING

4.1. Trends

39. Based on the initial analysis of the work results, visual inspection of the measurement sites, reports for the period of January - June 2022, it can be concluded that at the electrification facilities of the Pap-Namangan-Andijan railway line, there were not observed any dangerous or suspicious trends in noise, vibration, air and water quality. This conclusion needs constant monitoring, even during the operation of the facility.

4.2. Utilization of material resources

4.2.1. Current period

40. Data for the current reporting period regarding the use of electricity, water and other materials are recorded in the financial statements of Contractors operating at the facilities, on facility meters and measuring gauges.

4.3. Waste Management

4.3.1. Current period

41. Waste management activities during the reporting period January-June 2022, were carried out at each electrification site of the Pap-Namangan-Andijan railway line by contractors, taking into account the comments during inspections. Waste types, classes of hazards, the procedure for processing, storage and disposal of waste at work sites, as well as the places and routes of waste transportation were determined. Since the construction works at the facility are practically completed, and the equipment installation works are underway, and all packaging materials are sorted and transported to the place of disposal of all waste, household waste is transported by Makhsustrans State Unitary Enterprise at the request of the foreman at the site.

4.3.2 Combined production of waste

42. At the electrification facilities of the Pap-Namangan-Andijan railway line, various waste of construction products may be generated. It is known that waste has 5 different hazard classes, including all types of construction waste. Each type of waste has its own degree of influence and impact on the environment. At electrification facilities, class 1 waste containing mercury is absent. High hazard Class 2 wastes (batteries containing lead and sulfuric acid solution) were also not found. Moderately hazardous Class Z wastes - petroleum product wastes, as well as materials contaminated with them, such as used oils, used automobile oil filters, construction bitumen and the like, can occur. Based on the audit (inspection) of the sections of work of the Pap-Namangan-Andijan railway line, such waste was found on the territory of the Raustan TSS.



Figure 17. Firefighting equipment at TSS Hakkulabad

43. Used motor oils spills from construction machinery, as well as construction bitumen which fall into the ground may cause irreversible damage to the environment, fauna and green plantations. The Contractor organized a special place and a barrel for used motor oils. The barrel was labelled with a sticker with the name of the waste. At the site, an explanatory conversation is constantly held on the rules for handling and disposal of the used motor oils. Construction bitumen, due to small quantity, is stored in specially allocated places at sites under canopies the crushed stone layer, protected from direct sun and overheating. Moreover, situation with fire protection equipment (Figure 17) and PPE usage by workers was improved.

44. Waste of Class 4 – less-hazardous waste, which includes oil-containing waste, was not found at the electrification facilities. Non-hazardous wastes of Class 5, also partially containing petroleum products, but not harmful to wastewater or soil (rubber, plastic, etc.), as well as metal, waste paper, and glass may potentially be found at electrification facilities. Places have been allocated for such wastes at all facilities and specially marked containers (Fig. 4, 5) have been installed. Most of this waste is not a threat to the environment. Therefore, according to national regulation, it is permitted to dispose these products in public landfills allocated by local Hokimiyat. Sawmill waste from dismantled and unsuitable for reuse wooden formwork is used in boiler stations for kindling. Household waste is also collected and finally disposed of in places specially designated on the territory of the facility; food waste is removed by the local population for feeding agricultural animals.

4.4. Health and safety

4.4.1. Public health and safety

45. In connection with the global pandemic, all the Contractors - CNTIC, Temirzholzhondeu have elaborated a "Special plan for ensuring safety during the new coronavirus" which presents an algorithm for effective actions to prevent and combat the outbreak of pneumonia caused by this virus in accordance with the WHO and SanPiN standards of the Republic of Uzbekistan. The

contractor Uzelektroapparat-Electroshield JSC introduced measures to combat coronavirus in SSEMP (clause 10).

46. Basic protective measures against the new coronavirus infection:

- Monitor the latest information on the COVID-19 outbreak on the Koronavirus Info / Uyda Qoling website and also from your country's and local public health authorities. In most cases, the disease is characterized by a mild course and ends with recovery, although complications occur. You can protect your health and the health of others by observing the following rules:
- Regularly clean your hands with alcohol or soap and water.
- Keep distance in public places. Keep at least 2 meters away from people, especially if they have a cough, runny nose, and fever.
- If possible, do not touch your eyes, nose and mouth with your hands.
- Follow the rules of respiratory hygiene. When coughing and sneezing, cover your mouth and nose with a napkin or into your elbow; immediately throw the napkin into a trash container with a lid and treat your hands with an alcohol- containing antiseptic or wash them with soap and water.
- If you have a fever, cough, and difficulty breathing, seek medical attention as soon as possible, as they may be caused by a respiratory infection or other serious illness. Respiratory symptoms combined with fever can have a variety of causes, including 2019-nCoV, depending on the patient's travels and contacts.
- Follow the latest information and follow the recommendations of medical professionals.

47. In order to ensure readiness for outbreaks of the disease and combat COVID-19, a working group was created at the facilities, consisting of contractor employees who are responsible for the prevention and safety of working personnel located at the facilities and in offices.

48. Team leader manages and monitors all operations to comply with the developed instructions at sites (timely purchase of disinfectants, sanitizers and distribution of personal protective equipment; this person is responsible for the work on the prevention of epidemics in the Design Department; manages activities within the framework of general epidemic prevention work, daily health statistics, body temperature monitoring, ventilation and disinfection to employees on site; team leader disseminates information about the epidemic situation and also trains employees in the prevention of epidemics.



Figure 18. Disinfectants at the site



Figure 19. Disinfectant sprayer on cable-laying machine.



Figure 20. All objects are labelled according to the instructions, workers work in special uniforms and masks.

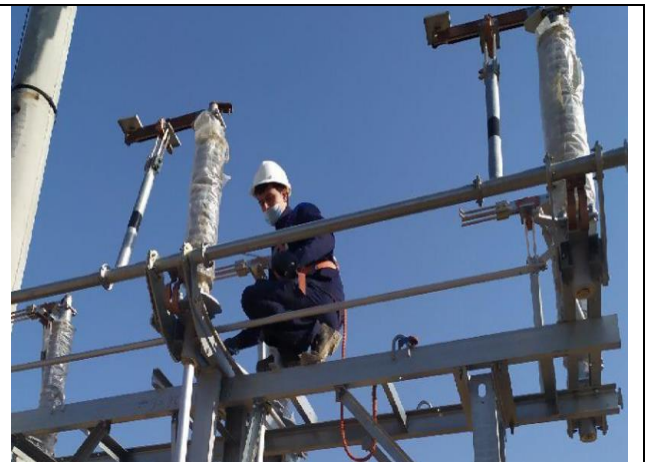


Figure 21. TSS Hakkulabad. Installer at work with protective equipment wearing special uniform at site.

49. At the electrification facilities of the Pap-Namangan-Andijan railway line for the period January-June 2022 there were no problems related to the health and safety of the local population, including road traffic accidents caused by builders. Temporary interruptions in the provision of drinking water, dust content of bottoms during earthworks, issues of irrigation water shortage have been eliminated by contractors and are under the control of Consultants and PIU.

4.4.2. Health and safety of workers

50. At the facilities of electrification of the Pap-Namangan-Andijan railway line for the period January-June 2022 there were no problems related to the health and safety of workers, including road accidents. At all facilities, all types of briefings on labour protection and safety are regularly held; all facilities are provided with first aid equipment. The contractor has entered into a contract with a local health center to provide health services at the construction site. No prerequisites for accidents at the facilities were found. For daily work with personnel, workers and the local

population, conduction of all types of briefings on labour protection and safety at each work site, the Contractors have appointed responsible persons by order (Table 5) who carry out daily work with personnel, the public and have incident logs at the facility.

51. Also, construction personnel at all sites do not use cold raw water from reservoirs for drinking. Representatives of the local population, including children, due to the local mentality, do not invade the construction sites.

52. In connection with the spread of the global pandemic COVID-19, all employees and Contractors were notified of the recommendations from UTY to comply with all measures to combat the new virus to ensure safety during the spread of this infection.

Table 5. Data on responsible persons appointed for all types of health and safety training at construction sites

№	Construction site	Full name of responsible person		
1	Raustan TSS	LLC "Omad fayz Qurilish servis", «O'zelectroapparat- Electrosshield» Joint- Stock	works foreman	Abdullaev S. I.
2	Hakkulabad TSS	LLC "Taraqqiyot", «O'zelectroapparat- Electrosshield» Joint- Stock	works foreman	Jabborov S.
3	Laying of Signalling cable	LLC "TEMIRZHOL ZHONDEU"	Manager on site	Atavulaev Kh.M.
4	Station Passing loop- 137km	LLC "TEMIRZHOL ZHONDEU"	Manager on site	Atavulaev Kh.M.

4.4.3. Training

53. At all electrification facilities of the Pap-Namangan-Andijan railway line for the period January- June 2022 all health and safety training sessions are conducted regularly, including trainings on COVID-19 sanitation requirements, electrical safety, fire safety and hygiene measures to protect against insect bites and sunstrokes.

54. For those involved in the electrification of the Pap-Namangan-Andijan railway line, additional briefings were held on the constant wearing of work clothes and PPE by workers, including shoes, mittens and helmets, as well as wearing safety belts when working at height.

55. The training also included outdoor exercise with going to the project site and conduction environmental monitoring on construction site.

5. GRIEVANCE REDRESS MECHANISM

56. Grievance Redress Mechanism was established during stage of IEE preparation and now is being implemented by Contractors and PIU-ET. There are log books placed in each station along alignment of PNA. Besides, the logbooks were placed in both TSSs and construction site passing loop at 137 km.

57. During the reporting period, no complaints were received from the population.

6. REVIEW OF SSEMP

58. Status of compliance with environmental safeguards related covenants in the Project's Loan Agreement² signed between the Republic of Uzbekistan and ADB dated November 8, 2017 is summarized in Table 6.

Table 6. Loan Agreement Compliance Status

Schedule	Paragraph	Covenant	Compliance Status
4	5	<p><u>Terms of Contract award.</u></p> <p>The Borrower shall not award any works contract which environmental impacts until the Borrower has incorporated the relevant provisions of the EMP into the Works contract.</p>	<p><u>Complied</u></p> <p>All work contracts have been incorporated with the relevant provisions of the EMP.</p>
5	9	<p><u>Environment</u></p> <p>Environment The Borrower shall ensure, or cause UTY to ensure, that the preparation, design, construction, implementation, operation and decommissioning of the Project and all Project facilities comply with (a) all applicable laws and regulations of the Borrower relating to environment, health and safety; (b) the Environmental Safeguards; and (c) all measures and requirements set forth in the IEE (including, without limitation, the corrective action plans for the Associated Facilities and Existing Facilities in section 4) and the EMP, and (d) any corrective or preventative actions set forth in a Safeguards Monitoring Report.</p>	<p><u>Complied.</u></p> <p>In accordance with national regulations, a project does not start if the feasibility study is not approved by all government bodies associated with the project, including the Ministry of Justice, the Ministry of Construction, the Ministry of Health, the Ministry of Employment and Labor Relations, and the State Committee for the Environment Protection, etc. All these bodies check the compliance of the project with all relevant regulations and approve the feasibility study or issue their comments / Notes prior to the issuance of the Presidential Decree on the implementation of the project. All measures and requirements outlined in the IEE and EMP, as well as all corrective or preventive measures are presented in the semi-annual environmental monitoring reports.</p>

² Project Loan Agreement: <https://www.adb.org/projects/documents/uzb-48025-003-lna>

5	14	<p><u>Human and Financial Resources to Implement Safeguards Requirements</u></p> <p>The Borrower shall make available, or cause UTY to make available, the necessary monetary and human resources to fully implement the EMP; the Social Due Diligence Report, including the corrective actions set out in part G of such a report and Resettlement plan.</p>	<p><u>Complied</u></p> <p>PIU has recruited one environmental and social specialist from UTY. The environmental specialist is responsible for part of the EMP of all UTY implementing ADB-financed projects. The Supervision Consultant that was hired by PIU includes a national environmental specialist responsible for environment, health and safety compliance.</p>
5	15	<p><u>Safeguards – Related Provisions in Bidding Documents and Works Contracts.</u></p> <p>The Borrower warrants that UTY shall ensure that all tender documents and work contracts have the provisions required of the Contractor:</p> <p>(a) comply with the measures relevant to the contractor set forth in the IEE, the EMP, Social Due Diligence Report and Resettlement plan (to the extent they concern impacts on affected people during construction), and any corrective or preventative actions set forth in a Safeguards Monitoring Report;</p> <p>(b) make available a budget for all such environmental and social measures;</p> <p>(c) provide the Borrower with a written notice of any unanticipated environmental, resettlement or indigenous peoples risks or impacts that arise during construction, implementation or operation of the Project or the Associated Facilities or Existing Facilities that were not considered in the IEE, the EMP, Social Due Diligence Report and Resettlement plan;</p> <p>(d) adequately record the condition of roads, agricultural land and other infrastructure prior to starting to transport materials and construction;</p> <p>(e) upon the completion of construction, reinstate pathways and other local infrastructure to at least their pre-project condition, and recultivate agricultural land.</p>	<p><u>Complied</u></p> <p>(a) The IEE and EMP are integral parts of all bidding documents and work contracts and are included as annexes to the contracts. Accordingly, contractors must comply with the IEE and EMP requirements unconditionally. All corrective or preventive actions are presented in semi-annual environmental monitoring reports.</p> <p>(b) Contractors' budgets partially include necessary EMP and preventive actions. Regardless, contractors must comply with the requirements in accordance with national regulations.</p> <p>(c) The borrower will be informed in the event of any unforeseen impacts. Since the continuation of the project is impossible without the Borrower's decision.</p> <p>(d) Before starting work, the Contractor obtains permits from the State Committee for Highways under the Ministry of Transport with a preliminary selection of road inspectors. Regarding agricultural land and other infrastructure, the district / city Hokims issue a decision with the permission of land users or landowners.</p> <p>(e) All permits are issued only on condition of restoration after completion of work.</p>

5	16	<p style="text-align: center;"><u>Safeguards Monitoring and Reporting.</u></p> <p>The Borrower shall do the following, or cause UTY to do the following:</p> <p>(a) submit semi-annual Safeguards Monitoring Reports to ADB and disclose relevant information from such reports to affected persons promptly upon submission;</p> <p>(b) if any unanticipated environmental and/or social risks and impacts arise during construction, implementation or operation of the Project, the Associated Facilities or the Existing Facilities that were not considered in the IEE, the EMP the Social Due Diligence Report and Resettlement plan, promptly inform ADB of the occurrence of such risks or impacts, with detailed description of the event and proposed corrective action plan and report any actual or potential breach of compliance with the measures and requirements set forth in the IEE; EMP; the Social Due Diligence Report, including the corrective actions set forth in part G of such report and Resettlement plan, promptly after becoming aware of the breach.</p>	<p><u>Complied</u></p> <p>The Loan Agreement requires to submit Safeguards Monitoring Reports, as per IEE, the PIU submits the semi- annual reports, as it was also agreed upon during the Missions of ADB on Safeguard Issues. Starting from the beginning of the Project all Semi-annual Monitoring Reports have been submitted to ADB. After publication of EMR at ADB web-site we translate reports into Russian and then publish them on web-site of the Executing Agency. By the end of 2021 we published our reports on UTY web-site.</p> <p><u>Complied –</u></p> <p>b) unanticipated environmental and/or social risks and impacts were not revealed.</p> <p>During this period of time from January to June 2022 in construction of associated and existing facilities no violations or impacts occurred as per the requirements of IEE and EMP.</p> <p>c) Complied – all actual or potential breach of compliance with the measures and requirements set forth in the IEE; EMP are immediately reported; the Social Due Diligence Report, including the corrective actions set out in part G of such report and Resettlement plan, promptly after becoming aware of the breach</p>
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5	17	<p><u>Prohibited List of Investments.</u> The Borrower shall ensure, and cause UTY to ensure, that no proceeds of the Loan are used to finance any activity included in the list of prohibited investment activities provided in Appendix 5 of the SPS</p>	<p><u>Complied - The Loan proceeds</u> are not used to finance any activities included in the list of the prohibited investment activities, as per the Attachment 5, SPS.</p>
5	18	<p><u>Labor Standards, Health and Safety.</u> The Borrower shall ensure, and cause UTY to ensure, that the core labor standards and the Borrower's applicable laws and regulations are complied with during Project implementation. The Borrower shall cause UTY to include specific provisions in the bidding documents and contracts financed by ADB under the Project requiring that the contractors, among other things: (a) comply with the Borrower's applicable labor law and regulations and incorporate applicable workplace occupational safety norms; (b) do not use child labor; (c) do not discriminate workers in respect of employment and occupation; (d) do not use forced labor; (e) allow freedom of association and effectively recognize the right to collective bargaining; and (f) disseminate, or engage appropriate service providers to disseminate, information on the risks of sexually transmitted diseases, including HIV/AIDS, to the employees of contractors engaged under the Project and to members of the local communities surrounding the Project area, particularly women.</p>	<p><u>Complied</u> The Project is being implemented in accordance with the main labor standards and the applicable laws and normative acts. The respective provisions are included in the bidding documents and the works contracts.</p>

59. Implementation Status of EMP during the pre-construction period and construction period is summarized in Tables 7 and 8 respectively. The non-compliances revealed during this reporting period will be strictly monitored by the PMC (Engineer) and PIU.

Table 7. Implementation Status of EMP during the pre-construction period

Subject	EMP Requirement	Compliance Attained	Comment on Reasons for Partial or Non-Compliance	Required Action and Target Dates to Achieve Compliance
Project design	The following actions are required: - ensure safe working conditions, safety and occupational health - provide workers with sanitary facilities and conditions; - provide training and instructions on occupational safety.	yes	All requirements were met during the project.	Safe working conditions have been created and safety and health requirements have been met according to KMK 3.01.02-00 «Safety in construction»; Workers are provided with sanitary and living conditions in accordance with SanPiN 0023-94 «Hygienic requirements to working conditions and sanitary provision of construction workers»; Training and briefings on occupational safety according to GOST 12.0.004-90 «System of safety standards. Organization of work safety training».
Lack of proper Environmental requirements	<ul style="list-style-type: none"> Ensure that EMP is included in bidding documents. 	yes	Included	Included
	<ul style="list-style-type: none"> Ensure that environmental covenants, tools for resolving issues with Contractors non-compliance with established requirements are included in the bidding documents (such as penalties for violence of environmental requirements and etc.) and further in contracts. 	yes	The environmental requirements were complied, there was no violation of any item of the requirements.	In case of non-compliance by the Contractor the established requirements of the EMP at construction sites, the Employer has the right to impose penalties.

Subject	EMP Requirement	Compliance Attained	Comment on Reasons for Partial or Non-Compliance	Required Action and Target Dates to Achieve Compliance
	<ul style="list-style-type: none"> • Include list of required national approval and licenses and define a person, responsible for receiving such permissions. 	yes	<ul style="list-style-type: none"> - Environmental Clearance (Positive Conclusion of Environmental Expertise) - received; - Permission/license for using existing borrow pits or opening new ones - not required, since the contractors do not use the borrow pits, they have sub- contract with licensed firms; - Permission on cutting trees and bushes - received; - Statement on Environmental Consequences (Permission on waste water, emissions discharge, waste disposal) - received; - Permit for special water use for groundwater - obtained. 	Performed.
Improper assessment of bidders' environmental capacity	<ul style="list-style-type: none"> • With assistance of the Project Management Consultant's (PMC) environmental specialist, ensure that the environmental provision along with EMP will be included in the bidding documents and in contracts for Contractors; 	yes	All requirements specified in the EMP are included in the tender documents of the Contractors	All requirements specified in the EMP are included in the tender documents of the Contractors. All measures included in the IEE are included in the bidding documents and in the EMP and are being implemented at this stage.
	<ul style="list-style-type: none"> • Bids evaluation needs to be done with consideration of: capacity of bidders to meet EMPs requirements, proposing adequate budget efficient for implementation EMP, existence of good practice in environmental performance within other similar projects; 	yes	New technologies included	In connection with the electrification of the railway, cable-laying machines are used, controlled by the operator from the driver's cab, which allow saving efforts and costs for restoring vegetative soil, and quickly restoring the working site. As far as the use of the cable layer is concerned, its vibrating mechanism rocks

Subject	EMP Requirement	Compliance Attained	Comment on Reasons for Partial or Non-Compliance	Required Action and Target Dates to Achieve Compliance
				its blade at a frequency of 1500 times per minute. This action neatly divides the soil in front of the blade and allows for quick and efficient laying of underground utilities.
Non-compliance with national environmental legislation in terms of conduction environmental impact assessment and required permission	Prepare EIS and submit it to Regional Committee for Ecology and Environmental protection (Goskomkologiya) for revision and approval.	yes	Prior to the commencement of design-and-estimate documentation, the positive conclusion for EIS from Goskomekologiya was recieved.	The approval for EIS was received.
	Include the requirements indicated in IEE into the EMP.	yes	All requirements specified in the IEE are included in EMP.	All requirements from the part of the Contractor are followed and fulfilled.
Generation of different potential environmental impacts due to changes in design, layout	If any changes in the project design will take place, the IEE has to be updated accordingly.	yes	There were no any changes in the project design by the Employer and the Contractor.	If any change will be done regarding the project solutions, all the documents concerning IEE should be updated.
Non-compliance with national and international requirements during conduction bidding for purchase of	<ul style="list-style-type: none"> Goods procured for project implementation will be done in compliance with ADB Prohibited Investment Activities List set forth at Appendix 5 of the Safeguard Policy Statement (2009); 	yes	Activities performed for project implementation are not included in ADB Prohibited Investment Activities List set forth at Appendix 5 of the Safeguard Policy Statement (2009);	The Borrower ensures, UTY warrants that no loan proceeds will be used to finance any activity included in the prohibited investment list provided in Appendix 5 of the Safeguard Policy Statement.

Subject	EMP Requirement	Compliance Attained	Comment on Reasons for Partial or Non-Compliance	Required Action and Target Dates to Achieve Compliance
machinery and mechanisms	<ul style="list-style-type: none"> Environmental specifications have to be included in bidding packages for purchase machinery within the project. Particularly, toxic level of machinery must meet “Euro 3” environmental requirements as defined by national regulations. 	yes	Machinery purchased use diesel fuel.	All purchased machinery complies with the standard Euro 3, and is included in tender bidding packages.
Improper ESMP development	<ul style="list-style-type: none"> Within 30 days after contract award and prior to commencing any physical works, Sitespecific Environmental Management plans (SSEMPs) will be developed by the Contractors under the guidance of the PMC, and be endorsed by PMC before submission to PCU for approval; 	yes	Fully implemented.	Performed.
	<ul style="list-style-type: none"> In addition to SSEMPs, Topic Specific SEMP need to be prepared by Contractors, endorsed by PMC and approved by PCU for the following activities: Traffic Management Plan for construction of distribution network within settlements, Waste management Plan for sites with demolishing works, Hazardous Wastes Management Plans as described in the next sub-sections, Construction Camps Management Plan and Occupational Health and Safety Plan (OHS Plan); Plan for construction of distribution network within settlements, Waste management Plan for sites with demolishing works, Hazardous Wastes Management Plans as described in the next sub-sections, Construction Camps Management Plan and Occupational Health and Safety Plan (OHS Plan). 	yes	Fully implemented.	Performed.

Table 8. Implementation Status of EMP during the construction period

<i>Subject</i>	<i>EMP Requirement</i>	<i>Compliance Attained</i>	<i>Comment on Reasons for Partial or Non-Compliance</i>	<i>Required Action and Target Dates to Achieve Compliance</i>
Air pollution	• apply watering of construction sites and roads inside settlements during dry season;	yes	Watering in dry season	There are water towers with wells for watering plants and for technical needs.
	• cover transported bulk materials	yes	When transporting by road without covering non-metallic bulk materials, according to the internal situation of the country, fines are imposed on car owners from the internal affairs - State Automobile Inspectorate.	All construction organizations during transportation are provided with a tarpaulin covering of transported non-metallic bulk materials.
	• control speed limitation for vehicles during movement inside of settlements - no more than 40 km/h;	yes	complied	A schedule is drawn up for the movement of vehicles when moving in settlements with a limited speed of no more than 40 km / hour
	• all vehicles and techniques must comply with technical requirements and have to pass regular inspection as indicated into the national standards;	yes	complied	All vehicles and equipment of the Contractors undergo technical inspection 2 times a year;
	• prohibit open burning of solid wastes generated particularly from labour camps and construction activities;	yes	Not detected	All construction and solid household waste at construction sites is removed by machines of State unitary enterprise "Makhsustrans"
	• Clean wheels and under carriage of haul trucks prior to leaving construction site;	yes	They are cleaned off with technical running water.	All objects are covered with crushed stone pebble for the movement of vehicles

Subject	EMP Requirement	Compliance Attained	Comment on Reasons for Partial or Non-Compliance	Required Action and Target Dates to Achieve Compliance
	<ul style="list-style-type: none"> Conduct monitoring of dust level in front of settlements located close to constructed or reconstructed railway bridges and subgrade of 6.7 km Uichi. In case of exceeding standards for dust level for this area (0.15 mg/m³) additional mitigation measures for dust control need to be undertaken – more often watering or installation of dust screen. 	yes	Not detected	Construction sites are located far from settlements.
Noise and vibration	<ul style="list-style-type: none"> As for construction of objects, acoustic screens have to be used if construction activities will be implemented closer than 110 m; 	n/a	Residential buildings are located 150 meters from the border of the TSS Raustan and Khakulabad.	Residential buildings are located 150 meters from the border of the TSS Raustan and Khakulabad.
	<ul style="list-style-type: none"> During construction period establish limits on speed for vehicles inside of settlements (40 km/h); 	yes	Not detected	A schedule is drawn up for the movement of vehicles when moving in settlements with a limited speed of no more than 40 km / hour.
	<ul style="list-style-type: none"> operation of heavy equipment shall be conducted between 7 am and 7 pm only, limitation on speed for vehicles; 	yes	Observed by the foreman at the site.	Working hours for heavy equipment are set from 8-00 to 16-00.
	<ul style="list-style-type: none"> In case of receiving any complaints from population, noise measurements need to be conducted and in case of exceeding established standards, additional mitigation actions for decreasing noise level need to be undertaken (establishing temporary sound absorbing barriers and others); 	yes	Not detected	here is a complaint log at the facilities. When monitoring No complaints from the population were identified.
	<ul style="list-style-type: none"> Use of Personal Protective Equipment (PPE) by workers involving in demolishing and construction works in conditions of increased noise level (more than 80dB) is mandatory; 	yes	All work was carried out in accordance with the requirements of SanPiN, KMK standards and environmental protection.	The workers of the district khokimiyats and the residents themselves who fell under the demolition, but at the same time everyone, the workers participating in the demolition, demolished all buildings and structures. used personal protective equipment (PPE).
	<ul style="list-style-type: none"> Inform population about anticipated works. 	yes	Complied	To the residents of the

<i>Subject</i>	<i>EMP Requirement</i>	<i>Compliance Attained</i>	<i>Comment on Reasons for Partial or Non-Compliance</i>	<i>Required Action and Target Dates to Achieve Compliance</i>
				demolished buildings and structures the official notification of the start of the demolition was sent by the district khokimiyats 6 months before the start of the demolition.
Pollution of surface and ground water	<ul style="list-style-type: none"> • Construction and labor camps, including storage places for lubricant, fuel and other oils will be located 100 m away from water bodies; 	yes	According to the requirements of fire safety, safety engineering, as well as environmental protection - complied	Construction and work camps, as well as places for the storage of lubricants, fuel and other oils, will be located inside the designated facility in special designated storage places.
	<ul style="list-style-type: none"> • Conduction of refueling, oil replacement or repairing works will be banded at the area within 50 m from water streams; 	yes	Complies with technical requirements	Refueling, oil changes or repairs will be carried out at the construction site of vehicles brought in special vehicles for the transportation of fuel and lubricants, 50 m from water streams;
	<ul style="list-style-type: none"> • Household water and solid wastes will not be released directly into water streams; 	yes	Concluded contracts.	Household water is discharged into a water intake bunker and solid waste will also be removed directly in special vehicles according to the Contract;.
	<ul style="list-style-type: none"> • Topsoil stripped material shall not be stored where natural drainage will be disrupted; 	yes	All natural drainage has been included in the design work.	The material with top layer of soil removed is not located where the natural drainage is;
	<ul style="list-style-type: none"> • Water samples will be taken and compared with the baseline monitoring results obtained in the pre-construction stage. Location of monitoring points, frequency and monitoring substances are presented in Environmental Monitoring Plan; 	yes	Sampling is included in the consultants' work plan	Water samples were taken for comparison with the baseline monitoring results obtained during the pre-construction phase. Location of monitoring

Subject	EMP Requirement	Compliance Attained	Comment on Reasons for Partial or Non-Compliance	Required Action and Target Dates to Achieve Compliance
				points, frequency and controlled substances are specified in the Environmental Monitoring Plan;
	<ul style="list-style-type: none"> all works related to digging on the depth more than 2 meters need to be conducted during non-irrigation season. The irrigation season in that region is May-August; 	yes	All designated areas for construction were selected taking into account all geological monitoring parameters.	All excavation that comprising digging more than 2 meters of soil are carried out during the dry season.
	<ul style="list-style-type: none"> If this period could not be avoided, use standards technology for construction in areas with high water logging: pumping water into the nearest drainage canal; 	yes	Such kind of area is not available for the sites under construction.	All excavation that comprising digging more than 2 meters of soil must be carried out during the dry season.
	<ul style="list-style-type: none"> Conduct monitoring of water quality in the hand pumps houses located close to the rehabilitating or constructing new WDCs needs to be undertaken by Contractor on the monthly base. In case of exceeding standards, ground water pollution source(s) need to be identified and repaired. 	no	This is "OPEN" issue in the issues track list. PMC requested the Contractor to take water analyzing in each reconstructed / constructed wells and hand pump of houses and to inform in monthly environmental monitoring reports.	The taken measures will be Monitored.
Soil contamination	The top soil of about 30 cm depth shall be removed and stored separately during excavation work, and after the construction of the main trunk the same soil shall be replaced on the top, in unpaved areas;	yes	All KMK requirements are met.	The top layer of soil 30 cm deep should be removed and transported to the Park Molodyoji of Namangan TSS Raustan and Khakulabad.
	<ul style="list-style-type: none"> To minimize soil compaction, movement of all type techniques will be allowed only through identified access roads; 	yes	Official access roads were built.	To minimize soil compaction, the movement of all types of equipment was taken into account in the project documents and an access road to the facilities was developed and will be diverted by the cadastral services.

<i>Subject</i>	<i>EMP Requirement</i>	<i>Compliance Attained</i>	<i>Comment on Reasons for Partial or Non-Compliance</i>	<i>Required Action and Target Dates to Achieve Compliance</i>
	<ul style="list-style-type: none"> Contractors will be required to use only authorized carriers with getting all necessary permissions per respective national legislation. 	yes	Required approvals in accordance with national legislation.- were received.	Contractor has its own official machinery with all necessary approvals in accordance with national legislation.
Hazardous materials	<ul style="list-style-type: none"> A separate Waste Management Plan needs to be developed by Contractor, endorsed by PMC and approved by PCU for the construction sites with demolishing works. The Plan has to include information about type of generating wastes, procedure of their collection and disposal; 	yes	Waste management is well established.	The Contractor must develop a separate Waste Management Plan, approved by the Project Management Consultant; he submits the used technical oil (UTO) to special collection points and / or to the points of replacement of technical oils; keep a logbook of the turnover of technical oils, which indicates the amount of purchased technical oils for the period, the amount of used technical oils, the actual amount of output of UTO;
	<ul style="list-style-type: none"> Used oil shall be collected into containers placed at the concreted sites and disposed to national oil company designated for accepting and treatment of used oils; 	yes	Based on the Resolution of the Cabinet of Ministers of September 4, 2012 No. 258 of the Republic of Uzbekistan "On the procedure for delivery, collection, settlement, storage and transportation of used technical oils. The delivery of used oils is controlled by the Head of the TSS. The used oil from the transformers is collected in specially designated metal	The used oil from the transformers is collected in specially designated metal containers at the concreted areas and sent to the national oil company designated for the reception and treatment of used oils.

Subject	EMP Requirement	Compliance Attained	Comment on Reasons for Partial or Non-Compliance	Required Action and Target Dates to Achieve Compliance
			containers at the concreted areas and sent to the national oil company designated for the reception and treatment of used oils.	
	<ul style="list-style-type: none"> • Refuelling vehicles and replacement oils also have to be conducted in special designated and properly equipped places. Emergency facilities have to be at the place for elimination of accident of oil spills; 	yes	Controlled by the Head of TSS.	At the TSS facilities, concrete basins are being built under all transformers for emergency oil drainage. In case of oil spills, they flow through pipelines into metal containers for collecting oils and for sending them to the oil company for their intended purpose.
	<ul style="list-style-type: none"> • Manage asbestos-containing materials and waste; 	yes	There are no asbestos-containing materials during dismantling works.	Waste generated during the entire construction period will be systematically collected, stored and disposed in appropriate specialized places in accordance with the regulations in the field of waste management in Uzbekistan and in the Special technical regulation "On the safety of asbestos" № 501, approved by the Ministry of Construction 02.11.2019.
	<ul style="list-style-type: none"> • Make sure that old pipes (especially asbestos) are not excavated or touched. The new pipes will have to be laid along to the existing. 	yes	No asbestos pipes available.	Make sure that old pipes (especially asbestos) are not available. New metal pipes were laid according to the project together with the existing irrigation flumes and gas pipes.
Non-hazardous materials	<ul style="list-style-type: none"> • Separation of waste into recyclable and non-recyclable waste; 	yes	The separation of waste into recyclable ones is	At the facility, there is a separation of waste into recyclable ones - this is

Subject	EMP Requirement	Compliance Attained	Comment on Reasons for Partial or Non-Compliance	Required Action and Target Dates to Achieve Compliance
			available organized at the facility.	cardboard paper, plywood boards, beams, polyethylene bags and metal waste. There is no non-recyclable industrial and toxic waste;
	<ul style="list-style-type: none"> Selling recyclable wastes to relevant organizations (paper, scraps, accumulators) and timely disposal of non-recyclable wastes to the landfill, designated by local khokimiyats; 	yes	Available.	Sale of recyclable waste to appropriate organizations (paper, waste materials) of waste at collection points designated by local khokimiyats.
	<ul style="list-style-type: none"> Providing hydro isolated septic tank for collecting waste waters at the camp sites and bio toilets for workers at the construction sites and timely disposal of waste waters to the local waste water treatment plants; 	yes	Performed.	On-site the Contractors use septic tank.
	<ul style="list-style-type: none"> Burning of waste on any construction site is forbidden with the exception of stub and small branches from felled trees and bushes, which is better to be burned in order to avoid pest dissemination. 	yes	Controlled by the Safety inspector.	At construction sites, wood waste can be burned in the national oven for cooking.
	<ul style="list-style-type: none"> Site cleaning for extension of existing and construction of new TSSs should be done exactly within marked area. 	yes	The allocation of land was carried out by the State organizations of Land Cadastre branches.	Construction of new transport stations is carried out in the fields and within the designated boundaries of the railway.
Losses of trees and crops	<ul style="list-style-type: none"> Conduction of a preliminary survey together with Contractor and respective representative of Goskomekologiya to define trees for cutting and payments in accordance with DCM No. 255 dated of 2018. 	yes	A preliminary survey was carried out by an inspector of the district Goskomekologiya jointly with the Contractor, and a specialist from PIU-ET.	All objects began to be built after compensation for the felled trees.
	Construction during agricultural off- season may further minimize the impact (loss of agricultural income). Major crops in the project affected are wheat, sunflower, vegetables and cotton, which is grown seasonally;	yes	The local authorities sent a notification 4-6 months before the commencement of construction work.	All construction work began after the harvest season.

Subject	EMP Requirement	Compliance Attained	Comment on Reasons for Partial or Non-Compliance	Required Action and Target Dates to Achieve Compliance
	<ul style="list-style-type: none"> If felling is inevitable, compensation should be paid; 	yes	All compensations are paid.	All compensations are paid.
	<ul style="list-style-type: none"> Do not use chemicals or burning for removal of vegetation; 	yes	Not used.	Not used.
	<ul style="list-style-type: none"> Greening of territories of TSSs as part of the project design; 	yes	Is being carried out.	Recultivation and landscaping is part of the project.
	<ul style="list-style-type: none"> Contractor and PMC will inform population about anticipated works in the settlement in advance; 	yes	Trainings were carried out by PIU-ET.	Prior to the commencement of construction, a letter was sent to the local authorities and trainings are conducted by the PIU-ET in the Khokimiyats and places of makhalla citizens' meetings.
Health and safety issues	<ul style="list-style-type: none"> Contractors will require to develop a Traffic Management Plans with clear indication routes of vehicles' movements, placement special signs, and speeding allowance inside of the settlements and schedule transportation activities by avoiding peak traffic periods; 	n/a	The traffic plan should be developed by the Contractor and agreed by the Project manager. Equipment is delivered to the facilities via the railway line.	The Traffic Management plan establishes the traffic management methods at the work site and must comply with applicable local rules and regulations. The traffic plan should be developed by the Contractor and agreed by the Project manager.
	<ul style="list-style-type: none"> The Traffic Management Plans will be approved by Traffic Police and disclosed to local communities prior commencement of construction works on respective sites; 	n/a	not available	Traffic was approved by the Traffic Police and handed over to local communities prior to construction work.
	<ul style="list-style-type: none"> Clear signs will be placed at construction sites in view of the public, warning people of potential dangers such as moving vehicles, hazardous materials, excavations etc. and raising awareness on safety issues. 	yes	Are available on the construction site and are agreed by CCD.	The requirement of fencing and signs at facilities is taken into account in design decisions and in the requirements of safety.
	<ul style="list-style-type: none"> Contractor will require to install temporary bridges and effectively organize works, which will allow avoid unreasonable delaying of construction works; 	n/a	No need to install temporary bridges.	Since the main installation work is carried out on the existing railway line, the Contractors do not need temporary bridges.

<i>Subject</i>	<i>EMP Requirement</i>	<i>Compliance Attained</i>	<i>Comment on Reasons for Partial or Non-Compliance</i>	<i>Required Action and Target Dates to Achieve Compliance</i>
	<ul style="list-style-type: none"> All construction sites will be properly lightened and fenced; 	yes	All these types of work are performed by the Employer- CCD.	All construction sites are properly equipped with lightening and fenced;
	<ul style="list-style-type: none"> Development of Site Specific Plans for campsites; 	yes	Developed	The Contractors developed the SSEMP plan prior to the commencement of construction and installation work on the site.
	<ul style="list-style-type: none"> After completion works all roads shall be rehabilitated at least up to condition of pre-construction stage. 	yes	All roads and crossings will be restored after the completion of construction work. The time is not yet due.	All roads and crossings are being restored according to design solutions.
	Development Occupation Safety and Health Plan, which covers among others the following topics: usage of PPE, working procedure with hazardous materials (such as asbestos materials, PCBs etc.), training activities and others. The workers have to be provided with appropriate living conditions: safe water supply, washing conditions.	yes	The safety engineer gives instructions and Engineer and the manager control the activities on health and safety measures and makes sure that all conditions for staying at the facility are present.	Development of a Health and Safety Plan covers among others, the following topics: PPE use, handling of hazardous materials (such as asbestos materials, PCBs, etc.), training activities, and more. Workers should be provided with adequate living conditions: safe water supply, sanitary and hygienic conditions. Everything is available at the facilities.
	<ul style="list-style-type: none"> Conditions must comply with requirements of Labor Code of Uzbekistan (1998) and standards on work and health safety 	yes	Complied and are supervised by the Contractor's representative and ITALFERR project manager.	Complied and are supervised by the Contractor's representative and ITALFERR project manager.
	<ul style="list-style-type: none"> Ensure that all site personnel have a regular (E&S) training and basic level of environmental awareness training; 	yes	Conducted by the contractor's safety engineer every day, environmental consultant from ITALFERR and PIU-ET	All onsite personnel receive regular safety and environmental (E&S) training and basic environmental awareness training;

Subject	EMP Requirement	Compliance Attained	Comment on Reasons for Partial or Non-Compliance	Required Action and Target Dates to Achieve Compliance
			according to the schedule.	
	<ul style="list-style-type: none"> Ensure that all workers are provided with and required to use PPE. 	yes	There is a safety instructing log at each facility.	All workers are provided with personal protective equipment and must use PPE at the facility under the strict control of the site manager and safety engineer;
Construction camps	<ul style="list-style-type: none"> EMP for labor/construction camps will describe waste collection and disposal procedure, set up of camp facilities (such as a storage place for construction materials and techniques if any, laundry and toilets, access roads). 	yes	According to the approved by the EMP	The construction camp is located inside the construction site at the Raustan and Khakulabad TSS. The construction camp has a water supply, a bathroom, a shower, a washing machine. There is a dining room with a room for storing food and a recreation room.
	<ul style="list-style-type: none"> If washing equipment and vehicle is planning to be conducted at the labor/construction camp's site, appropriate wastewater treatment facilities have to be organized on the camp and respective permissions on water intake and waste water disposal need to be received by Contractor from Goskomekologiya; 	n/a	Washing the equipment and vehicle not allowed, allowed only to clean wheels of trucks prior to leaving construction site.	Washing the equipment and vehicle not allowed, allowed only to clean wheels of trucks prior to leaving construction site.
	<ul style="list-style-type: none"> Provide safe and adequate living conditions for workers, such as dining rooms, toilets, shower rooms etc. 	yes	Requirements are met.	Work camps meet the requirements of SanPiN and safe, adequate living conditions for workers such as canteens, toilets, showers, etc.
	<ul style="list-style-type: none"> Contractors shall instruct all the workers to act in a responsible manner. 	yes	Instructions are made daily by a safety engineer.	These requirements are fulfilled before starting work at the facility. The manager (Responsible person) ensures that the contract workers from the Engineer undergo training on the safety and prevention of

Subject	EMP Requirement	Compliance Attained	Comment on Reasons for Partial or Non-Compliance	Required Action and Target Dates to Achieve Compliance
				COVID-19.
Archaeological heritages: Chance of finding heritage	• Excavation and other works need to be suspended immediately;	yes	Not found	If an object is detected, suspend all work
	• Area with possible heritage shall be fenced with fencing tape;	yes	Not found	When archaeological objects are discovered, first of all, it is protected with a safety tape
	• A designated focal point from a local administration (khokimiyat) needs to be informed and invited for assessment of potential heritage and undertaken necessary actions;	yes	Not found	Members of the local administration must be notified to evaluate the discovered object and report to the Cultural Heritage Agency.
	• Civil works at the finding place could be recommenced after obtaining permission from coordinator.	yes	Not found	After receiving permission from the coordinator.

60. For all electrification facilities of the Pap-Namangan-Andijan railway line, there are site specific EMP (SSEMP) that take into account the specifics of the electrification facilities under construction. There is also EMP developed by the design institute "Boshtransloyikha" for "Electrification of the railway section of Pap-Namangan-Andijan". See Book 6 3350-POS (Basic provisions of construction organization).

61. These documents contain all the main recommendations for Environmental Management, specific solutions for occupational health and safety, including:

a) In preparation stage for construction:

- On the organization of construction, the main issues of labour safety in construction are considered, and concrete solutions on labour safety, industrial sanitation, and safety, within the scope of requirements of KMK 3.01.02-00 are developed by the construction organization as part of the work performance project;
- Workers, managers, specialists, and employees engaged in construction facilities should be provided with sanitary and household premises (dressing rooms, dryers for clothing and shoes, showers, rooms for food, rest and heating, toilets) under the current standards, nomenclature of inventory buildings, San PiN0023-94;
- Heads of organizations are obliged to provide training and training on labour safety in accordance with GOST 12.0.004-908.

b) In preparation stage for construction:

- During operations the sources of harmful emissions into the atmosphere (GOST 17.2.1.04-77*) are not expected; except for bitumen-heating boilers, the effect of which is short-term and one-time;
- Requirement of protective measures to protect the health and safety of the population and workers, compliance with the requirements for the design of construction plans, placement of temporary inventory buildings on construction sites, selection of places for soil and quarry;
- Careful treatment of archaeological heritage sites, local flora and fauna, mandatory measures to re-cultivate land and improve the area adjacent to the site upon completion of construction will be carried out according to the working documentation "Re-cultivation of disturbed land on the site of electrification Pap- Namangan-Andijan," performed by LLC "Toshkent Suv Loyhiha Invest".

62. In connection with the mitigation measures to COVID-19 outbreak in the Republic of Uzbekistan, the SSEMPs were not updated by the Contractors, since the instruction for combating COVID-19 was developed by CNTIC, TEMIRZHOL ZHON-DEU.

7. GOOD PRACTICES AND OPPORTUNITIES FOR IMPROVEMENT

7.1 Good Practice

63. At all facilities and sites under the Project of Pap-Namangan-Andijan railway line electrification the works are being carried out with due consideration of good practices with an aim of timely and high-quality implementation of the project. In most of the facilities, the fencing of the territory, lighting and protection of the facility at night, observance of sanitary standards at the site, as well as careful treatment of green plantations on the territory and outside the facilities have been completed. All workers observe the rules of polite and respectful relations with the local population. This avoids accidental conflicts between workers and local population.

7.2 Opportunities for improvement

64. Despite the fact that the majority of the professional skills the construction workers will receive during their study at the educational institution, the training in the field of labour safety and in the field of some specific skills is often conducted right at the facilities upon employment of the employee. Within the framework of being implemented Contracts P01-1, P01-2, P01-3 the Contractors developed specialized training courses to cover all new equipment, they also conduct training in the field of labour safety and health protection. Organizing additional training has positive impact on the quality and safety of work at construction sites. Contractors also provided workers with the communication devices that ensure efficient communication between working team members. Without reliable communication between all workers at the construction site, the workers will not have all the information. Efficient communication between all members of the team not only accelerates implementation of the project, and also helps in informing each member of the team about various situations. Contractors provide clean drinking water, food, kitchen ware for their workers.

65. As part of the STD program, Contractors under undergoing contracts provide briefings to their staff and the local population with the involvement of medical personnel to ensure prevention of sexually transmitted diseases. Under this program, the mandatory provision of contraceptive means is envisaged.

66. On a conscientious basis, the necessary trips to purchase food products and necessary medicines in shopping centres are organized.

7.3 Advanced methods

67. From the site allocated for the construction of Raustan TSS, 36.216m³ of plant soil was removed. Since this volume of soil was very large, the ecology specialist of PIU-ET recommended to remove plant soil to the "Molodejniy" park which was under construction in the city of Namangan. Topsoil in the amount of 36.216m³ was transported from the construction site of TSS Raustan. This volume of soil was very large - 36.216 m³, therefore the recommendations on the exchange of topsoil from TSS Raustan to the soil from the park "Molodejniy" under construction in the city of Namangan were given by PIUET ecology specialist. The topsoil from the TSS Raustan was transported for the improvement works of the "Molodejniy" park in the city of Namangan. At the same time, non-metallic materials (crushed stone, pebbles) were transported from the territory of the "Molodejniy" park for the organization of a bulk cushion of TSS Raustan. This park was built in a river opening, in place of a quarry of non-metallic materials (crushed stone, pebble). Instead of this fertile soil, crushed stone was transported from this quarry.

68. On the new bypass 6.7 km section Uychi-Uchkurgan, a number of recommendations and alternatives on solving the issues of formed quarries were proposed by the PIU-ET Ecology specialist to the Khokim of the Uchkurgan region. As a result of negotiations with the khokim of the Uchkurgan region, these quarries were used for a lemonarium. The area was studied and a quarry was dug out according to the plan of lemonarium, and in this way, the residents from nearby mahallas were provided with job for 100 positions. (Figure 22)



Figure 22. Soil conservation methods (2021)

69. Similar work was carried out in the same area near the river Norin; the area was used for the industrial cultivation of rare fish species (red fish, sturgeon, trout and salmon species).

70. All the soil from 6.7 km tunnel excavation was used for unburned bricks for use in the construction of new houses for the displaced population. Employees of the construction organization SPMS and Mostotryad from UTY assisted all displaced people with the delivery of nonmetallic materials (crushed stone, soil, cement and sand) for the construction of new residential buildings on the 6.7 km section of Uychi-Uchkurgan and in Namangan city.

8. CONCLUSIONS AND RECOMMENDATIONS

8.1 Conclusions

71. Results of analysis of construction activity for the period January - June 2022 at all project sites of the Pap-Namangan-Andijan railway line, allow us to make the following conclusions:

- (i) Environmental safeguards under the SEMP are fully implemented at all construction sites;
- (ii) All contractors have approved SSEMP on construction sites. The contractors promptly eliminate any environmental issues identified during own monitoring and noncompliances observed by PMC. Complex issues are resolved in strict compliance with the national legislation in close contact with the PIU-ET and the relevant state organizations and local population.
- (iii) Among non-compliances observed during reporting period were mainly: insufficient waste management;
- (iv) Non-compliances observed during previous reporting period were fixed and checked by PMC and RETA consultant.
- (v) The issues identified during this monitoring period is summarized in **Table 9**.

Table 9. Issues Identified During the Monitoring Period (January – June 2022)

Issue	Required Action	Responsibility	Timing (Target dates)	Status as of 30 June 2022
Waste pollution of some areas	Elimination of waste pollution. Establishment of waste management.	CCD and RRH Kokand	15.03.2022	Completed

8.2 Recommendations







72. For the next semi-annual period the following recommendations are proposed:

Table 10. Proposed recommendation for period July - December 2022

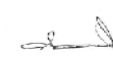
No	Recommendation	Date of implementation
1.	Improve waste management	continuously
2.	Conduct frequent trainings on improving environmental literacy.	continuously

9. Appendices




Appendix 1. Reports from subcontractors

 ПУОС Хаккулабад (Электроаппарат).d	 20200509 CNTIC - The security plan du	 ПЛАН УПРАВЛЕНИ Я_ОКРУЖАЮЩЕЙ_С	 Экология.ENG.doc x	 Охрана труда ENG.docx
Modified EMP on the prevention of COVID-19.	Special Security Plan during Pandemic of CNTIC	Special Security Plan during Pandemic of Temirzhol Zhondeu	Environmental Report of Temirzhol Zhondeu	Labor protection rules for employees of Temirzhol Zhondeu
MONTHLY REPORT OF CNTIC on completed works				
 отчеты синтик 2021.rar				

Appendix 2. Minutes of JSC “Uzbekiston temir yollari” Board from 09.09.2020 on “Electrification, modernization and uncompleted construction and installation works”

<p style="text-align: center;">“ТАСДИКЛАЙМАН” “Ўзбекистон темир йўллари” АЖ бошқаруви раиси в.б.</p> <p style="text-align: right;">Хасилов Х.Н. «09» 09 2020 йил</p> <p style="text-align: center;">Электрлаштириш, модернизация қилиш ва қурилиш ижроланмаган объектлардаги қурилиш монтаж ишлари бўйича БАЁННОМА</p> <p>Ташкент ш. 09.09.2020 йил</p> <p>Раислик қилди: Хасилов Х.Н. – бошқарув раиси в.б. “Ўзбекистон темир йўллари” АЖ</p> <p>Қатнашувчилар: Техник ва технология бошқармаси бошлиғи Қаршиев О.К., Капитал қурилиш дирекцияси бошлиқ ўринбосари – Қудратов А.М., ММБХ бошлиғи – Олинов А.Р., Йўл хўжалиғи бошқармаси бошлиғи – Уматов Э.Р., РЖУ-Қўқон бош муҳандиси Умаров Н.О., РСУ Қўқон бошлиғи – Абуллаев И.Т., “1-Сон Энергомонтаж полад” УК бошлиқ ўринбосари – Никомов Р., “Боштранслойна” АЖ ГИП- Шакиров Р., “Тоштемирўлоойна” директори Рузиев Р., “Камчик” йўл хўжалиғи дистанцияси бошлиғи Ёдиқов Ж., ММБХ участка бошлиғи – Отвез А.</p> <p style="text-align: center;">Кун тарихи:</p> <p>Лойиҳаларни амалга ошириш бўйича қурилиш жараёنларини ташкиллаштириш, молиявий ва моддий техник таъминоти билан боғлиқ масалаларни ҳал этиш тўғрисида</p> <p style="text-align: center;">(Хасилов, Қаршиев, Уматов, Қудратов, Рузиев, Хасилов)</p> <p>Лойиҳаларни ўз вақтида фойдаланишга топшириш, лойиҳа объектларини қурилиш жараёنларини ташкиллаштириш юзасидан амалга ошириладиган чора-тадбирлар ҳақидаги бекор қилинган фикр мулоҳазаларини инобатга олган ҳолда, йиғилиш қарор қилди:</p>	<ul style="list-style-type: none"> - ПК66-ПК70 темир йўл оралиғида лойиҳада берилган 1:1.5 ер қийлиғини 1:2 қийликка ўзгартириш бўйича; - ПК64-ПК70 темир йўл оралиғида кўчи хавфи юқори бўлган ортиска тупроқлар ўрганилиб, худуддан ташқарига чиқариб ташлаш бўйича. <p>“Қўқон темир йўл транспорти касб хунар колледжи биноси ва иншоотларини реконструкция қилиш”</p> <p>6. Молия бошқармаси (Ходжаев) капитал қурилиш дирекцияга Қўқон темир йўл транспорти касб хунар коллеж биноси ва иншоотларини қурилиш монтаж ишларини ижролаш учун 4 046 млн.сўм маблағи ажратилиши таъминлансин.</p> <p>“Электрлаштирилган Қарши-Термиз участкасини қурилиши”</p> <p>7. МТУ Қарши (Норқобило) “Тоштемирўлоойна” МЧЖ билан биргаликда Ақробод ним тортиш станцияси биносини бўзиб, арзон янги турдаги композит материаллардан қайта қуриш ва бузилган биводан чиққан материалларни қайтадан бошка бинонинг қурилишида ишлатилиши тўғрисидаги буйруқ тайёрласин.</p> <p>- 2020 йил 1 октябрга қалар - Ақробод ним тортиш станцияси биносини қайта қурилиши тугатилиши таъминлансин;</p> <p>8. 2020 Молия бошқармаси (Ходжаев) МТУ Қарши талаботига асосан Ақробод ним тортиш станцияси қайта қурилиши сарф харajatлари учун молиялаштириш таъминлансин.</p> <p>“Бухоро-Мискен темир йўл линияси қурилиши”</p> <p>9. Тоштемирўлоойна” МЧЖ(Рузиев) рзд.Турон-Блок пост 17км темир йўл оралиғининг 350км-356км қисмида хизмат кўрсатиш автйўли учун асфальт ётқизишга бажариладиган асос қисми бўйича лойиҳа смета ҳужжатларини Қўнғирот МТУга белгиланган тартибда тақдим этсин.</p> <p>10. МТУ Қўнғирот (Қулоийбергенов) рзд.Турон-Блок пост 17км темир йўл оралиғининг 350км-356км қисмида хизмат кўрсатиш автйўли учун асфальт ётқизишга бажариладиган асос қисми ишлари учун “Ўзтемирўлоқурилишмонтаж” УК билан белгиланган тартибда шартнома тузсин ва амалга оширсин.</p> <p>“Хўжакент темир йўл бекатини қайта қуриш”</p> <p>11. “Боштранслойна” АЖ (Рузиев) 17.09.2020 йилга қалар Ўз ҳисобидан ЭЦ пости биноси деворларида пайдо бўлган ёриқлар сабабини янгилаш тадқиқот ишларини бажариб ёриқларни бартараф этиш бўйича лойиҳа смета ҳужжатларини ишлаб чиқиб дирекцияга тақдим этсин.</p>
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Appendix 3. EIS "Incoming-outgoing" of 220 kV high-voltage lines (overhead lines) to the Raustan traction substation (TSS) in the Namangan region and the "Conclusion of Environmental Expertise."

<div style="text-align: center;">   </div> <p style="text-align: center;">АКЦИОНЕРНОЕ ОБЩЕСТВО "ТЕПЛОЭЛЕКТРОПРОЕКТ"</p> <p style="text-align: center;">СОДЕРЖАНИЕ</p> <p>ВВЕДЕНИЕ 2</p> <p>1 ХАРАКТЕРИСТИКА СОВРЕМЕННОГО СОСТОЯНИЯ ОКРУЖАЮЩЕЙ СРЕДЫ В РАЙОНЕ РАСПОЛОЖЕНИЯ ОБЪЕКТА СТРОИТЕЛЬСТВА 4</p> <p>1.1 Физико-географические и климатические условия 4</p> <p>1.2 Существующие источники воздействия 10</p> <p>1.3 Состояние атмосферного воздуха 17</p> <p>1.4 Поверхностные воды 18</p> <p>1.5 Почвы и грунты 24</p> <p>1.6 Растительный и животный мир 28</p> <p>1.7 Состояние здоровья населения 31</p> <p>2 СОЦИАЛЬНО-ЭКОНОМИЧЕСКИЕ УСЛОВИЯ 33</p> <p>3 ХАРАКТЕРИСТИКА ПРОЕКТНОГО РЕШЕНИЯ, ВЫЯВЛЕНИЕ ИСТОЧНИКОВ ВОЗДЕЙСТВИЯ НА ОКРУЖАЮЩУЮ СРЕДУ 34</p> <p>3.1 Характеристика строящейся трассы ВЛ 34</p> <p>3.2 Характеристика технических решений 54</p> <p>3.3 Выявление источников воздействия на окружающую среду 61</p> <p>4 АНАЛИЗ ВИДОВ ВОЗДЕЙСТВИЯ НА ОКРУЖАЮЩУЮ СРЕДУ 65</p> <p>5 ОЦЕНКА ВИДОВ ВОЗДЕЙСТВИЯ, ОПРЕДЕЛЯЮЩЕГОСЯ ИЗЪЯТИЕМ ИЗ ОКРУЖАЮЩЕЙ СРЕДЫ ПРИРОДНЫХ РЕСУРСОВ 69</p> <p>6 АЛЬТЕРНАТИВНЫЕ ВАРИАНТЫ ПРОЕКТНОГО РЕШЕНИЯ 72</p> <p>7 ОЦЕНКА ВОЗДЕЙСТВИЯ ВОЗМОЖНЫХ АВАРИЙНЫХ СИТУАЦИЙ 73</p> <p>8 ХАРАКТЕР И ВИДЫ ВОЗДЕЙСТВИЯ НА ОКРУЖАЮЩУЮ СРЕДУ 74</p> <p>9 МЕРОПРИЯТИЯ ПО ПРЕДОТРАЖЕНИЮ НЕБЛАГОПРИЯТНЫХ ВОЗДЕЙСТВИЙ НА ОКРУЖАЮЩУЮ СРЕДУ 78</p> <p>10 ПРОГНОЗ ИЗМЕНЕНИЯ СОСТОЯНИЯ ОКРУЖАЮЩЕЙ СРЕДЫ КАК РЕЗУЛЬТАТ ВЫЯВЛЕННЫХ ВОЗДЕЙСТВИЙ 81</p> <p>ЗАКЛЮЧЕНИЕ 82</p> <p>СПИСОК ИСПОЛЬЗОВАННЫХ ИСТОЧНИКОВ 85</p> <p>ПРИЛОЖЕНИЯ 87</p> <div style="text-align: center; margin-top: 20px;"> <table border="1" style="width: 100%;"> <tr> <td style="width: 50%; text-align: center;"> Строительство «Зелен-Буходу» ВЛ 220 кВ на ТЭС «Чирчик» в Наманганской области </td> <td style="width: 25%; text-align: center;"> Проект ЭЭЭС </td> <td style="width: 25%; text-align: center;"> 1 </td> </tr> </table> </div>	Строительство «Зелен-Буходу» ВЛ 220 кВ на ТЭС «Чирчик» в Наманганской области	Проект ЭЭЭС	1	 <p>Заключение Экоэксп.Равустан.р</p>
Строительство «Зелен-Буходу» ВЛ 220 кВ на ТЭС «Чирчик» в Наманганской области	Проект ЭЭЭС	1		
<p>EIS "Incoming-outgoing" of 220 kV high-voltage lines (overhead lines) to the Raustan traction substation (TSS) in the Namangan region and the "Conclusion of Environmental Expertise."</p>				

Appendix 4. On the installation of metal masts in the sections of Pap-Namangan-Andijan

 Протокол.zip	 чертежный план.zip	 Договор.zip
A copy of the protocol of the meeting for the installation of metal masts	Drawing plan for the installation of metal masts	Contract for the installation of metal masts