

Environmental Monitoring Report

Project Number: 43405-025

Semi-annual Report

For the period July-December 2021

January 2022

Georgia: Urban Services Improvement Investment Program -Tranche 3

Prepared by United Water Supply Company of Georgia for the Ministry of Regional Development and Infrastructure of Georgia and the Asian Development Bank

This environmental monitoring report is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature.

In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

Semi-Annual Environmental Monitoring Report

#12 Semiannual Report

(Reporting Period: July-December 2021)

Project Number: 43405-025

**GEORGIA: URBAN SERVICES IMPROVEMENT INVESTMENT PROGRAM
(TRANCHE 3)**

(FINANCED BY THE ASIAN DEVELOPMENT BANK)

Prepared by: Ketevan Chomakhidze, Environmental Specialist, “United Water Supply Company of Georgia”, Tbilisi, Georgia

For: The Ministry of Regional Development and Infrastructure of Georgia and the Asian Development Bank

Endorsed by: Maka Goderdzishvili, Head, Department of Environmental Protection and Permits, “United Water Supply Company of Georgia”

January 2022

ABBREVIATIONS

ADB	Asian Development Bank
DC	Design Consultant
DEPP	Department of Environmental protection and Permits
DDR	Due Diligence Report
EA	Executing Agency
EARF	Environmental Assessment and Review Framework
EHS	Environmental Health & Safety
EIA	Environmental Impact Assessment
EIP	Environmental Impact Permit
EMP/ SSEMP	Environmental Management Plan/ Site-Specific Environmental Management Plan
ES/ SES	Environmental Specialist/ Senior Environmental Specialist
GoG	Government of Georgia
GRC	Grievance Redress Committee
GRM	Grievance Redress Mechanism
IPMO	Investment Program Management Office
USIIP	Urban Sector Improvement Investment Program
IA	Implementing Agency
IEE	Initial Environmental Examination
MFF	Multi-tranche Financing Facility
MoEPA	Ministry of Environment Protection and Agriculture
MoRDI	Ministry of Regional Development & Infrastructure
NEA	National Environmental Agency
PMD	Projects Management Department
SC	Supervision Consultant
UWSCG	United Water Supply Company of Georgia
WSS	Water Supply & Sewerage

Contents

I.	INTRODUCTION	5
1.1	Preamble	5
1.2	Headline Information	5
2.	PROJECT DESCRIPTION AND CURRENT ACTIVITIES	6
2.1	Project Description	6
2.2	Project Contracts and Management	11
2.3	Project Activities during Current Reporting Period.....	18
2.3.1	Project Activities during the Reporting Period.....	18
2.4	Description of Any Changes to Project Design	19
2.5	Description of Any Changes to Agreed Construction methods.....	19
3.	ENVIRONMENTAL SAFEGUARD ACTIVITIES.....	20
3.1	General Description of Environmental Safeguard Activities	20
3.2	Site Inspections/Audits.....	20
3.3	Issues Tracking (Based on Non-Conformance Notices).....	48
3.4	Trends.....	48
3.5	Unanticipated Environmental Impacts or Risks	49
4.	RESULTS OF ENVIRONMENTAL MONITORING	50
4.1.	Overview of Monitoring Conducted during Current Period	50
4.2	Trends.....	54
4.3	Summary of Monitoring Outcomes.....	54
4.4	Material Resources Utilisation	55
4.4.1	Current Period	55
4.4.2	Cumulative Resource Utilisation	55
4.5	Waste Management (GUD-03).....	55
4.6	Health and Safety	56
4.6.1	Community Health and Safety	56
4.6.2	Worker Safety and Health	56
4.7	Training.....	57
5.	FUNCTIONING OF THE SEMP.....	58
5.1.	SEMP Review	58
6.	GOOD PRACTICE AND OPPORTUNITY FOR IMPROVEMENT.....	59
6.1.	Good Practice	59
6.2	Opportunities for Improvement.....	59
7.	SUMMARY AND RECOMMENDATIONS	60
7.1	Summary	60
7.2	Recommendations	60

I. INTRODUCTION

1.1 Preamble

- 1.** This report represents the Semi - Annual Environmental Monitoring Review (SAEMR) for “Urban Services Improvement Investment Program” (USIIP), Tranche 3 and describes the period of July-December 2021.
- 2.** This report is the 12th Semi-Annual EMR for the T3 of “Urban Services Improvement Investment Program”.

1.2 Headline Information

- 3.** During the reporting period, construction work was carried out only GUD-03 sub-projects and therefore this report describes the activities performed within the framework of this sub-project. All civil works under other USIIP/T3 sub-projects have already been completed. For more detailed information, please see para 8-19 below.
- 4.** There were no identified pending non-compliances, most of the problems identified during the site visit were eliminated by the contractor within the proposed deadline. Construction activities were not affected by the COVID-19 pandemic, there were no travel restrictions as well. Workers complied with all regulations, including social distancing from the COVID-19 pandemic.

2. PROJECT DESCRIPTION AND CURRENT ACTIVITIES

2.1 Project Description

5. The Urban Services Improvement Investment Program was developed as the Government's response to the lack of adequate and/or safe water supply, sewerage and sanitation in urban areas of Georgia. This is intended to optimize social and economic development in selected urban areas through improved urban water and sanitation services, and is financed by the ADB through its Multi-tranche Financing Facility. The Ministry of Regional Development and Infrastructure is the Executing Agency and the "United Water Supply Company of Georgia", LLC is the Implementing Agency of the Investment Program. UWSCG is a 100% state-owned company.
6. The Investment Program will improve infrastructure through the development, design and implementation of a series of subprojects, each providing improvements in a particular sector (water supply and/or sewerage) in one town. Subprojects will rehabilitate existing infrastructure and/or create new and expanded infrastructure to meet the present and future demand. Water supply improvements will include source augmentation and head works, pumping systems, treatment facilities, transmission and distribution network; and, sewerage improvement works will include sewer network, pumping stations, main collectors and waste water treatment plants.
7. **Tranche 3 of the Investment Program includes:**
 - Construction of Water Supply and Wastewater Network in Ureki/Phase 3 (URE-01);
 - Construction of Wastewater Treatment Plant in Ureki (URE-02);
 - Construction and Rehabilitation of Water Supply System in Kutaisi/Phase 2 (KUT-01)
 - Construction of New Transmission Pipeline in Abasha (ABA-01)
 - Construction of Waste Water Treatment Plants in Gudauri (GUD-03)

The following projects are financed under Tranche 3:

8. **¹Construction of Water Supply and Wastewater Network in Ureki/Phase 3 (URE-01).**
The project comprises of the construction of 1 water supply pumping station and 31 sewage pumping stations (Shekvetili - 18, Ureki - 13; construction of new reservoirs (2,000 m³ x 3,000 m³ and 1 x 1,200 m³); Distribution network - laying of approximately 70 km water supply pipelines (distribution network will be divided into 3 areas), laying of approximately 70 km sewage pipelines; installation of approximately 1,500 water meters; Wells - drilling of 10 drinking water wells.
9. The Contract was signed with JV of Peri Ltd (Georgia) Leading Partner and Slon LLC (Azerbaijan) on October 28, 2014. Commencement date was November 24, 2014. Initial Completion date was scheduled on November 22, 2018 but due to changes in the design of project, which include the construction of an Aqueduct across the Natanebi River, the construction of Gabion wall to protect well fields from flooding and erosion, and the construction of an additional deep well No. 8 along the banks of the Natanebi River. Project completion date is September 2019. The project is foreseen to serve 35,000 tourists and 5,400 local inhabitants by year 2040.
10. Supervision Consultant EPTISA conducted Post Construction Environmental Audit and prepared Post Construction Environmental Audit Report under URE-01 sub-project in June 2021. The main findings of above report are presented in the Table 2 below (please see Audit Report in Annex F).

¹ T1-T3 BAEMRs may have some overlap, due to the financing arrangements of Ure-01 project, which is simultaneously financed by T1,T2 and T3.

- 11.
12. **Construction of Wastewater Treatment Plant in Ureki (URE-02).** The project comprises of the construction of new Wastewater Treatment Plant with the capacity of 6,570 m³/day.
13. The contract URE-02 was signed on April 30, 2015 with JV of Ludwig Pfeiffer Hoch-und Tiefbau GmbH and Co.KG ProtechnoSrl (Germany) / Aritim (Turkey), the contract was completed on June 9, 2018.
14. The Post-Construction Environmental Audit was conducted by independent consultant hired by Supervision Consultant and relevant Audit report was prepared in June 2019.
15. **Construction and Rehabilitation of Water Supply System in Kutaisi/Phase 2 (KUT-01).** The project envisages construction of Kvitiri 973 m³/h capacity and Mukhrani 660 m³/h capacity pumping stations; Reservoirs - construction of Near East and Mukhrani reservoirs with the capacity of 9,000 m³ (2x4,000+1,000). Distribution network - 332.1 km.
16. United Water Supply Company of Georgia signed a contract with SMK Ulusal Insaat Ve Ticaret A.S. (Turkey) for implementation of KUT-01 project on 22 April 2015. The initial date of completion of the contract - June 8, 2018 was extended until July 2020. SC/EPTISA conducted Post construction audit under KUT-01 sub-project and submit Post Construction Audit Report to UWSCG and ADB. Post Construction Audit Report under KUT-01 was prepared in June 2021 (The main findings of above report are presented in the Table 1 below (please see Audit Report in Annex E).
17. Construction of New Transmission Line in Abasha (ABA-01). Within the ABA-01 project the following major works were carried out: approximately 15 km long 500 mm diameter transmission pipeline was installed from headwork to the town of Abasha, chlorination building was constructed and the water meters were installed at the headwork.
18. The contract for implementation of ABA-01 was signed on October 13, 2017 with AS Inshaat-N, LLC (Azerbaijan). Project completion date was 14th of March 2020. Contractor issued the letter of claim (on 13 Mar 2020) for time extension on ABA-01 project up to 20 May 2020. The Engineer submitted its determination until 12th May, 2021 that was rejected by UWSCG.
19. The Contractor issued a new claim on 18th of June that hasn't been approved by the UWSCG as yet. The final extension day will be agreed during the next reporting period and presented in the next Semi-annual EMR, January-June 2022.
20. Construction of Waste Water Treatment Plants in Gudauri (GUD-03). The Proposed project originally envisaged construction of 5 Waste Water Treatment Plants with different sizes but using the same technological process:
 - New Gudauri. The new development in the north of Gudauri (ab. 750 m³/day) and Gudauri Heights (350 m³/day).
 - Upper and Central Gudauri: Located at the same site that the old WWTP, near the church (estimated up to 2000 m³/day).
 - Gudauri Downtown. In the head of the big plot of the plateau, down the downtown. (ab. 350 m³/day).
 - Plateau-Lower Gudauri. At the end of the plateau for the new development (ab. 750 m³/day).
 - Seturebi. One plant to treat the water in Seturebi village (ab. 350 m³/day).

21. The Contract was signed on June 3, 2019 with “China Nuclear Industry 23 Construction Co.” LTD (CNI23). The initial date of completion of the GUD-03 sub-project was April 2021. The deadline for implementation of GUD-03 subproject was extended until December 2021.

Post Construction Audit

22. As it was mentioned above Supervision Consultant EPTISA conducted Post Construction Environmental Audit and prepared Post Construction Environmental Audit Report under KUT-01 sub-project in June 2021 (please see Audit Report in Annex E).
23. Table 1 gives the summary information about the non-compliances observed during the Post Construction Environmental Audit under KUT-01 sub-project and due corrective actions and terms of their realization. The status of implemented non-conformities by the UWSCG/Object Operator is also reflected in the table presented below.

Table 1: Summary Information, Post Construction Environmental Audit KUT-01 (Phase II)


#	Observed Non-compliance	Requirements	Corrective Action	² Target Date for Completion and Responsibility	Implementation Status
1	The topsoil removed in the project area was not used during the restoration works, and nor was it handed over to the local authority. The construction contractor left the topsoil removed from the project area on the site of temporary disposal.	Top soil of about 15 cm depth shall be removed and stored separately in appropriate location. After completion of construction work top soil must be used for restoration work	The topsoil left on the site of temporary disposal near Mukhrani pumping station must be used: (i) for the restoration work; (ii) if the said topsoil is not needed for the restoration work, it must be handed over to the local self-government.	30 October 2021	DONE
2	In the area of Godogani and Kvitiri reservoirs and Partskhanakanebi chlorination station, the facts of uncontrolled disposal of the hazardous materials were fixed	All waste will be disposed to an approved disposal site at Kutaisi Municipality Waste Storage Area (rubbish, waste materials etc.); All waste (Non-hazardous, Hazardous, Inert,) will be removed from site, using the approved third party (Local Municipality Service or/and licensed subcontractor) and transported to a local	Waste must be collected and disposed from the project area. The waste must be handed over only to the duly licensed contractors for further management.	30 September 2021	DONE

² As the contractor is no longer available and the facility has been turned-over to the UWSCG, UWSCG/facility operator has undertaken the necessary actions to correct the observed non-compliance under KUT-01 (Phase II) sub-project.


#	Observed Non-compliance	Requirements	Corrective Action	² Target Date for Completion and Responsibility	Implementation Status
		landfill; All waste bins, boxes, drums, areas, etc. will be labeled.			
3	The underground infrastructure in the project zone was opened (not duly closed)	Construction area will be fenced and relevant warning signs will be placed at the site entrance before site establishment activities are commenced.	At first, the area must be fenced or the warning signs must be installed. Finally, it is necessary to cover the above-mentioned underground facilities capably or with hatches.	30 October 2021	DONE
4	The contaminated water used for hygienic purposes flows directly into the soil (Partskhanakanebi chlorination station)	Collect contaminated water into the discharged system to avoid soil pollution	The contaminated water must be collected and discharged into the sewerage or septic tank	31 August 2021	DONE

24. Table 2 below gives the summary information about the non-compliances observed during the Post Construction Environmental Audit under URE-01 sub-project and due corrective actions and terms of their realization. The status of implemented non-conformities by the UWSCG/Object Operator is also reflected in the table presented below.

Table 2: Summary Information, Post Construction Environmental Audit URE-01

#	Observed Non-compliance	Requirements	Corrective action	³ Terms of accomplishment	Implementation Status
1	There was chaotically disposed construction and household waste observed on the territory of the pumping station	Following the completion of the project, the waste must be handed over to a duly licensed company	The waste must be collected and disposed from the project area. The waste must be handed over only to duly licensed contractors for further management	31 August 2021	DONE Please see photo below 
2	The area of the construction materials	The area with the construction waste	The territory of the construction	10 September	DONE

³ As the contractor is no longer available and the facility has been turned-over to the UWSCG, UWSCG/facility operator will undertake the necessary actions to correct the observed non-compliance under URE-01 sub-project.

#	Observed Non-compliance	Requirements	Corrective action	³ Terms of accomplishment	Implementation Status
	on the territory of the pumping station was not fenced and was not protected from the impact of the atmospheric precipitation	must be fenced and have relevant information signs	materials area must be duly fenced. The construction materials must be disposed in the project area more compactly and must be protected from the atmospheric precipitation by using an appropriate protective cover. To identify more-cost effective and practical corrective action further discussion of the proposed corrective action will be held with the UWSCG and the project engineer as well	2021	Please see photo below 
3	The underground infrastructure and the well in the project area were not duly covered	All underground infrastructural facilities must be closed after the project is complete to prevent service personnel or animals from falling into them	In the first stage, the area must be fenced or warning signs must be installed. And finally, it will be necessary to provide a capital cover or a hatch over such underground facilities.	10 September 2021	DONE
4	A power cable was fixed near the power transmission pole located in the water intake area, which was cut off for unknown reasons and lying on the ground in an uncontrolled manner	A power transmission line is not admitted to be on the ground in an uncontrolled manner	First of all, the given area must be marked. Then, owner of the given cable must be identified and addressed immediately to carry out relevant repair works. If the given wire is used to supply power to the wells, it is necessary to install them in compliance with the	31 August 2021	DONE

#	Observed Non-compliance	Requirements	Corrective action	³ Terms of accomplishment	Implementation Status
			requirements of the relevant instructions.		

2.2 Project Contracts and Management

- 25.** The main institutions that are involved in implementation of the EMP are The Ministry of Regional Development and Infrastructure is the Executing Agency and the “United Water Supply Company of Georgia”, LLC is the Implementing Agency of the Investment Program, Supervision Consultant (SC) the Contractor and to a lesser extent the Ministry of Environment Protection and Agriculture (MoEPA).
- 26.** The Investment Program Management Office (IPMO) under UWSCG, which was renamed in November 2021 from the Project Management Department to the Donor Funded Project Management Department, is responsible for the day-to-day management of the project, including the implementation of the EMP. IPMO has an Environmental Specialist who is responsible for managing the environmental aspects of the USIIP. The head of the department was also replaced, and Ms.Irina Chikhladze was appointed as Acting Head of the Department instead of Ms.Ana Onashvili.
- 27.** The IPMO Environmental Specialist (Ms.Kate Chomakhidze) responsibilities in respect of implementation of the EMP are as follows:
- (i) Approve the Site Specific Environmental Management Plan (SSEMP) before Contractor takes possession of construction site;
 - (ii) Monitor implementation of EMP and ensure the environmental safeguards compliance;
 - (iii) Review the updated IEE and/or SEMP and send it for clearance to ADB;
 - (iv) Ensure that contractors have access to the EMP and IEE report;
 - (v) Finalize SAEMRs (and Final EMRs upon project completion), send it to ADB and address potential ADB's comments until SAEMR disclosure; Provide ENG and GEO final versions of SAEMRs to be uploaded on UWSCG website;
 - (vi) Review and approve the Corrective Action Plan and provide to ADB for review and comments if any;
 - (vii) Participate in public consultations during project implementation;
 - (viii) In case of need assist IPMO Social/Resettlement Consultant in resolving process of environmental safeguards related complaints;
 - (ix) Assist in organizing trainings for the Contractors in coordination with ADB/RETA consultant;
 - (x) Participate in external trainings in environmental management and environmental auditing
- 28.** The SC includes a full time Environmental Specialist to assist the IPMO supervise and monitor implementation of the EMP during construction.
- 29.** The Contractor also appoints a full time Environmental specialist to be a senior member of the construction management team based on site for the duration of the contract. The ES shall have a university degree (preferably at Masters level) in Environmental Science or related discipline and have at least 10 years work experience in environmental management of infrastructure project

30. Department of Environmental Protection and Permits of UWSCG work together with IPMO on addressing the Environmental Safeguard issues of USIIP. More detailed description of implementation arrangements; responsibilities and staffing are provided in the **Table 3** below.

Table 3: Institutionnel Arrangement, Responsabilités and Staffing

#	Millstones/Actions	Contractor (Environmental Specialist)	Construction Supervision Consultant (Environmental Specialist)	IPMO (Environmental Specialist)	Environmental Protection and Permits Department (Environmental Specialist)
1	Environmental planning and management Contractors Environmental Management Plan (site-specific EMP)	Prepare Specific EMP (SEMP) with supplemented Topic Specific EMPs at pre-construction stage based on IEE/EMP Implement SEMF approved by IPMO.	Review and endorse the SEMF; Monitor implementation of SEMF on daily basis; Monitor monthly environmental monitoring reports or results prepared by the Contractor and report to IPMO.	Review and approve the SEMFs; Monitor implementation of EMP and ensure the environmental safeguards compliance.	Work together with IPMO on addressing the environmental non-compliance issues, if any.
2	Changes in design	Provide details of design changes to CSC required to update IEE/EIA, or SEMF; Implement updated SEMF.	Approve the design change to be submitted to IPMO; Make environmental assessment of the change and update the IEE and/or SEMF.	Review the updated IEE and/or SEMF and send it for clearance to ADB	Liaise with CSC in preparing updated IEE and/or SEMF; Upload the approved IEE/SEMF provided by IPMO to UWSCG website for Public Disclosure.
3	Unanticipated impacts	Inform CSC about unanticipated impact and follow the instructions received from IPMO.	Make environmental assessment of the unanticipated impact and update the IEE and/or SEMF	Review the updated IEE and/or SEMF and send it for clearance to ADB	Liaise with CSC in preparing updated IEE and/or SEMF

#	Millstones/Actions	Contractor (Environmental Specialist)	Construction Supervision Consultant (Environmental Specialist)	IPMO (Environmental Specialist)	Environmental Protection and Permits Department (Environmental Specialist)
4	Reporting	Prepare monthly environmental monitoring reports and send it to CSC and IPMO	<ol style="list-style-type: none"> 1. Prepare inputs to environmental part of quarterly construction progress reports; 2. Prepare inputs to semi-annual environmental monitoring report (SAEMR) to be submitted to IPMO for further review, comments and improvement. 3. Conduct Post-Construction Final Environmental Audit and prepare final environmental audit report. 	<ol style="list-style-type: none"> 1. Finalize SAEMRs (and Final EMRs upon project completion), send it to ADB and address potential ADB's comments until SAEMR disclosure; 2. Provide ENG and GEO final versions of SAEMRs to be uploaded on UWSCG website. 	Upload the approved reports (ENG and GEO) provided by IPMO to UWSCG website for Public Disclosure
5	Permits and clearances	NA	NA	NA	Obtaining environmental permits and clearances
6	Non-compliances	Prepare a corrective action plan (CAP)	Assist contractor in preparing the CAP.	Review and approve the CAP and provide to ADB for review and comments if any.	
7	Public consultations	Participate in public consultations during project implementation	Organize public consultations: inform people about activities and prepare the record of consultations.	Participate in public consultations during project implementation	UWSCG & IPMO host PCs, CSC will present the topics related to environmental issues

#	Millstones/Actions	Contractor (Environmental Specialist)	Construction Supervision Consultant (Environmental Specialist)	IPMO (Environmental Specialist)	Environmental Protection and Permits Department (Environmental Specialist)
8	Grievance Redress Mechanism	Project site Focal person to record environmental grievances in the logbook and follow up with UWSCG established practice for grievance redress	1. Ensure that grievances, if any, are being properly documented and addressed timely and effectively. 2. Assist IPMO to develop consolidated GRM database and consolidation of GRM cases both for ENV and Social safeguards	In case of need assist IPMO Social/Resettlement Consultant in resolving process of environmental safeguards related complaints; Assist IPMO Social/Resettlement Consultant in GRM database consolidation and data analysis.	UWSCG maintains GRM applicable to all projects. UWSCG will ensure IPMO information on grievances is consolidated into the UWSCG grievances (both - environmental and social) without duplication.
9	Trainings	Attend on-site trainings organized by IPMO and ADB/RETA Consultant	Assist the IPMO in organization of trainings for the Contractors on environmental safeguards requirements.	Organize trainings for the Contractors in coordination with ADB/RETA consultant. Participate in external trainings in environmental management and environmental auditing	Participate in external trainings in environmental management and environmental auditing

31. A list of main organizations involved in the USIIP/T3 and relating to environmental safeguards is presented in Table 4 below.

Table 4: List of Main Organizations under USIIP/T3

Type of project participant	Name of Agency/Company	Environmental Staff	Name and contact details
Lender	Asian Development Bank	Country Environmental Focal	Ninette R. Pajarillaga E-mail: npajarillaga@adb.org
		Associate Safeguards Officer Georgia Resident Mission Asian Development Bank	Nino Nadashvili +995 595 070442 nnadashvili@adb.org
		ADB RETA International Environmental Consultant	Keti Dgebuadze +995 577232937 ketdgeb@yahoo.com kdgebuadze.consultant@adb.org
Borrower	UWSCG	UWSCG, Department of Environmental Protection and Permits, Head	Ms. Maka Goderdzishvili Tel: +995 599 229925 E-mail: m.goderdzishvili@water.gov.ge
		UWSCG/IPMO Department of Projects Management, Head	Ms. Irine Chikhladze Tel: +995 598 179898 E-mail: i.chikhladze@water.gov.ge
Borrower	UWSCG/USIIP/T3	Environmental Specialist	Ms. Ketevan Chomakhidze Tel: +995 577 380309

Type of project participant	Name of Agency/Company	Environmental Staff	Name and contact details
			E-mail: Chomakhidzek@yahoo.com
Supervision Consultant	A Consortium of Consulting Firm led by Eptisa Servicios de Ingenieria S.L. (Spain) in association with SAFEGE (Belgium) and JSC Georgian Water Project (Georgia)	Environmental Specialist:	Mr. Irakli Legashvili Tel: +995 577 177016 E-mail: chem_ira@yahoo.com
Contractor URE-02	JV of Ludwig Pfeiffer Hoch-und Tiefbau GmbH and Co.KG ProtechnoSrl (Germany) / Aritim (Turkey)	Environmental H&S Specialist	Mr.Nikoloz Meparidze Tel: +995 599 346821 E-mail: niko@telenet.ge
Contractor URE-01	JV of Peri Ltd (Georgia) Leading Partner and Slon LLC (Azerbaijan)	Environmental H&S Specialist	Mr. Levan Asabashvili Tel: +995 599 962 693 Email: levani.asabashvili@mail.ru
Contractor KUT-01	SMK Ulusal Insaat Ve Ticaret A.S. (Turkey)	Environmental Specialist	Ms. Natia Babukhadia E-mail: natiiibab@gmail.com Tel: +995 595 150444
		H&S Specialist	Mr. Beso Balanchivadze E-mail: besobal84@gmail.com Tel: +574 188 653

Type of project participant	Name of Agency/Company	Environmental Staff	Name and contact details
Contractor ABA-01	AS Inshaat-N, LLC (Azerbaijan)	Environmental H&S Specialist	Mr. Nodar Usupishvili E-mail n.usupashvili@gmail.com Tel: +995 577 68 16 71
Contractor GUD-03	"China Nuclear Industry 23 Construction Co." LTD (CNI23)	Environmental H&S Specialist	Mr. Aleksandre (Sasha) Mchedlishvili E-mail alexandermchedlishvili1@gmail.com Tel: +995 574 02 77 33

2.3 Project Activities during Current Reporting Period

32. During the reporting period, construction work was carried out only under GUD-03 sub-project and therefore only this project is reported in this semi-annual EMR. All civil works under other USIIP/T3 sub-projects have already been completed. For more detailed information, please see para 8-19 above. Contractor under GUD-03 sub-projects have intensified all activities to improve the progress of the works on sites. The SC gave processed frequent instructions to the Contractor for the planning and outstanding documents preparation which shall ensure steady improvement of the works progress.

2.3.1 Project Activities during the Reporting Period

33. Construction progress under GUD-03 sub-project is presented in the Table 5 below.

Table 5: Progress of construction works, July-December 2021, GUD-03

GUD-03	Total	July-December
Plant and Mandatory Spare Parts Supplied from Abroad	8%	4%
Plant and Mandatory Spare Parts Supplied from within the Employer's Country	0%	0%
Design	56%	33%
Installation and other Services	7%	3%

2.4 Description of Any Changes to Project Design

34. During the reporting period July-December 2021, there were no changes to the agreed project design under USIIP / T3.

2.5 Description of Any Changes to Agreed Construction methods

35. During the reporting period July-December 2021, there were no changes to the agreed construction methods under USIIP / T3.

3. ENVIRONMENTAL SAFEGUARD ACTIVITIES



3.1 General Description of Environmental Safeguard Activities


- 36. Individual and joint on-site monitoring activities were conducted by Environmental Monitoring Specialist of SC and Environmental Specialist of USIIP during the reporting period under GUD-03 sub-project.
- 37. Due to the COVID-19 outbreak in March 2020, the Government of Georgia and its Ministry of Internally Displaced Persons from the Occupied Territories, Labor, Health and Social Affairs of Georgia, issued the General Guidelines Related to Infection (COVID-19) Caused by Novel Coronavirus (SARS-CoV-2) which applies to all sectors of economic activity.
- 38. The General Guideline for COVID-19 was also developed by the Government of Georgia specifically for the construction sector (Please see Annex E to this report).
- 39. Additional measures were carried out by Supervision Company EPTISA based on the requirements of the UWSCG and Emergency Management Plan of COVID 19 was developed for construction activities carried out under USIIP -T3 (please see Annex F). All EH&S documents, including Health and Safety Plans, as well as Site-Specific Environmental Management Plans were updated by contractors under USIIP/T3.
- 40. Environmental Monitoring Specialist hired under the GUD-03 sub-project by contractor Mr. Mr. Aleksandre (Sasha) Mchedlishvili conducted the day-to-day monitoring of the construction sites, developed the monthly monitoring reports and submitted to SC/Eptisa.
- 41. Environmental Monitoring Specialist of Eptisa, Mr. Irakli Legashvili conducted monthly monitoring of project sites under T3 and developed Non-compliance Notices. During the reporting period three NCNs have been developed under GUD-03 sub-project (please see Annex C). ES of EPTISA also developed quarterly environmental monitoring reports based on the monthly reports submitted by Contractor and environmental site inspections and submit to UWSCG.
- 42. Environmental Specialist of USIIP Ms. Kate Chomakhidze performed monitoring of contractor's performance in accordance with the requirements of approved IEE/EMPs, SEMP, and other environmental commitments of the contractor. USIIP/ES developed Semi-Annual Environmental Monitoring reports and submitted to ADB based on the quarterly reports prepared by SC and monitoring results.



3.2 Site Inspections/Audits


- 43. Inspection and monitoring of construction sites under GUD-03 sub-project were conducted by ESs of USIIP and Eptisa. The schedule of Joint inspection and summary of audits carried out under ABA-01 sub-projects is provided in the Table 6 below.


Table 6. Summary of site inspections/audits


Date of visit	Name of Company Name of Contract	Auditors name	Purpose of audit	Summary of any significant findings	Cross reference to Audit report	Implementation progress
Continuousl y during reporting period (July-December 2021)	GUD-03 “China Nuclear Industry 23 Construction Co.” LTD (CNI23)	Mr. Aleksandre (Sasha) Mchedlishvili Environmental Specialist of contractor	Day to day monitoring of sites Compliance with Environmental and HES requirements	Environmental, Health and Safety issues on construction sites Regular cleaning of the construction site All photo-documentations are presented in Annex B and Annex C of this report.	Weekly Monitoring Checklists	Completed
4 October 2021		Environmental monitoring specialists of SC/EPTISA Mr.Irakli Legashvili Environmental Specialist, USIIP, Ms.Kate Chomakhidze	Monthly monitoring of sites	WWTP 1 and 2 Construction sites should be properly fenced from all sides and equipped with lockable gate. Please see photo N1  Proper warning and safety signs should be provided at the entrance and perimeter of the construction territories	Verbal Instruction were given to contractor to immediately improve the situation Non-Compliance Notice issued (Please see Annex C) Photo-materials are presented in (Annex B)	Completed in December 2021 please see Photo N1 below:  Completed in December 2021 Partially Completed


Date of visit	Name of Company Name of Contract	Auditors name	Purpose of audit	Summary of any significant findings	Cross reference to Audit report	Implementation progress
				<p>Top Soil should be removed before excavation works and stored properly (height 2-3 meter, slope 45 degree) and signed</p> <p>Construction territories should be lighted</p> <p>Demolition waste (WWTP 2) should be removed completely and disposed according agreement</p> <p>WWTP 4 Construction site should be properly fenced from all sides and equipped with lockable gate.</p> <p>Proper warning and safety signs should be provided at</p>	<p>Corrective action plans are presented in Annex D</p>	<p>Deadline is given until the end of January 2022</p> <p>Completed in October 2021</p> <p>Completed in December 2021</p> <p>Completed in November 2021, please see Photo N1 below</p> 


Date of visit	Name of Company Name of Contract	Auditors name	Purpose of audit	Summary of any significant findings	Cross reference to Audit report	Implementation progress
				 <p>Fuel and lubricants spill elimination items (sand, sawdust, special containers) should be provided at the construction site</p> <p>Waste should be placed only at the proper waste container.</p> <p>Hazardous Waste container with should be signed and installed at the proper organized place with concrete floor and roofing</p> <p>Please see Photo 3 Below</p>		 <p>Completed in November 2021</p> <p>Completed in November 2021</p> <p>Completed in November 2021</p>


Date of visit	Name of Company Name of Contract	Auditors name	Purpose of audit	Summary of any significant findings	Cross reference to Audit report	Implementation progress
1 November 2021		Mr. Aleksandre (Sasha) Mchedlishvili Environmental Specialist of contractor Environmental monitoring specialists of SC/EPTISA Mr. Irakli Legashvili	Regular monitoring of construction sites	<p>WWTP 1 Proper warning and safety signs should be provided at the entrance and perimeter of the construction territories</p> <p>Surplus waste soil should be removed and stored at the proper place according agreement, please see Photo N1 below:</p>  <p>Top Soil should be stored properly in requested amount, better managed (height 2-3 meter, slope 45 degree) and signed</p>	<p>Verbal Instruction were given to contractor to immediately improve the situation</p> <p>Non-Compliance Notice issued (Please see Annex C)</p> <p>Photo-materials are presented in (Annex B)</p> <p>Corrective Action Plan is presented in Annex D.</p>	<p>Completed in December 2021</p> <p>Completed in November 2021</p> <p>Not yet completed yet, as the deadline for revision is end of January 2022, improved photos will be presented in the next semi-annual EMR, January-June 2022.</p>

Date of visit	Name of Company Name of Contract	Auditors name	Purpose of audit	Summary of any significant findings	Cross reference to Audit report	Implementation progress
				<p>Trees at the construction site should be fenced and protected, please see Photo N2 below:</p>  <p>Safety norms during working at height (ladder safety norms) should be provided</p> <p>Fuel and lubricants spill elimination items (sand, sawdust, special containers) should be provided at the construction site</p> <p>Special safety barriers should be arranged to avoid workers falling in deep and high altitudes of the site</p> <p>Fuel and lubricants containers should be installed at the proper</p>		<p>Completed in November 2021</p> <p>Completed in November 2021</p> <p>Completed in November 2021</p> <p>Completed in November 2021</p> <p>Completed in</p>


Date of visit	Name of Company Name of Contract	Auditors name	Purpose of audit	Summary of any significant findings	Cross reference to Audit report	Implementation progress
				<p>organized place with concrete floor and roofing Construction territories should be lighted during night-time works</p> <p>Concrete washout pit should be arranged to avoid site contamination with the concrete activities</p> <p>Hazardous Waste container should be installed at the proper organized place with concrete floor and roofing, please see Photo N3</p>  <p>Waste should be placed only at the proper waste container</p> <p>Site internally should be better arranged, materials should be better</p>		<p>November 2021</p> <p>Completed in November 2021</p> <p>Completed in November 2021</p> <p>Completed in November 2021</p> <p>Completed in November 2021</p>

Date of visit	Name of Company Name of Contract	Auditors name	Purpose of audit	Summary of any significant findings	Cross reference to Audit report	Implementation progress
				<p>segregated/stored and cleaned regularly, please see Photo N4</p>  <p>Workers always should use complete PPE. Also special equipment during high altitude works should be always used to avoid accidents (workers damage)</p> <p>First aid kits should be available at each construction site</p> <p>Covid-19 precaution actions should be implemented at each construction site</p> <p>WWTP 2</p> <p>WWTP 2</p> <p>Construction sites should be properly fenced from all sides and equipped with lockable gate</p>		<p>Completed in November 2021</p> <p>Completed in November 2021</p> <p>Completed in December 2021</p> <p>Completed in</p>

Date of visit	Name of Company Name of Contract	Auditors name	Purpose of audit	Summary of any significant findings	Cross reference to Audit report	Implementation progress
				<p>Proper warning and safety signs should be provided at the entrance and perimeter of the construction territories</p> <p>Demolition waste should be removed completely and disposed according agreement, please see Photo N5</p>  <p>First aid kits should be available at each construction site</p> <p>Covid-19 precaution actions should be implemented at each construction site</p> <p>WWTP 3 Construction sites should be properly fenced from all sides and equipped with</p>		<p>December 2021</p> <p>Completed in November 2021</p> <p>Completed in November 2021</p> <p>Completed in November 2021</p> <p>Completed in December 2021</p> <p>Completed in</p>


Date of visit	Name of Company Name of Contract	Auditors name	Purpose of audit	Summary of any significant findings	Cross reference to Audit report	Implementation progress
				<p>lockable gate</p> <p>Proper warning and safety signs should be provided at the entrance and perimeter of the construction territories</p> <p>Top Soil should be stored properly in requested amount, better managed (height 2-3 meter, slope 45 degree) and signed, please see Photo N6</p>  <p>Surplus waste soil should be removed and stored at the proper place according agreement</p> <p>Safety norms during working at height (ladder safety norms) should be provided</p>		<p>December 2021</p> <p>Completed in November 2021</p> <p>Completed in November 2021</p> <p>Completed in November 2021</p>


Date of visit	Name of Company Name of Contract	Auditors name	Purpose of audit	Summary of any significant findings	Cross reference to Audit report	Implementation progress
				<p>Fuel and lubricants spill elimination items (sand, sawdust, special containers) should be provided at the construction site</p> <p>Fuel and lubricants containers should be installed at the proper organized place with concrete floor and roofing</p> <p>Construction territories should be lighted during night-time works</p> <p>Concrete washout pit should be arranged</p> <p>Household Waste container should be installed and signed</p> <p>Hazardous Waste container with should be installed and signed at the proper organized place with concrete floor and roofing, please see Photo N7</p>		<p>Completed in November 2021</p> <p>Completed in November 2021</p> <p>Completed in November 2021</p> <p>Completed in November 2021</p> <p>Completed in November 2021</p> <p>Completed in November 2021</p>



Date of visit	Name of Company Name of Contract	Auditors name	Purpose of audit	Summary of any significant findings	Cross reference to Audit report	Implementation progress
				 <p>Tarpaulins cover should be used during inert materials transportation</p> <p>Waste should be placed only at the proper waste container</p> <p>Special safety barriers should be arranged to avoid workers falling in deep and high altitudes of the site</p> <p>Site internally should be better arranged, materials should be better segregated/stored and cleaned regularly</p> <p>Workers always should use complete PPE. Also special equipment during high</p>		<p>Completed in November 2021</p> <p>Completed in November 2021</p> <p>Completed in November 2021</p> <p>Completed in November 2021</p> <p>Completed in November 2021</p> <p>Completed in</p>


Date of visit	Name of Company Name of Contract	Auditors name	Purpose of audit	Summary of any significant findings	Cross reference to Audit report	Implementation progress
				<p>altitude works should be always used to avoid accidents (workers damage)</p> <p>First aid kits should be available at each construction site</p> <p>Covid-19 precaution actions should be implemented at each construction site</p> <p>WWTP 4 Top Soil should be stored properly in requested amount, better managed (height 2-3 meter, slope 45 degree) and signed</p> <p>Safety norms during should be respected at the construction site</p> <p>Workers always should use complete PPE. Also special equipment during high altitude works should be always used to avoid accidents (workers damage)</p>		<p>November 2021</p> <p>Completed in November 2021</p> <p>Completed in December 2021</p> <p>Completed in November 2021</p> <p>Completed in November 2021</p> <p>Completed in November 2021</p>


Date of visit	Name of Company Name of Contract	Auditors name	Purpose of audit	Summary of any significant findings	Cross reference to Audit report	Implementation progress
				<p>Fuel and lubricants spill elimination items (sand, sawdust, special containers) should be provided at the construction site</p> <p>Special safety barriers should be arranged to avoid workers falling in deep and high altitudes of the site</p> <p>Fuel and lubricants containers should be installed at the proper organized place with concrete floor and roofing</p> <p>Refilling/compaction and reinstatement process should bring site at the same or better condition as it was before construction</p> <p>First aid kits should be available at each construction site</p> <p>Covid-19 precaution actions should be implemented at each construction site</p>		<p>Completed in November 2021</p> <p>Completed in November 2021</p> <p>Completed in November 2021</p> <p>Completed in November 2021</p>

Date of visit	Name of Company Name of Contract	Auditors name	Purpose of audit	Summary of any significant findings	Cross reference to Audit report	Implementation progress
19 November 2021		<p>Environmental monitoring specialists of SC/EPTISA Mr.Irakli Legashvili</p> <p>Head, department of Environmental Protection and Permits (DEPP) of UWSCG, Ms.Maka Goderdzishvili</p> <p>Environmental Specialist, USIIP, Ms.Kate Chomakhidze</p>		<p>Site internally should be arranged properly and cleaned regularly.</p> <p>All construction materials and wastes should be properly segregated and stored adequately</p> <p>Oil spill response kits should be placed at the appropriate locations.</p> <p>Refuelling station should be equipped with the spill kit and fire relevant fighting equipment; drip tray should be used for fuel spillage prevention.</p> <p>First aid kits should be presented at sites;</p>		<p>Completed in December 2021</p> <p>Completed in November 2021</p> <p>Completed in December 2021</p> <p>Completed in December 2021</p> <p>Completed in December 2021, Please see Photo N1</p> 


Date of visit	Name of Company Name of Contract	Auditors name	Purpose of audit	Summary of any significant findings	Cross reference to Audit report	Implementation progress
				<p>Covid-19 prevention measures should be implemented at all sites.</p> <p>PPE wearing is obligatory at the construction site.</p> <p>WWTP 1</p> <p>Construction site should be properly fenced from all sides and equipped with lockable gate.</p> <p>Proper warning and safety signs should be provided at the entrance gate and perimeter of the construction territory, please see Photo N1</p>		<p>Completed in December 2021</p> <p>Completed in December 2021, please see Photo N2 below</p>  <p>Completed in December 2021</p> <p>Completed in December 2021</p>

Date of visit	Name of Company Name of Contract	Auditors name	Purpose of audit	Summary of any significant findings	Cross reference to Audit report	Implementation progress
				 <p>Site internally should be better arranged, materials should be better segregated/stored and cleaned regularly, please see Photo #2</p>  <p>There is a high risk of site contamination with</p>		<p>Completed in December 2021</p> <p>Completed in</p>

Date of visit	Name of Company Name of Contract	Auditors name	Purpose of audit	Summary of any significant findings	Cross reference to Audit report	Implementation progress
				<p>hazardous waste; Hazardous Waste container with relevant indication sign should be installed at the construction area, at the proper organized place with concrete floor and roofing</p> <p>Cable should be relocated to avoid any damages on users of power source; Unsafe connection to the power socket should be immediately improved, please see Photo N3 below</p> 		<p>December 2021</p> <p>Completed in December 2021</p>


Date of visit	Name of Company Name of Contract	Auditors name	Purpose of audit	Summary of any significant findings	Cross reference to Audit report	Implementation progress
				<p>Waste should be placed only at the proper waste container with the appropriate label for household waste and hazardous waste, please see Photo N4 below</p>  <p>Safety norms during working at height (ladder safety norms) should be provided</p> <p>Site internally should be arranged properly and cleaned regularly</p> <p>Fuel and lubricants spill elimination items (sand, sawdust, special</p>		<p>Completed in December 2021</p> <p>Completed in December 2021</p> <p>Completed in December 2021</p> <p>Completed in</p>

Date of visit	Name of Company Name of Contract	Auditors name	Purpose of audit	Summary of any significant findings	Cross reference to Audit report	Implementation progress
				<p>containers) at the construction site</p> <p>Also special equipment during high altitude works should be always used to avoid accidents (workers damage)</p> <p>Top Soil should be stored properly in requested amount, and managed in accordance with the required regulations</p> <p>Bio toilet should be exist at construction site</p> <p>First aid kits should be presented at construction site</p> <p>Covid-19 precaution actions should be implemented at each construction site</p> <p>WWTP 2</p> <p>Construction site should be properly fenced from all sides and equipped</p>		<p>December 2021</p> <p>Completed in December 2021</p> <p>Partially Completed, deadline for improvement is end of January 2021</p> <p>Completed in December 2021</p> <p>Completed December 2021</p> <p>Completed in December 2021</p> <p>Completed in December 2021</p> <p>Completed in</p>

Date of visit	Name of Company Name of Contract	Auditors name	Purpose of audit	Summary of any significant findings	Cross reference to Audit report	Implementation progress
				<p>with lockable gate, please see Photo N5 below</p>  <p>Proper warning and safety signs should be provided at the entrance gate and perimeter of the construction territory</p> <p>Demolition waste in the amount agreed initially should be removed from site and disposed according agreement with the local Municipality</p> <p>WWTP N3</p>		<p>December 2021</p> <p>Completed in December 2021</p> <p>Completed in December 2021</p>

Date of visit	Name of Company Name of Contract	Auditors name	Purpose of audit	Summary of any significant findings	Cross reference to Audit report	Implementation progress
				<p>Construction sites should be properly fenced from all sides and equipped with lockable gate</p> <p>Proper warning and safety signs should be provided at the entrance and perimeter of the construction territories</p> <p>Top Soil should be stored properly in requested amount, and managed in accordance with the required regulations</p> <p>Surplus waste soil should be removed and stored at the proper place according agreement</p> <p>Workers always should use complete PPE</p> <p>Special equipment</p>		<p>Completed in December 2021</p> <p>Completed, December 2021</p> <p>Completed in December 2021</p> <p>Completed in December 2021</p> <p>Completed in December 2021</p> <p>Completed in December 2021</p>

Date of visit	Name of Company Name of Contract	Auditors name	Purpose of audit	Summary of any significant findings	Cross reference to Audit report	Implementation progress
				<p>during high altitude works should be always used to avoid accidents (workers damage)</p> <p>Special safety barriers should be arranged to avoid workers falling in deep and high altitudes of the site</p> <p>Fuel and lubricants spill elimination items (sand, sawdust, special containers) should be provided at the construction site</p> <p>Construction territories should be lighted during night-time works</p> <p>Concrete washout pit should be arranged</p> <p>Cable should be relocated to avoid any damages on users of power source; Unsafe connection to the power socket should be immediately improved</p> <p>Household Waste container should be</p>		<p>Completed in December 2021</p> <p>Completed in December 2021</p> <p>Completed in December 2021</p> <p>Completed in December 2021</p> <p>Completed in December 2021</p> <p>Completed in December 2021</p>

Date of visit	Name of Company Name of Contract	Auditors name	Purpose of audit	Summary of any significant findings	Cross reference to Audit report	Implementation progress
				<p>installed and signed Hazardous Waste container with should be installed and signed at the proper organized place with concrete floor and roofing</p> <p>Tarpaulins cover should be used during inert materials transportation</p> <p>Site internally should be better arranged, materials should be better segregated/stored and cleaned regularly, please see Photo N6</p>  <p>First aid kits should be available at each construction site</p>		<p>Completed in December 2021</p> <p>Completed in December 2021</p> <p>Completed in December 2021</p> <p>Completed in December 2021</p> <p>Completed in</p>

Date of visit	Name of Company Name of Contract	Auditors name	Purpose of audit	Summary of any significant findings	Cross reference to Audit report	Implementation progress
				<p>Covid-19 precaution actions should be implemented at each construction site</p> <p>WWTP 4 Construction sites should be properly fenced from all sides and equipped with lockable gate</p> <p>Top Soil should be stored properly in requested amount, managed in accordance with the Georgian regulations</p> <p>Workers always should use special equipment during high altitude works should be always used to avoid accidents (workers damage)</p> <p>Special safety barriers should be arranged to avoid workers falling in deep and high altitudes of the site Concrete washout pit should be arranged at construction site</p>		<p>December 2021</p> <p>Completed in December 2021</p> <p>Completed in December 2021</p> <p>Completed in December 2021</p> <p>Completed in December 2021</p> <p>Completed in December 2021</p> <p>Completed in</p>

Date of visit	Name of Company Name of Contract	Auditors name	Purpose of audit	Summary of any significant findings	Cross reference to Audit report	Implementation progress
				<p>Fuel and lubricants spill elimination items (sand, sawdust, special containers) should be provided at the construction site</p> <p>Fuel and lubricants containers should be installed at the proper organized place with concrete floor and roofing</p> <p>Hazardous Waste container with should be installed and signed at the proper organized place with concrete floor and roofing</p> <p>First aid kits should be available at each construction site</p> <p>Covid-19 precaution actions should be implemented at each construction site</p>		<p>December 2021</p> <p>Completed in December 2021</p> <p>Completed in December 2021</p> <p>Completed in December 2021</p> <p>Completed in December 2021</p>

3.3 Issues Tracking (Based on Non-Conformance Notices)

44. Up to 110 non-compliances were noted during site visits under sub-project GUD-03, as it included the operation of four different construction sites (WWTP No. 1, No. 2, No. 3 and No. 4) under one sub-project. Some of the above inconsistencies were repeated during various site visits, such as fencing and lighting of construction sites with lockable gates, and installation of proper warning and safety signs at the entrance and perimeter of construction sites (please see Table 6 above). Finally, the contractor eliminated 97% of these non-compliances.
45. The contractors were always informed on the detected non-conformances and were demanded to improve on the deadline set and send photos of improvements made together with the corrective action plans. Environmental team of EPTISA and UWSCG/USIIP monitored the improvements during the next monitoring visits. All Non-conformance Notices issued during the reporting period is presented in ANNEX C of this Semi-Annual EMR.
46. A summary of the identified environmental issues under GUD-03 sub-project for July-December 2021 is presented below.

Table 7: Summary Table GUD-03

Total Number of Issues for Project	110
Issues Opened This Reporting Period	3
Issues Closed This Reporting Period	107
Percentage Closed	97%

47. As it is presented in Table 7 above, two issues are still opened under GUD-03 sub-project, which will be improved during the January-February 2022 and improved photos of sites will be presented in the next Semi-annual EMR, January-June 2022, these issue are as following: (i) Proper lighting of construction sites should be arraigned at WWTP N1 and N3; (ii) Top Soil should be stored properly, better managed.

3.4 Trends

48. To identify trends in environmental issues information from previous Semi-Annual EMR (January-June 2021) was used. The summary of the issues is provided in the Table 8 below.

Table 8: Summary of identified trends in environmental issues

Semi-Annual EMR No	Total No of Issues	% issues Closed	% issues closed late
January-June 2021	21	95%	5%
July-December 2021	110	97%	3%

49. All major Non-Conformances under USIIP/T3 during the reporting period are provided in an Annex C of this report. All EH&S issues, 3% of which is still opened under GUD-03 sub-project are presented in para 18 above.
50. Recommendations to address environmental issues under GUD-03 sub-project is presented in table 18 below. Deadlines for improvement is indicated January-February 2022. All improvements will be implemented within the Q1 of 2022 and relevant photo-documentation will be presented in the next SAEMR, January-June 2022.

3.5 Unanticipated Environmental Impacts or Risks

51. During the reporting period, COVID-19 is viewed as an unanticipated impact and risk to the community and workers, however, IPMO, SC and CC have taken all appropriate measures to minimize this risk. These measures, inter alia, included updating the relevant SEMP by the contractor, developing emergency management plan by SC, etc. More details are provided in paragraphs 8-10 above.

4. RESULTS OF ENVIRONMENTAL MONITORING

4.1. Overview of Monitoring Conducted during Current Period

52. During the reporting period Environmental Quality Measurements of the Noise level and ambient air Quality were carried out by the contractor only under GUD-03 sub-project, since no construction activities were carried out under other sub-projects within the framework of USIIP/T3.
53. Noise and air pollution standards defined by IFC/WHO 1999, are presented in the Table 9 and 10 below.
54. Georgian Standards for Noise, Vibration and Air Pollution is presented in the tables below.

Table 9 Noise Level Guidelines

Noise	dB		dB	
	National Regulations		WHO	
Receptor	Daytime 07:00 - 22:00	Nighttime 22:00 - 07:00	Daytime 07:00- 22:00	Nighttime 22:00- 07:00
Residential; institutional; educational	55	45	55	45
Industrial; commercial	70	70	70	70

55. Air pollution standards by IFC/WHO 1999, are presented in the Table 10 below.

Table 10: Air pollution Guidelines

Contaminants	IFC/WHO Guideline Value (Limit mg/m ³)
1	2
Inorganic dust	(*IFC does not have a standard for "inorganic dust". Instead IFC applies standards for PM2.5 and PM10). PM10 – 0,02/1 Year 0,05/24 Hour PM2,5-0,01/1 Year 0,025/24 Hour
Carbonic monoxide	n/a
Nitrogen dioxide (NO ₂)	0,2/ 1 Hour

	0,04/1 Year
Aldehyde	n/a

56. Georgian Standards for noise level is presented in the table 11 below.

Table 11: Georgian Standards for Noise Levels

Purpose/use of area and premises	Allowable limits (A-Weighted Decibels (dBA))		
	L _{day}		23:00 – 08:00 L _{night} , Night
	08:00 - 19:00, Day	Evening 19:00-23:00	
Educational facilities and library halls	35	35	35
Medical facilities/chambers of medical institutions	40	40	40
Living quarters and dormitories	35	30	30
Hospital chambers	35	30	30
Hotel/motel rooms	40	35	35
Trading halls and reception facilities	55	55	55
Restaurant, bar, cafe halls	50	50	50
Theatre/concert halls and sacred premises	30	30	30
Sport halls and pools	55	55	55
Small offices ($\leq 100\text{m}^3$) – working rooms and premises without office equipment	40	40	40
Small offices ($\leq 100\text{m}^3$) – working rooms and premises without office equipment	40	40	40
Conference halls /meeting rooms	35	35	35
Areas bordering with houses residential, medical establishments, social service and children's facilities (<6 story buildings)	50	45	40
Areas bordering with houses residential, medical establishments, social service, and children's facilities (>6 story buildings)	55	50	45
The areas bordering with hotels, trade, service, sport, and public organizations	60	55	50

Note: in case noise generated by indoor or outdoor sources is impulse or tonal, the limit must be 5dBA less than indicated in the Table.

57. Table 12 shows the threshold values of the major air pollutants as defined by the GEO, IFC and EU legislation.

Table 12: Ambient Air Quality Standards

Parameter	Averaging Period	Limit ($\mu\text{g}/\text{m}^3$)		
		Maximum Permissible Concentration (MPC) in Georgia	IFC Guideline Value	EU Ambient Air Quality Guidelines
Nitrogen Dioxide (NO ₂)	30 minutes	200	-	-
	1 Hour	-	200	200
	24 Hours	40	-	-
	1 Year	-	40	40
	10 minutes	-	500	-

Parameter	Averaging Period	Limit ($\mu\text{g}/\text{m}^3$)		
		Maximum Permissible Concentration (MPC) in Georgia	IFC Guideline Value	EU Ambient Air Quality Guidelines
Sulphur Dioxide (SO_2)	30 minutes	500	-	-
	1 Hour	-	-	350
	24 Hours	50	20	125
Carbon Monoxide (CO)	30 minutes	5,000	-	-
	24 Hours	3,000	-	-
Total Suspended Particulates (TSP) / Dust	24 Hours	150	-	-
	30 minutes	500	-	-
PM10	1 year	40	20	40
	24 hours	50	50	50
PM2.5	1 year	25	10	25
	24 hours	-	25	-
Ozone	8-hour daily max.	120	100	120

58. The Georgian Standards for vibration are designed for human comfort. These are shown in 13. Note that no standards for building damage exist.

Table 13: Georgian vibration values

Average Geometric Frequencies of Octave Zones (Hz)	Allowable Values X0, Y0, Z0			
	Vibro-acceleration		Vibro-speed	
	m/sec^2	dB	$\text{m}/\text{sec } 10^{-4}$	dB
2	4.0	72	3.2	76
4	4.5	73	1.8	71
8	5.6	75	1.1	67
16	11.0	81	1.1	67
31.5	22.0	87	1.1	67
63	45.0	93	1.1	67

Note: It is allowable to exceed vibration normative values during daytime by 5 dB during daytime. In this table of inconstant vibrations, a correction for the allowable level values is 10dB, while the absolute values are multiplied by 0.32. The allowable levels of vibration for hospitals and rest houses have to be reduced by 3dB.

59. During the reporting period Environmental Quality Measurements of noise level and ambient air quality under GUD-03 sub-project was conducted by contractor on 14 December 2021 (Please see Annex A). According to the measurement data noise level on WWTP#3 and WWTP#4 exceeds the standards of the National Regulations and World Health Organization (IFC/WHO),1999 and therefore additional mitigation measures which are presented in the Table 13 below are required (please see IFC/WHO standards for Noise and Air pollution in Tables 9 and 10 above). It should be noted also that measurements carried out at construction sites, were temporary and conducted during the daytime from 13:40 pm to 15:30 pm and no complaints were received from the local population about the noise during the reporting period. The distance from the construction sites to the nearest residential houses (for all four WWTPs) is more about 500 m. The next monitoring measurements will be conducted in Q1-2022 and results will be reflected in the next Semi-annual EMR, January-June 2022.

60. Environmental quality measurements of Nitrogen and sulfur dioxide, carbon monoxide and total hydrocarbon under GUD-03 are provided in the Table 14 below.

Table 14: Environmental Quality Measurements, GUD-03 (Air pollution)

# 1	Measurement Point		Measurement Results mg/m3			
			Nitrogen Dioxide	Sulfur dioxide	Carbon monoxide	Total Hydrocarbo
2	Location	Coordinates				
3	WWTP N1	0457927 4707023	0.021	<0.01	0.16	<0.1
4	WWTP N2	0457037 4701059	0.019	<0.01	0.28	<0.1
5	Gudauri WWTP #3	0457747 4700115	0.016	<0.01	0.43	<0.1
6	Gudauri WWTP #4	0457826 4699476	0.037	<0.01	0.59	<0.1

61. Environmental quality measurements of Dust air pollution, noise and vibration measurements under GUD-03 are provided in the Table 15 below.

Table 15: Environmental Quality Measurements, GUD-03 (Dust, Noise, Vibration)

#	Measurement point	Measurement results							
		Noise Amax dBA	Vibro speed		Vibro acceleration		dust mg/ m3		
			mm/s	db	2 m/s2	db	pm2.5	pm10	total

#	Measurement point		Measurement results							
	Location	Coordinates								
2										
3	WWTP N1	0457927 4707023	54.9	<0.1	<66	<0.1	<100	0.006	0.011	0.016
4	WWTP N2	0457037 4701059	43.1	<0.1	<66	<0.1	<100	0.004	0.007	0.010
5	Gudauri WWTP #3	0457747 4700115	63.1	<0.1	<66	<0.1	<100	0.008	0.012	0.019
6	Gudauri WWTP #4	0457826 4699476	77.9	0.1	66	0.1	100	0.031	0.042	0.054

4.2 Trends

62. All major Non-Conformances under USIIP/T3 during the reporting period are provided in an Annex C of this report. All EH&S issues, under GUD-03 sub-project is presented in table 6 above. Summary of identified issues which needs improvement under GUD-03 sub-project is presented in the Table 18 below.

4.3 Summary of Monitoring Outcomes

63. As it was mentioned above, according to data received in December 2021 under GUD-03 sub-projects noise level in WWTP #3 and WWTP #4 exceeds the standards of the National Regulations and World Health Organization (IFC/WHO),1999 and therefore additional mitigation measures which are presented in the Table 13 below are required.

4.4 Material Resources Utilisation

4.4.1 Current Period

GUD-03

64. The contractor had provide information on the material resources utilization under the GUD-03 sub-project. The amount of the electricity and water used by the CC/“China Nuclear Industry 23 construction co.” during the reporting period under GUD-03 sub-project is provided in the table below.

Table 16: Material Resources Utilization under GUD-03 Sub-project, July-December 2021

N	Utilized Resources	Monthly	Measurement
1	Consumption of Water	60	M3
2	Electricity	22587	kwt

4.4.2 Cumulative Resource Utilisation

N/A

4.5 Waste Management (GUD-03)

4.5.1 Current Period

65. At the construction sites under GUD-03 sub-project, there are mainly produced household, construction (inert, surplus soil) and hazardous waste. Mainly household waste is collected in municipal containers which are served by the local cleaning service. Contractors always have separate containers for household and hazardous waste with proper labeling at the construction site.
66. The construction waste that is allocated at the construction site is removed for its final disposal that is managed by formal agreement with local municipality.
67. The local municipality is responsible for the disposal of household waste under GUD-03 sub-projects as well.
68. The amount of the waste generated by CC/“China Nuclear Industry 23 construction co.” during the reporting period under GUD-03 sub-project is provided in the table 17 below.

Table 17: Amount of Waste Generated under GUD-03 Sub-project, July-December 2021

N	Waste management		Measurement
3	Municipal Waste	50	M ³

69. During the reporting period, CNI23 kept the Site and other areas used by it in a neat and clean condition, and free from any accumulation of waste and rubbish. CNI23 disposed all rubbish and waste materials of any nature occurring at the Site, and established regular intervals of collection and disposal of such materials and waste. CNI23 also kept its haul roads free from dirt, rubbish, and unnecessary obstructions resulting from its operations. All municipal waste was disposed to an approved disposal site by Gudauri Municipality.

4.5.2 Cumulative Waste Generation

N/A

4.6 Health and Safety

4.6.1 Community Health and Safety

70. No community incidents have been reported under GUD-03 sub-project during the reporting period.

71. Relevant measures are undertaken for COVID-19 prevention at construction sites, more detailed information is provided in the Paragraphs 8-10 above.

4.6.2 Worker Safety and Health

GUD-03

72. Environmental H&S Manager of GUD-03 sub-project Mr. Aleksandre (Sasha) Mchedlishvili Performed every day monitoring, induction and supervision of ongoing works according to HSE standards and by requirements of ADB/UWSCG/EPTISA and kept H&S incidents/accidents/Near Misses log book.

73. Health & safety and environment issues which were covered during the reporting period are as follows:

- PPE;
- Working on height;
- Top soil stripping and storage;
- Ground works;
- Manual works

74. Near Misses (two) within the framework of the GUD-03 sub-project included

- work at height without protective equipment
- proper disposal of construction materials.

75. Non-compliance notices have been issued by SC/Eptisa and contractor improved the situation within the proposed deadline. All near misses were improved by the contractor during the reporting period and no further actions are required.

4.7 Training

- 76.** Routine personnel trainings and toolbox talks happen by the construction companies almost on daily basis under GUD-03 sub-projects. Environmental Specialist of SC Mr. Irakli Iegashvili and Environmental Specialist of USIIP Ms. Kate Chomakhidze also provided instructions and verbal trainings for Construction Company's Environmental and H&S officers.

5. FUNCTIONING OF THE SEMP

5.1. SEMP Review

77. The following SSEMPs were prepared by contractor, within the framework of URE-01, URE-02, KUT-01, ABA-01 and GUD-03 projects during the previous reporting periods:

GUD-03

- Location Specific EMP for Construction of Gudauri WWTPs (September 2019).

URE-01:

- SSEMPs for Ureki Well Fields (May 2016)
- Reservoir#1 (November 2016)
- Water Supply Pumping Station (November 2016)
- Reservoir #2 (Laituri Reservoir) (August 2018);

URE-02:

- SSEMP for Ureki Waste Water Treatment Plant (November 2015)

KUT-01

- SSEMP for Godogani Reservoir (August 2016)
- SSEMP Mukhnari Reservoirs (March 2016)
- SSEMP Aqueduct River Crossing (December 2019)
- SSEMP Partskanakanebi Chlorine Station (January 2020)

ABA-01

- SSEMP for Abasha Service Center (February 2020)

78. All SSEMPs under GUD-03, KUT-01, URE-01, URE-02 and ABA-01 projects were prepared by Contractor, endorsed by SC and approved by UWSCG and reviewed/commented by the RETA International Environmental Consultant of ADB under RETA 8663 - Ms. Ketil Dgebuadze.

79. All of the SSEMPs listed above are effective, mitigation measures are still relevant, no changes are required.

6. GOOD PRACTICE AND OPPORTUNITY FOR IMPROVEMENT

6.1. Good Practice

- 80.** There is need to improve close monitoring, guidance and interactions between IPMO, consultant supervision team and contractors to avoid non-conformances and improve current situations in order to improve the tracking of actions to address non-conformances under USIIP/T3 sub-projects.

6.2 Opportunities for Improvement

- 81.** During the next reporting period the tracking of actions to address non-conformances will be improved by IPMO. Close monitoring, guidance and interactions between PIU, SC and CC will be continued to avoid non-conformances and improve current situations. All non-conformances addressed will be reflected in the next SAEMR, January-June 2022.

7. SUMMARY AND RECOMMENDATIONS

7.1 Summary

- 82. Individual and joint on-site monitoring activities were conducted by Environmental Monitoring Specialist of SC and Environmental Specialist of USIIP on a regular basis.
- 83. Due to the outbreak of the new Coronavirus - COVID-19 the Government of Georgia and its Ministry of Internally Displaced Persons from the Occupied Territories, Labor, Health and Social Affairs of Georgia, issued the General Guidelines Related to Infection (COVID-19) Caused by Novel Coronavirus (SARS-CoV-2) which applies to all sectors of economic activity.
- 84. The General Guideline for COVID-19 was also developed by the Government of Georgia specifically for the construction sector.
- 85. Additional measure were carried out by Supervision Company EPTISA based on the requirements of the UWSCG and Emergency Management Plan of COVID 19 was developed for construction activities carried out under USIIP/T1-T3.
- 86. The monitoring activities included monitoring of compliance of construction activities to the IEE/EMP and SEMP requirements under GUD-03 sub-projects.
- 87. Environmental Specialist of USIIP Ms. Kate Chomakhidze performed monitoring of contractor's performance in accordance with the requirements of approved IEE/EMPs, SEMP's, and other environmental commitments of the contractor. USIIP/ES developed Semi-annual monitoring reports and submitted to ADB based on the quarterly reports prepared by SC and monitoring results.
- 88. Three Non-Conformance Notices have been issued to the contractor by the environmental specialist of SC and USIIP under GUD-03 sub-project. Mitigation measures have been instructed to CC in order to reduce environmental impacts during the monitoring visits.
- 89. In accordance with the IEE, and the accompanying Environmental Monitoring Plan (EMP), the Contractor has undertaken parametric measurements and observations on air quality, noise and vibration.
- 90. Necessary instructions have been given to the Contractor by UWSCG and SC to follow the EMP's and SSEMP's requirements under GUD-03 sub-projects.

7.2 Recommendations

- 91. During the reporting period, July-December 2021, the T3 of Investment Program was implemented in accordance with the requirements of ADB - SPS 2009 and the National Legislation.
- 92. More detailed recommendations/next steps for the implementation of T3 during the next reporting period January-June 2022 are provided in the Table 18 below:

Table 18: Recommendations to Address Environmental Issues under GUD-03 Sub-project

Recommendations GUD-03 sub-project	
GUD-03	
Proper lighting of WWTP N1 and N3 must be provided by the contractor	Instruction are given to contractor to improve the situation and to conduct following mitigation measures by the 15th February 2022
Top Soil should be stored properly, better managed WWTP N1 and N3	
Noise from the construction activities should not cause disruption and nuisance to nearby community and other sensitive receptors (i.e. school, hospitals).	<p>Instruction are given to contractor to improve the situation and to conduct following mitigation measures by the mid of July 2021</p> <p>Plan activities in consultation with SC and IPMO/UWSCG so that activities with the greatest potential to generate noise are planned during periods of the day that will result in least disturbance</p> <p>Noisy construction activities will be avoided during night time</p> <p>All construction equipment and vehicles shall be well maintained, regularly inspected for noise emissions</p> <p>Impose speed limits on construction vehicles to minimize emissions along areas where sensitive receptors are located (i.e. temples, hospitals, schools, houses)</p> <p>Install noise barriers (e.g.,</p>

Recommendations GUD-03 sub-project	
	<p>panels, curtains, or partitions) to reduce the emission of engine noise</p> <p>Conduct meetings with population and provide information related to schedule of construction activities and noise caused by the project activities. Relevant information and documentations will be reflected in the next EMR, January-June 2022</p>

- 93.** Conduct monitoring of Noise and Ambient Air quality under GUD-03 project near the sensitive receptors of Construction sites in February 2022.

Table 19: The Specific Plan for Environmental Measurement under GUD-03 Project

Parameters	Quarterly measurement
Dust	February 2022
PM _{2.5}	February 2022
PM ₁₀	February 2022
Vibration	February 2022
Carbon monoxide	February 2022
Nitrogen dioxide	February 2022
Sulfur dioxide	February 2022
Noise	February 2022

ANNEXES

ANNEX A: ENVIRONMENTAL QIALITY MEASUREMENTS (NOISE LEVEL, AIR POLUTION) UNDER GUD-03 SUB-PROJECT



China Nuclear Industry 23 Construction Co., Ltd
Construction of Wastewater Treatment Plants in Gudauri
(UWSCG-ICB-GUD-03-2018)

The Contractor

Address: #5 Java street, 0180 Tbilisi, Georgia
Telephone: +995 571246556

Eptisa Servicios de Ingenieria,S.L.
Mr. Manuel Villafranca, Team Leader
David Gamrekeli Street 2
"Axis" Business Center, 4th floor
Tbilisi Georgia

[your reference/date]	[our reference/date]	[your contact]	[e-mail]
	GUD03-CNI23-ENG-21065 2021-12-21	Luo Ke	gudauri@cni23.com

Construction of Wastewater Treatment Plants in Gudauri
(UWSCG-ICB-GUD-03-2018)
Subject: Environmental Parametric Measurement Report

Dear Mr. Joseph Pasion,

We are sending Environmental Parametric Measurement Report, please kindly find the attachment

Appendix1 : Environmental Parametric Measurement Report 9 page

Yours sincerely

Contractor of the Construction of Wastewater Treatment Plants in Gudauri

Mr. Luo Ke
Project Manager
Copy to: Contractor internal

**Design and Construction of Waste Water Treatment Plant in
Gudauri (UWSCG-ICB-GUD-03-2018).
Date of Commencement August 1 2019 Term of Work
Completion December 2022**

1. Introduction

The Government of Georgia wishes to improve and expand Water Supply and Sanitation (WSS) Services across urban centres by leveraging donor and private sector funds, and has requested ADB to develop an investment program to be financed through a multi-tranche financing facility (MFF). The proposed Investment Program will specifically address basic urban infrastructure and services management in the provincial capitals and secondary towns. The Investment Program will be implemented in various tranches; each tranche containing technically feasible and economically viable subprojects developed by UWSCG and agreed with ADB.

The present tender comprises the Detailed Design and the Construction of five Wastewater Treatment Plants in Gudauri town.

2. Location of the project areas

Gudauri is a ski resort located on the south-facing plateau of The Greater Caucasus Mountain Range in Georgia, in the Stepantsminda District, along the Georgian Military Highway near the Cross Pass, 120 km to the north of the capital Tbilisi on the way to Kazbegi and two hours drive from the Tbilisi International Airport..

3. Regulatory Requirements

The environmental quality standards on the territory of Georgia are regulated by Decree No 297N of August 16, 2001 of the Minister of Labor, Health and Social Affairs of Georgia "On the approval of the environmental quality standards" (State Registration Code 470.230.000.11.119.004.920).

The following amendments were made to the above-mentioned decree:

1. Decree No 38/N of February 24, 2003 of the Minister of Labor, Health and Social Affairs of Georgia, SSM III, №16, 06.03.2002, Article 150
2. Decree No.251/N of the Minister of Labor, Health and Social Affairs of Georgia of September 15, 2006– SSMIII, №129, 20.09.2006, Article 1716
3. Decree No.351/N of the Minister of Labor, Health and Social Affairs of Georgia of December 17, 2007– SSMIII, №179, 18.12.2007, Article 1974
4. Decree No.304/N of the Minister of Labor, Health and Social Affairs of Georgia of September 18, 2009– SSMIII, №115, 22.09.2009, Article 1312

5. Decree No.98/N of the Minister of Labor, Health and Social Affairs of Georgia of April 14, 2010– SSMIII, №39, 14.04.2010, Article 622

6. Decree No.350/N of the Minister of Labor, Health and Social Affairs of Georgia of October 25, 2010 - SSMIII, №138, 26.10.2010, Article 2000

7. Decree No.01-24/N of the Minister of Labor, Health and Social Affairs of Georgia of May 17, 2012 – web-site, 17.05.2012.

3. Description of the work to be performed.

In accordance with the agreement concluded between the Construction Contractor and Naseto Group LLC, environmental quality analysis was carried out at various points in Gudauri.

Construction work has not yet been carried out, so all the measurement results are background. Background measurements were carried out at the sites of the future construction of the reservoir, pumping station and pipeline route.

4. Performed measurements and results

Gudauri is not a settlement where stationary observations of the quality of atmospheric air are carried out, therefore pollution data are not available.

4.1 Noise and vibration.

The measured noise and vibration are also background.

As a rule, the noise caused by the movement of equipment is reduced at some distance. Such a reduction has logarithmic properties. In the case of noise caused by construction work, the noise propagation scheme from the noise point is used, which can be determined as follows: Noise level 1 - Noise level 2 = $20 \log r_2 / r_1$, which means that when doubling the distance, the noise decreases by 6 dBA.

Table 2: Noise levels

Distance from noise source, m	Calculation level of the noise Average value - dBa	Calculation level of the noise Maximum value - dBa
10	80	90
20	74	84
40	68	78
80	62	72
160	56	66
320	50	60

4.4 Air quality values

The quality indicators of the following components measured in the project area: air quality with total hydrocarbons, sulfur and nitrogen dioxide, carbon monoxide, dust, noise and vibration by the executor. The results of the accomplished quality measurements given in Annex1.

“ზაინა ნუკლეარ ინდასტრი 23 კონსტრაქშენ კო“-ს ფილიალი საქართველოში
"Georgia Branch of China Nuclear 23 Consturction Company Co.,Ltd"
 პერის მტვერით დაბინძურების, ხმაურის და ვიბრაციის გაზომვების შედეგები
 14.12.2021. 13⁰⁰ – 15³⁰

Dust air pollution, noise and vibration measurements on 14.12.2021. 13⁰⁰ – 15³⁰

№	გაზომვის წერტილის Measurement point		გაზომვის შედეგები Measurement results							
	ადგილი მდებარეობა Locastion	კოორდინა- ნატები Coordinates	ხმაური A_{max} დბ Noise A_{max} db	ვიბრო სიჩქარე Vibro Speed		ვიბრო აჩქარება Vibro acceleration		მტვერი მგ/მ ³ Dust mg / m ³		
								Pm _{2.5}	Pm ₁₀	Total
				მმ/წმ mm/s	დბ db	მ/წმ ² m/s ²	დბ db			
1	WWTP 1	0457927 470723	54,9	<0.1	<66	<0.1	<100	0.006	0.011	0.016
2	WWTP 2	0457037 4701059	43,1	<0.1	<66	<0.1	<100	0.004	0.007	0.010
3	WWTP 3	0457747 4700115	63,1	<0.1	<66	<0.1	<100	0.008	0.012	0.019
4	WWTP 4	0457826 4699476	77,9	0,1	66	0,1	100	0,031	0,042	0,054

ჰაერის აზოტის და გოგირდის დიოქსიდით, ნახშირბადის მონოოქსიდით და
ჯამური ნახშირწყალბადებით დაბინძურების გაზომვების შედეგები
14.12.2021. 13⁴⁰ – 15³⁰

**Nitrogen and sulfur dioxide, carbon monoxide and total hydrocarbon air pollution
measurement results on 14.12.2021. 13⁴⁰ – 15³⁰**

№	გაზომვის წერტილის Measurement point		გაზომვის შედეგები მგ/მ³ Measurement results mg/m³			
	ადგილ მდებარეობა Locastion	კოორდი- ნატები Coordinates	აზოტის დიოქსიდი nitrogen dioxide	გოგირდის დიოქსიდი sulfur dioxide	ნახშირბადის მონოოქსიდი carbon monoxide	ჯამური ნახშირწყალბ ადები total hydrocarbon
1	WWTP 1	0457927 470723	0.021	<0.01	0,16	<0.1
2	WWTP 2	0457037 4701059	0,019	<0.01	0,28	<0.1
3	WWTP 3	0457747 4700115	0.016	<0.01	0,43	<0.1
4	WWTP 4	0457826 4699476	0,037	<0,01	0,59	<0,1

გაზომვის დროს გამოყენებულია ხელსაწყოები:/During measurement tools used:
 ხმაური/Noise - Mini Sound Level Meter N05CC;
 ვიბრაცია/Vibration- Smart Sensor ® AR63B Vibration Meter;
 დამტვერიაწობა/ Dust- Portable Dust Detector model LB-HD08
 და Gasella Mikro Dust Pro (თვითკალიბრაცია წულღვანი და ოფტიკური ფილტრით./Self-
 calibration zero and optical filter.). აზოტის დიოქსიდის და ნახშირბადის მონოოქსიდის -
 nitrogen dioxide and carbon monoxide - ჟაჰ CO/NO₂;
 ჯამური ნახშირწყალბადების - total hydrocarbon MiniRae 7600;
 გოგირდის დიოქსიდის - sulfur dioxide – WASP-XM-E-SO₂.

2001 წლის 16 აგვისტოს, საქართველოს შრომის, ჯანმრთელობისა და სოციალური დაცვის
 მინისტრის ბრძანება №297/ნ, გარემოს ხარისხობრივი მდგომარეობის ნორმების დამტკიცების
 შესახებ: / August 16, 2001, the Ministry of Labor, Health and Social Affairs of Georgia №297 / N,
 approval environmental quality of the norms:
 დამტვერიაწობის ნორმა შეადგენს 0.5 მგ/მ³; / Dust norm is 0.5 mg / m³;
 აზოტის დიოქსიდის ნორმა შეადგენს 0.2 მგ/მ³; / nitrogen dioxide norm is 0.2 mg / m³;
 გოგირდის დიოქსიდის ნორმა შეადგენს 0.5 მგ/მ³; / sulfur dioxide norm is 0.5 mg / m³;
 ნახშირბადის მონოოქსიდის ნორმა შეადგენს .5 მგ/მ³; / carbon monoxide norm is .5 mg / m³;
 ჯამური ნახშირწყალბადების ნორმა შეადგენს 1 მგ/მ³; / total hydrocarbon norm is .1 mg /m³;
 ვიბროსიჩქარის ნორმა შეადგენს 112 დბ; / Vibro-speed norm is 112 db;
 ვიბროაჩქარების ნორმა სპეციალური დამცავი საშუალებების გამოყენების გარეშე - 126
 დბ./Vibro acceleration norm special protective outlets without using - 126 db.

დირექტორი:
 Director

ტექნიკური შემსრულებელი
 Technical Contractor



ნ. გაბუნია
 N. Gabunia

ს. ხატავა
 S. Khatsava

Gudauri, WWTP-1



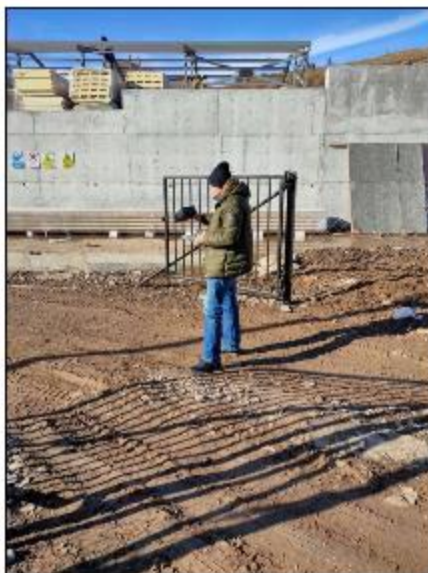
Gudauri, WWTP-2



Gudauri WWTP-3



Gudauri WWTP-4



ANNEX B: PROJECT PHOTOS

PROJECT PHOTOS GUD-03

Construction of Gudauri Waste Water Treatment Plant N1



Construction of Gudauri Waste Water Treatment Plant N3



Construction of Gudauri Waste Water Treatment Plant N4



ANNEX C: NON-CONFORMANCE NOTICE

Non-compliance GUD-03, 4 October 2021



Urban Services Improvement Investment Project - Georgia

Date: 04/10/2021

Page 1 of 1

Non-Compliance Notice

Project: Urban Services Improvement Investment Program, Georgia	Non-compliance Notice Gudaure
Contract No: UWSCG-ICB-GUD-03	
Contractor: China Nuclear Industry 23 Construction Co., Ltd	
Reference: Construction of Wastewater Treatment Plants in Gudaure	

This notice is to advise you, the prime Contractor, on the referenced Contract, of the following notice on environmental measures to be implemented **urgently**.

NON-COMPLIANCE IN PARTSKHANAKANEBI

WWTP 1 and 2

- Construction sites should be properly fenced from all sides and equipped with lockable gate
- Proper warning and safety signs should be provided at the entrance and perimeter of the construction territories
- Top Soil should be removed before excavation works and stored properly (height 2-3 meter, slope 45 degree) and signed
- Construction territories should be lighted
- Demolition waste (WWTP 2) should be removed completely and disposed according agreement

WWTP 4

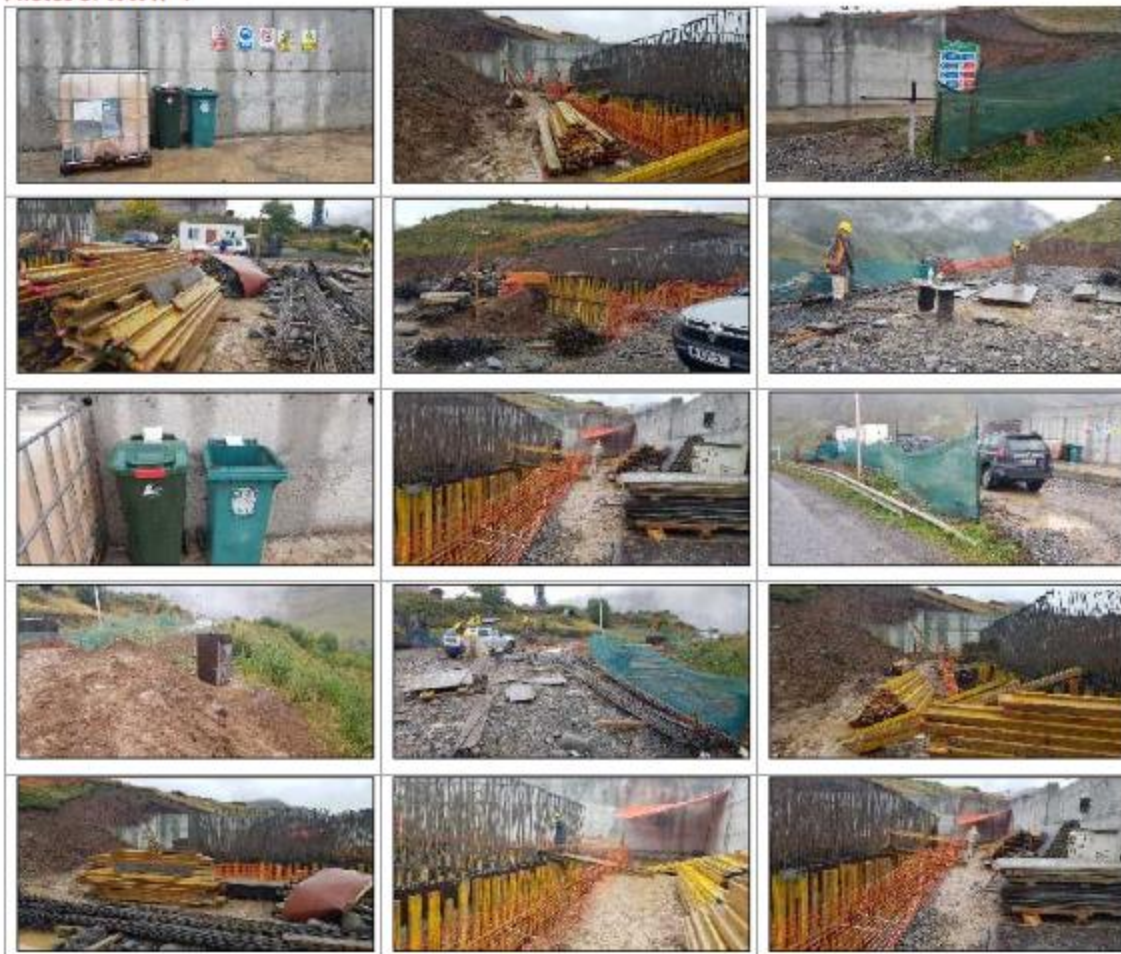
- Construction site should be properly fenced from all sides and equipped with lockable gate
- Proper warning and safety signs should be provided at the perimeter of the construction territory
- Top Soil should be stored properly, better managed (height 2-3 meter, slope 45 degree) and signed
- Parking area at the construction site should be better arranged with relevant sign
- Safety norms during working at height (ladder safety norms) should be provided
- Construction territory should be lighted adequately
- Fuel and lubricants spill elimination items (sand, sawdust, special containers) should be provided at the construction site
- Household Waste container should be signed
- Hazardous Waste container with should be signed and installed at the proper organized place with concrete floor and roofing
- Waste should be placed only at the proper waste container
- Site internally should be better arranged, materials should be better segregated/stored and cleaned regularly
- Workers always should use complete PPE. Also special equipment during high altitude works should be always used to avoid accidents (workers damage)

Photos of WWTP 1 and 2





Photos of WWTP 4



All these conditions have to be remedied within seven days (by the 11.10.2021) by the prime Contractor (China Nuclear Industry 23 Construction Co., Ltd)

Date of site visits 01.10.2021	
Irakli Legashvili	
EPTISA - Environment	

Non-compliance GUD-03, 01 November 2021

Non-Compliance Notice

Project: Urban Services Improvement Investment Program, Georgia	Non-compliance Notice Gudauri
Contract No: UWSCG-ICB-GUD-03	
Contractor: China Nuclear Industry 23 Construction Co., Ltd	
Reference: Construction of Wastewater Treatment Plants in Gudauri	
This notice is to advice you, the prime Contractor, on the referenced Contract, of the following notice on environmental measures to be implemented urgently .	
<u>NON-COMPLIANCE IN GUDAURI</u>	
WWTP 1	
<ul style="list-style-type: none">- Construction sites should be properly fenced from all sides and equipped with lockable gate- Proper warning and safety signs should be provided at the entrance and perimeter of the construction territories- Top Soil should be stored properly in requested amount, better managed (height 2-3 meter, slope 45 degree) and signed- Surplus waste soil should be removed and stored at the proper place according agreement- Trees at the construction site should be fenced and protected- Safety norms during working at height (ladder safety norms) should be provided- Fuel and lubricants spill elimination items (sand, sawdust, special containers) should be provided at the construction site- Special safety barriers should be arranged to avoid workers falling in deep and high altitudes of the site- Fuel and lubricants containers should be installed at the proper organized place with concrete floor and roofing- Construction territories should be lighted during nighttime works- Concrete washout pit should be arranged to avoid site contamination with the concrete activities- Hazardous Waste container should be installed at the proper organized place with concrete floor and roofing- Waste should be placed only at the proper waste container- Site internally should be better arranged, materials should be better segregated/stored and cleaned regularly- Workers always should use complete PPE. Also special equipment during high altitude works should be always used to avoid accidents (workers damage)- First aid kits should be available at each construction site- Covid-19 precaution actions should be implemented at each construction site	
WWTP 2	
<ul style="list-style-type: none">- Construction sites should be properly fenced from all sides and equipped with lockable gate- Proper warning and safety signs should be provided at the entrance and perimeter of the construction territories- Demolition waste should be removed completely and disposed according agreement- First aid kits should be available at each construction site- Covid-19 precaution actions should be implemented at each construction site	
WWTP 3	
<ul style="list-style-type: none">- Construction sites should be properly fenced from all sides and equipped with lockable gate- Proper warning and safety signs should be provided at the entrance and perimeter of the construction territories- Top Soil should be stored properly in requested amount, better managed (height 2-3 meter, slope 45 degree) and signed- Surplus waste soil should be removed and stored at the proper place according agreement	

- Safety norms during working at height (ladder safety norms) should be provided
- Fuel and lubricants spill elimination items (sand, sawdust, special containers) should be provided at the construction site
- Fuel and lubricants containers should be installed at the proper organized place with concrete floor and roofing
- Construction territories should be lighted during nighttime works
- Concrete washout pit should be arranged
- Household Waste container should be installed and signed
- Hazardous Waste container with should be installed and signed at the proper organized place with concrete floor and roofing
- Tarpaulins cover should be used during inert materials transportation
- Waste should be placed only at the proper waste container
- Special safety barriers should be arranged to avoid workers falling in deep and high altitudes of the site
- Site internally should be better arranged, materials should be better segregated/stored and cleaned regularly
- Workers always should use complete PPE. Also special equipment during high altitude works should be always used to avoid accidents (workers damage)
- First aid kits should be available at each construction site
- Covid-19 precaution actions should be implemented at each construction site

WWTP 4

- Top Soil should be stored properly in requested amount, better managed (height 2-3 meter, slope 45 degree) and signed
- Safety norms during should be respected at the construction site
- Workers always should use complete PPE. Also special equipment during high altitude works should be always used to avoid accidents (workers damage)
- Fuel and lubricants spill elimination items (sand, sawdust, special containers) should be provided at the construction site
- Special safety barriers should be arranged to avoid workers falling in deep and high altitudes of the site
- Fuel and lubricants containers should be installed at the proper organized place with concrete floor and roofing
- Refilling/compaction and reinstatement process should bring site at the same or better condition as it was before construction
- First aid kits should be available at each construction site
- Covid-19 precaution actions should be implemented at each construction site

Photos of WWTP 1





Photos of WWTP 2



Photos of WWTP 3





Photos of WWTP 4






All these conditions have to be remedied within seven days (by the 26.11.2021) by the prime Contractor (China Nuclear Industry 23 Construction Co., Ltd)

Date of site visits 01.11.2021	
Irakli Legashvili	
EPTISA - Environment	

Non-Compliance Notice

Project: Urban Services Improvement Investment Program, Georgia	Non-compliance Notice Gudauri
Contract No: UWSCG-ICB-GUD-03	
Contractor: China Nuclear Industry 23 Construction Co., Ltd	
Reference: Construction of Wastewater Treatment Plants in Gudauri	
This notice is to advise you, the prime Contractor, on the referenced Contract, of the following notice on environmental measures to be implemented urgently .	
<u>NON-COMPLIANCE IN GUDAURI</u>	
<u>GENERAL COMMENT FOR ALL SITES:</u>	
Site internally should be arranged properly and cleaned regularly. All construction materials and wastes should be properly segregated and stored adequately, Oil spill response kits should be placed at the appropriate locations. Refuelling station should be equipped with the spill kit and fire relevant fighting equipment; drip tray should be used for fuel spillage prevention. First aid kits should be presented at sites; Covid-19 prevention measures should be implemented at all sites. PPE wearing is obligatory at the construction site.	
WWTP 1	
<ul style="list-style-type: none">• Construction site should be properly fenced from all sides and equipped with lockable gate (photo #1)• Proper warning and safety signs should be provided at the entrance gate and perimeter of the construction territory (photo #2)• Site internally should be better arranged, materials should be better segregated/stored and cleaned regularly (photo #3)• There is a high risk of site contamination with hazardous waste ; Hazardous Waste container with relevant indication sign should be installed at the construction area, at the proper organized place with concrete floor and roofing• Cable should be relocated to avoid any damages on users of power source; Unsafe connection to the power socket should be immediately improved (photo #5)• Waste should be placed only at the proper waste container with the appropriate label for household waste and hazardous waste (Photo #6)• Safety norms during working at height (ladder safety norms) should be provided (Photo #7)• Site internally should be arranged properly and cleaned regularly (Photo #8)• Fuel and lubricants spill elimination items (sand, sawdust, special containers) at the construction site• Also special equipment during high altitude works should be always used to avoid accidents (workers damage)• Top Soil should be stored properly in requested amount, and managed in accordance with the required regulations• Bio toilet should be exist at construction site• First aid kits should be presented at construction site• Covid-19 precaution actions should be implemented at each construction site	
Photos of WWTP 1	

<p>Photo #1</p> 	<p>Photo #2</p> 	<p>Photo #3</p> 
<p>Photo #4</p> 	<p>Photo #5</p> 	<p>Photo #6</p> 
<p>Photo #7</p> 	<p>Photo #8</p> 	
<p>WWTP #2</p> <ul style="list-style-type: none"> Construction site should be properly fenced from all sides and equipped with lockable gate (Photo 		

<p>#1)</p> <ul style="list-style-type: none"> • Proper warning and safety signs should be provided at the entrance gate and perimeter of the construction territory • Demolition waste in the ammount agreed initially should be removed from site and disposed according agreement with the local Municipality (Photo #2, Photo #3) 		
<p>Photos of WWTP 2</p>		
Photo #1	Photo #2	Photo #3
		
<p>WWTP-03</p> <ul style="list-style-type: none"> • Construction sites should be properly fenced from all sides and equipped with lockable gate (Photo #1) • Proper warning and safety signs should be provided at the entrance and perimeter of the construction territories • Top Soil should be stored properly in requested amount, and managed in accordance with the required regualtions (Photo #2, Photo #3) • Surplus waste soil should be removed and stored at the proper place according agreement • Workers always should use complete PPE (Photo #4) • Special equipment during high altitude works should be always used to avoid accidents (workers damage) (Photo #5) • Special safety barriers should be arranged to avoid workers falling in deep and high altitudes of the site (Photo #6) • Fuel and lubricants spill elimination items (sand, sawdust, special containers) should be provided at the construction site • Construction territories should be lighted during nighttime works • Concrete washout pit should be arranged • Cable should be relocated to avoid any damages on users of power source; Unsafe connection to the power socket should be immediately improved (photo #6) • Household Waste container should be installed and signed 		

- Hazardous Waste container with should be installed and signed at the proper organized place with concrete floor and roofing (Photo #7)
- Tarpaulins cover should be used during inert materials transportation
- Site internally should be better arranged, materials should be better segregated/stored and cleaned regularly (Photo #8)
- First aid kits should be available at each construction site
- Covid-19 precaution actions should be implemented at each construction site

Photos of WWTP 3

Photo #1



Photo #2



Photo #3



Photo #4



Photo #5



Photo #6



Photo #6



Photo #7

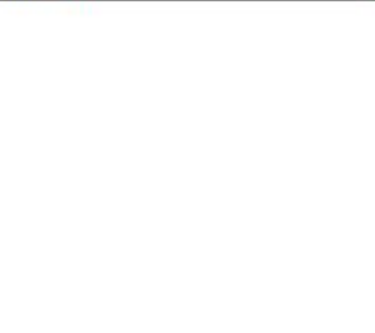


Photo #8





WWTP-04

- Construction sites should be properly fenced from all sides and equipped with lockable gate (Photo #1)
- Top Soil should be stored properly in requested amount, managed in accordance with the georgian regulations (photo #2)
- Workers always should use special equipment during high altitude works should be always used to avoid accidents (workers damage), Special safety barriers should be arranged to avoid workers falling in deep and high altitudes of the site (Photo #3)
- Concrete washout pit should be arranged at construction site (Photo #4)
- Fuel and lubricants spill elimination items (sand, sawdust, special containers) should be provided at the construction site
- Fuel and lubricants containers should be installed at the proper organized place with concrete floor and roofing
- Household Waste container should be installed and signed (Photo #6)
- Hazardous Waste container with should be installed and signed at the proper organized place with concrete floor and roofing (Photo #6)
- First aid kits should be available at each construction site
- Covid-19 precaution actions should be implemented at each construction site

Photo #1



Photo #2



Photo #3



Photo #4



Photo #5

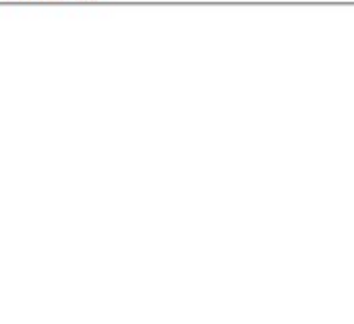


Photo #6





All these conditions have to be remedied within 10 days (by the 3.12.2021) by the prime Contractor (China Nuclear Industry 23 Construction Co., Ltd)

Date of site visits 19.11.2021






Kate Chomakhidze
UWSCG/USIIP Environmental Consultant

Site visit was attended by Ms.maka Goderdzishvili,
Head, Department of Environmental Protection and
Permits (DEPP) of UWSCG
Ms.Liza Chovelidze, Chief Specialist, DEPP of
UWSCG

ANNEX D: CORRECTIVE ACTION PLAN, GUD-03 SUB-PROJECT

Rectification photos of WWTP1:

	
<p>equipped with lockable gate</p>	<p>Construction sites properly fenced from all sides</p>
	
<p>Site internally should be better arranged</p>	<p>Hazardous Waste container (we have clean all Hazardous Waste on site)</p>
	
<p>Unsafe connection to the power socket (sub-contractor finish there work and took all the machine and cable)</p>	<p>working at height (ladder safety norms)</p>

	<p>No machine working on site and no Fuel and lubricants spill risk</p>
<p>Site internally should be better arranged(better arrange on site internally)</p>	<p>Fuel and lubricants spill elimination items</p>
	
<p>Safety rope during high altitude works</p>	<p>Top Soil stored properly and sign</p>
	
<p>Bio toilet should be exist at construction site(sub-contractor finish there work and took all the machine and toilet also)</p>	<p>Fist aid kits should be presented at construction site</p>

	
<p>Covid-19 precaution actions should be implemented at each construction site</p>	





Rectification photos of WWTP2:

	
<p>Construction sites should be properly fenced</p>	<p>equipped with lockable gate</p>
	
<p>Proper warning and safety signs</p>	<p>Demolition waste should be removed completely</p>

	
<p>Demolition waste should be removed completely</p>	

Rectification photos of WWTP3:

	
<p>Construction sites should be properly fenced</p>	<p>equipped with lockable gate</p>
	







Proper warning and safety signs	Top Soil stored properly and signed
	
Surplus waste soil removed and stored at the proper place	Workers always should use complete PPE
	
Safety rope during high altitude works	Special safety barriers be arranged to avoid workers falling in deep and high altitudes(we have cover all delle)
No machine working on site(stop working)	No night work anymore
Fuel and lubricants spill elimination items	Construction territories should be lighted during nighttime works

	
<p>Cable should be relocated to avoid any damages on users of power source; Unsafe connection to the power socket should be immediately improved (sub-contractor finish there work and took all the machine and Cable)</p>	<p>Household Waste container should be installed and signed</p>
	<p>No materials transportation on site anymore</p>
<p>Hazardous Waste container with should be installed(we have cleaned all the Hazardous Waste on site)</p>	<p>Tarpaulins cover should be used during inert materials transportation</p>
	
<p>Site internally should be better arranged</p>	<p>First aid kits should be available</p>

	
<p>Covid-19 precaution actions should be implemented</p>	<p>Site internally should be better arranged(better arrange on site internally)</p>

Rectification photos of WWTP4:

	
<p>Construction sites should be properly fenced</p>	<p>equipped with lockable gate</p>
	
<p>Top Soil should be stored properly</p>	<p>special equipment during high altitude works</p>

	
<p>Special safety barriers should be arranged to avoid workers falling in deep (we have cover all deep area to avoid workers falling in)</p>	<p>Fuel and lubricants spill elimination items and Fuel and lubricants containers should be installed</p>
	
<p>Household Waste container</p>	<p>Hazardous Waste container with should be installed(we have clean all Hazardous Waste on site)</p>
	
<p>First aid kits should be available</p>	<p>Covid-19 precaution actions should be implemented</p>

ANNEX E: POST CONSTRUCTION AUDIT REPORT, KUT-01 SUB-PROJECT

ADB Project No: 43405

Financed by: The Asian Development Bank

USIIP, Tranche 3: Sub-project: Construction and Rehabilitation of Water Supply System in Kutaisi (KUT-01/Phase II)



Post - Construction Environmental Audit Report

June 2021

TABLE OF CONTENTS

ABBREVIATIONS	99
I. INTRODUCTION	100
1.1 Preamble	100
1.3. Main Stakeholders of the Project.....	101
II. SUMMARY OF PREVIOUS ENVIRONMENTAL INSPECTIONS AND AUDITS	104
III. SUMMARY OF OBSERVATIONS OF THE SITE VISITS	105
ANNEXES:	Error! Bookmark not defined.
Annex 1: Non-compliances observed during the Environmental Inspections/Audits conducted during the 2018-2020 reporting period	112
Annex 2: Post-Construction Environmental Audit Checklist.....	117

ABBREVIATIONS

ADB	Asian Development Bank
CAP	Compensation Action Plan
DC	Design Consultant
EA	Executing Agency
EHS	Environmental Health & Safety
EIA	Environmental Impact Assessment
EIP	Environmental Impact Permit
EMP/ SSEMP	Environmental Management Plan/ Site-Specific Environmental Management Plan
ES	Environmental Specialist
GoG	Government of Georgia
GRC	Grievance Redress Committee
GRM	Grievance Redress Mechanism
IA	Implementing Agency
USIIP	Urban Sector Improvement Investment Program
IEE	Initial Environmental Examination
MoEPA	Ministry of Environment Protection and Agriculture of Georgia
MoRDI	Ministry of Regional Development & Infrastructure
UWSCG	United Water Supply Company of Georgia
WS	Water Supply

I. INTRODUCTION

1.1 Preamble

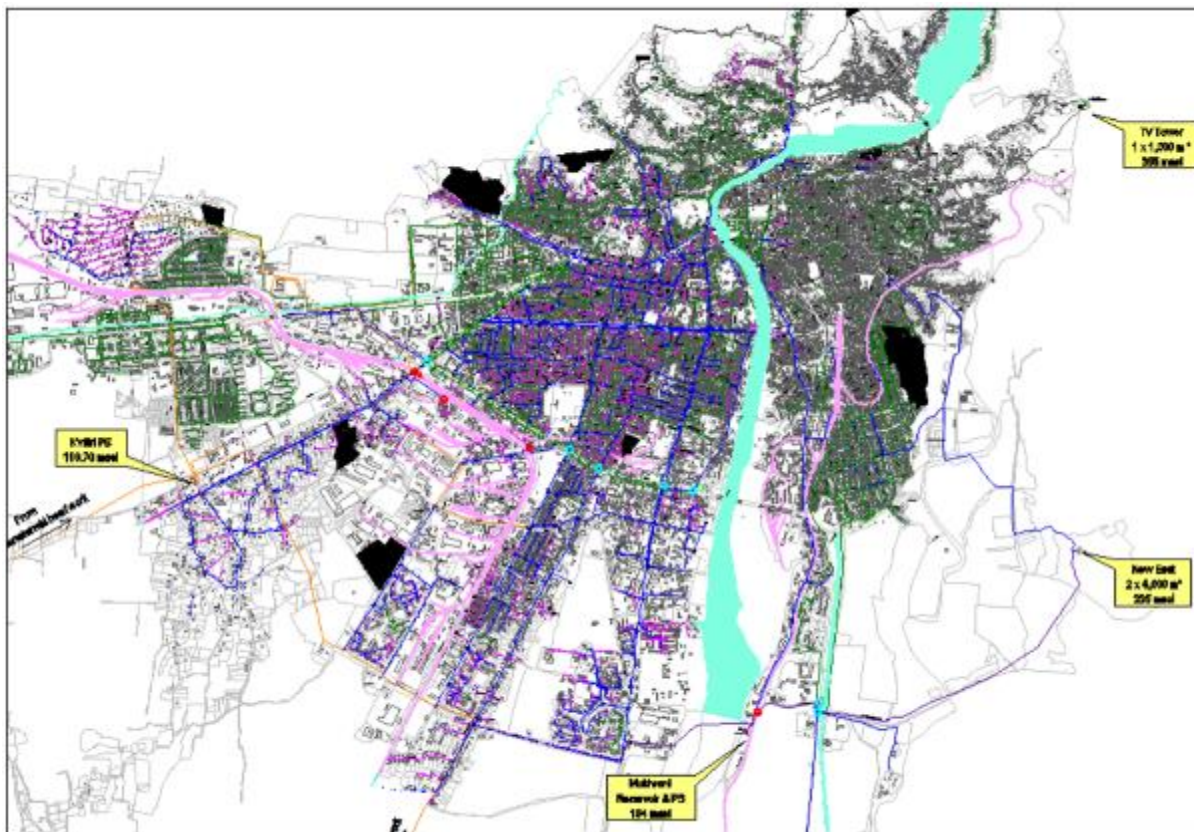
1. This report represents the Post Construction Environmental Audit Report for Construction and Rehabilitation of Water Supply System in Kutaisi (KUT-01) under Urban Services Improvement Investment Program (USIIP), Tranche 3.
2. This Post Construction Audit Report is being prepared to comply with the 2009 ADB's SPS and Georgian legislation, including safeguards requirement and aims to identify past and present concerns from the production and business activities of Project Company that related to impacts on environment. The specific objectives of the audit can be summarized as follows:
 - Determine and verify whether all environmental requirements, criteria and constraints, prescribed in IEE and SSEMP have been adhered to during the construction phase.
 - Determine and verify whether the mitigation actions and rehabilitation requirements contained in the SSEMP have been appropriate and successful to prevent or control environmental pollution and/or damage.
 - Ensure that an appropriate environmental monitoring and control program exists to follow up on mitigation and rehabilitation works completed during the construction phase.
 - To identify any shortcomings in the SSEMP and EMS system implemented during the construction phase and to recommend alterations to the EMS applicable to the operational phase.

1.2. Project background

3. The Urban Services Improvement Investment Program (USIIP) was developed as the Governments response to the lack of adequate and/or safe water supply, sewerage and sanitation in urban areas of Georgia. This is intended to optimize social and economic development in selected urban areas through improved urban water and sanitation services, and is financed by the ADB through its Multi-tranche Financing Facility. The Ministry of Regional Development and Infrastructure is the Executing Agency and the United Water Supply Company of Georgia, LLC is the Implementing Agency of the Investment Program. UWSCG is a 100% state-owned company.
4. The Investment Program will improve infrastructure through the development, design and implementation of a series of subprojects, each providing improvements in a particular sector (water supply and/or sewerage) in one town. Subprojects will rehabilitate existing infrastructure and/or create new and expanded infrastructure to meet the present and future demand. Water supply improvements will include source augmentation and head works, pumping systems, treatment facilities, transmission and distribution network; and, sewerage improvement works will include sewer network, pumping stations, main collectors and waste water treatment plants.
5. The sub-project KUT-01 (USIIP, Tranche 3) envisages construction of Kvitiri 973 m³/h capacity and Mukhrani 660 m³/h capacity pumping stations; Reservoirs - construction of Near East and Mukhrani reservoirs with the capacity of 9,000 m³ (2x4,000+1,000) and distribution network - 332.1 km (**Figure 1**).

6. United Water Supply Company of Georgia signed a contract with SMK UlusallnsaatVeTicaret A.S. (Turkey) for implementation of KUT-01 project on 22 April 2015. The initial date of completion of the contract - June 8, 2018 was extended until July 2020.

Figure 1: Location Map of the Project



1.3. Main Stakeholders of the Project

7. The main institutions that are involved in implementation of the EMP are UWSCG executing agency (EA), Supervision Consultant (SC) the Contractor and to a lesser extent the Ministry of Environment Protection and Agriculture (MoEPA).
8. Investment Program Management Office (IPMO) established within UWSCG is responsible for the day to day management of the project including implementation of the EMP. The IPMO has an Environmental Specialist who is responsible for management of the environmental aspects of USIIP.
9. The IPMO (Environmental Specialist) responsibilities in respect of implementation of the EMP are as follows:
 - (xi) Approve the Site Specific Environmental Management Plan (SSEMP) before Contractor takes possession of construction site;
 - (xii) Monitor implementation of EMP and ensure the environmental safeguards compliance;
 - (xiii) Review the updated IEE and/or SEMP and send it for clearance to ADB;
 - (xiv) Ensure that contractors have access to the EMP and IEE report;

- (xv) Finalize SAEMRs (and Final EMRs upon project completion), send it to ADB and address potential ADB's comments until SAEMR disclosure; Provide ENG and GEO final versions of SAEMRs to be uploaded on UWSCG website;
- (xvi) Review and approve the Corrective Action Plan and provide to ADB for review and comments if any;
- (xvii) Participate in public consultations during project implementation;
- (xviii) In case of need assist IPMO Social/Resettlement Consultant in resolving process of environmental safeguards related complaints;
- (xix) Assist in organizing trainings for the Contractors in coordination with ADB/RETA consultant;
- (xx) Participate in external trainings in environmental management and environmental auditing

10. The SC includes a full time Environmental Specialist to assist the IPMO supervise and monitor implementation of the EMP during construction.

11. The Contractor also appoints a full time Environmental specialist to be a senior member of the construction management team based on site for the duration of the contract. The ES shall have a university degree (preferably at Masters level) in Environmental Science or related discipline and have at least 10 years work experience in environmental management of infrastructure project

12. Department of Environmental Protection and Permits of UWSCG work together with IPMO on addressing the Environmental Safeguard issues of USIIP. More detailed description of implementation arrangements, responsibilities and staffing under KUT-01 sub-project are provided in the Table 1 below.

Table 1. List of contracts under the Project

Organization	Name of main staff and Environmental Specialist	Contact data (including phone and web-site) and address of the organization
Asian Development Bank	ADB Country Environmental Focal	Ninette R. Pajarillaga E-mail: npajarillaga@adb.org
	ADB RETA International Environmental Consultant	KetiDgebuadze +995 577232937 E-mail: kdgebuadze.consultant@adb.org
	Associate Safeguards Officer, Georgia Resident Mission	Nino Nadashvili +995 595 070442 E-mail: nnadashvili@adb.org





Organization	Name of main staff and Environmental Specialist	Contact data (including phone and web-site) and address of the organization
	Asian Development Bank	
UWSCG	UWSCG, Department of Environmental Protection and Permits, Head	Ms. MakaGoderdzishvili Tel: +995 599 229925 E-mail: m.goderdzishvili@water.gov.ge
	UWSCG/IPMO Department of Projects Management, Head	Ms. Ana Onashvili Tel: +995 599 692090 E-mail: ana.onashvili@water.gov.ge
UWSCG/USIIP/T3	Environmental Specialist	Ms. KetevanChomakhidze Tel: +995 577 380309 E-mail: chomakhidzek@yahoo.com
Supervision Consultant A Consortium of Consulting Firm led by EptisaServicios de Ingeniria S.L. (Spain) in association with SAFEGE (Belgium) and JSC Georgian Water Project (Georgia)	Environmental Specialist	Mr. Irakli Legashvili Tel: +995 577 177016 E-mail: chem_ira@yahoo.com
Construction Company SMK UlusallnsaatVeTicaret A.S. (Turkey)	Environmental Specialist	Ms. Natia Babukhadia Tel: +995 595 150444 E-mail: natiiibab@gmail.com

II. SUMMARY OF PREVIOUS ENVIRONMENTAL INSPECTIONS AND AUDITS

13. In 2018-2020, in the construction phase of Kutaisi water supply system, the environmental monitoring was conducted by several organizations, namely - ADB, Supervision Consultant (CSC), Construction Contractor (CC) and UWSCG. A total of 63 non-compliances were identified in the environmental monitoring phase in 2018-2020 (see **Annex 1**).
14. The identified non-compliances can be divided into the following main areas: (i) absence or improperly installed warning and prohibition signs - 28 cases (44.4%); (ii) improper management and disposal of waste or hazardous construction materials - 18 cases (28.6%); (iii) violation of the requirements for wearing safety uniforms (PPE) or safety standards - 7 cases (11.1%); (iv) absence of environmental or health and safety specialist on site - 2 cases (3.2%); (v) high noise level and faulty construction equipment - 6 cases (9.5%); (vi) violation of IEE/SSEMP requirements in the phase of rehabilitation works - 2 cases (3.2%).
15. In 2018-2020, corrective actions were developed and realized for all of the above-listed non-compliances. According to environmental reports, all non-compliances have been eliminated

III. SUMMARY OF OBSERVATIONS OF THE SITE VISITS

16. Post Construction Environmental Audit of “Construction and Rehabilitation of Water Supply System in Kutaisi (KUT-01/Phase II)” sub-project was conducted on 18 May 2021 by Eptisa Environmental Specialist.
17. The following facilities were visited during the post construction audit: (i) Partskhanakanevi chlorination station; (ii) Godogani Reservoir; (iii) Mukhrani pumping station; (iv) the site on intersection of the river with a water supply pipe; and (v) Kvitiri pumping station. See **Figure 2** for the location of the said facilities.
18. All the above-listed sites were fenced and it was impossible for strangers as well as for domestic animals to penetrate the site (see **Figure 2 - 5**). It should be noted that the existing fence has not been rehabilitated within the scope of the subproject of Kvitiri pumping station and Partskhanakanevi chlorination station (**Figures 4 and 5**).

<p>Figure 2: Godogani Reservoir</p>	<p>Figure 3: Mukhrani pumping station</p>
	
<p>Figure 4: Partskhanakanevi chlorination station</p>	<p>Figure 5: Kvitiri pumping station</p>
	

19. The quality of the rehabilitation works was satisfactory in the area where the Rioni River is intersected with the water supply pipeline (**Figures 6 and 7**).

Figure 6 and 7: The restored slopes in the area where the Rioni River is intersected with the water supply pipeline



20. During the audit, a number of non-compliances were identified, which require the preparation and implementation of the corrective actions.
21. **Observation:** Particular attention must be paid to the non-compliance observed near Mukhrani pumping station related to the improper management of the topsail (**Figure 8 and 9**).



Figures 8 and 9: Topsoil left uncontrolled in the area of temporary disposal (Mukhrani Pumping Station)



22. **Requirement:** according to the IEE document developed within the scope of the project (IEE, paragraph 54):“(i) The top soil of about 1 ft depth (0.3 m) 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; (ii) Subject to advance consent of local self-governance authorities, the excess topsoil remained after construction of the New East Reservoir, two new

collector reservoirs at Mukhrani and Partskhanakanebi, and extension of the existing TV Tower Reservoir will be used at other Project sites or handed over to the appropriate authorities”.

23. **Non-compliance#1:** The topsoil removed in the project area was not used during the restoration works, and nor was it handed over to the local authority. The construction contractor left the topsoil removed from the project area on the site of temporary disposal.
24. **Corrective action:** The topsoil left on the site of temporary disposal near Mukhrani pumping station must be used: (i) for the restoration work; (ii) if the said topsoil is not needed for the restoration work, it must be handed over to the local self-government or can be left stabilized at the current location in agreement with UWSCG
25. Other non-compliances identified on various sites are relatively minor and their correction is not associated with additional high costs.
26. **Non-compliance #2:** In the area of Godogani and Kvitiri reservoirs (**Figures 10 and 13**) and Partskhanakanebi chlorination station (**Figures 11 and 12**), the facts of uncontrolled disposal of the construction waste and hazardous construction materials were fixed.

<p>Figure 10: Godogani Reservoir</p>	<p>Figure 11: Partskhanakanebi chlorination station</p>
	
<p>Figure 12: Partskhanakanebi chlorination station</p>	<p>Figure 13: Kvitiri pumping station</p>



27. **Requirement:** Upon the completion of the project, the waste should be handed over to a duly licensed company (Source: IEE, Paragraph 145).

28. **Corrective action:** Waste must be collected and disposed from the project area. The waste must be handed over only to the duly licensed contractors for further management.

29. A number of violations of the safety measures were also identified near Kvitiri pumping station (**Figure 14**) and on the territory of Partskhanakanebi chlorination station (**Figure 15**).

30. **Non-compliance #3:** The underground infrastructure in the project zone was opened (not duly closed) (**Figures 14 and 15**).

Figure 14: The territory of Kvitiri pumping station

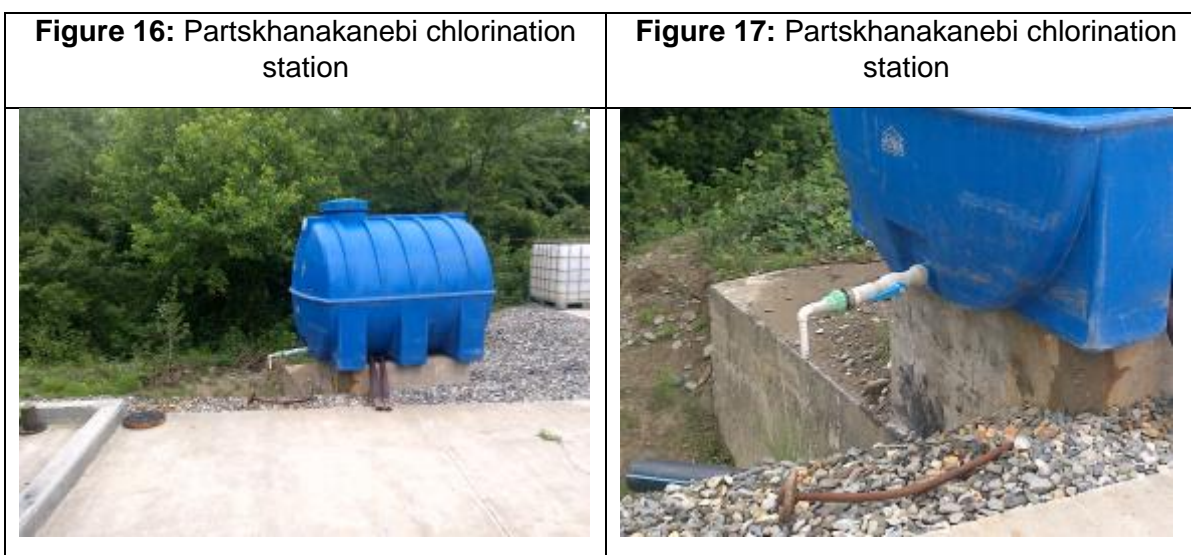


Figure 15: The territory of Partskhanakanebi chlorination station



31. **Requirement:** All the underground infrastructural units must be closed following the completion of the project to prevent service personnel or animals from falling into them (Source: IEE for

32. **Corrective action:** at first, the area must be fenced or the warning signs must be installed. Finally, it is necessary to cover the above-mentioned underground facilities capially or with hatches.
33. There is a sanitary unit in the area of Partskhanakanebi chlorination station used by the employees for hygienic purposes. The used contaminated water from the tap flows directly into the soil.



34. **Non-compliance #4:** The contaminated water used for hygienic purposes flows directly into the soil.
35. **Corrective action:** The contaminated water must be collected and discharged into the sewerage or septic tank.

III. CONCLUSIONS AND RECOMMENDATIONS

36. Table 2 gives the summary information about the non-compliances observed during the environmental audit and due corrective actions and probable terms of their realization⁴.

Table 2: Summary information

-
- ⁴ Non-compliances #2-4: (i) UWSCG to require contractor to clean up the site, remove waste materials, cover open-areas that may cause accidents, and provide signages. The Employer/Engineer should not issue the "acceptance/completion notice" until the non-compliances are corrected. (ii) In the event that contractor is not available anymore, UWSCG must undertake the necessary actions to correct the observed non-compliances.

#	Observed Non-compliance	Requirements	Corrective Action	⁵ Target Date for Completion and Responsibility
1	The topsoil removed in the project area was not used during the restoration works, and nor was it handed over to the local authority. The construction contractor left the topsoil removed from the project area on the site of temporary disposal.	Top soil of about 15 cm depth shall be removed and stored separately in appropriate location. After completion of construction work top soil must be used for restoration work	The topsoil left on the site of temporary disposal near Mukhrani pumping station must be used: (i) for the restoration work; (ii) if the said topsoil is not needed for the restoration work, it must be handed over to the local self-government.	30 October 2021
2	In the area of Godogani and Kvitiri reservoirs and Partskhanakanebi chlorination station, the facts of uncontrolled disposal of the hazardous materials were fixed	All waste will be disposed to an approved disposal site at Kutaisi Municipality Waste Storage Area (rubbish, waste materials etc.); All waste (Non-hazardous, Hazardous, Inert,) will be removed from site, using the approved third party (Local Municipality Service or/and licensed subcontractor) and transported to a local landfill; All waste bins, boxes, drums, areas, etc. will be labeled.	Waste must be collected and disposed from the project area. The waste must be handed over only to the duly licensed contractors for further management.	30 September 2021
3	The underground infrastructure in the project zone was opened (not duly closed)	Construction area will be fenced and relevant warning signs will be placed at the site entrance before site establishment activities are commenced.	At first, the area must be fenced or the warning signs must be installed. Finally, it is necessary to cover the above-mentioned underground facilities capially or with	30 October 2021

⁵ As the contractor is no longer available and the facility has been turned-over to the UWSCG, UWSCG/facility operator has undertaken the necessary actions to correct the observed non-compliance under KUT-01 (Phase II) sub-project.

#	Observed Non-compliance	Requirements	Corrective Action	⁵ Target Date for Completion and Responsibility
			hatches.	
4	The contaminated water used for hygienic purposes flows directly into the soil (Partskhanakanebi chlorination station)	Collect contaminated water into the discharged system to avoid soil pollution	The contaminated water must be collected and discharged into the sewerage or septic tank	31 August 2021

**ANNEX 1: NON-COMPLIANCES OBSERVED DURING THE ENVIRONMENTAL
INSPECTIONS/AUDITS CONDUCTED DURING THE 2018-2020 REPORTING PERIOD**

Date	Ref Number	Subject	Content/Issues
January to June 2018			
26 March		Construction activities information signs should be installed at each construction segment	
26 March		Safety signs/tapes around of all open trenches should be installed to avoid accident of population	
26 March		Special blinking signs or flag men should be provided when passing streets to avoid disturbance of car movements	Contractor is instructed to immediately provide special blinking signs and flag man to avoid disturbance on streets by car movement.
26 March		Surplus waste soil should be removed and disposed in a proper place	Contractor is instructed to improve the situation and provide relevant photos to UWSCG.
26 March		Construction materials should be brought when needed to avoid its long-time disposal in the streets and disturbance of residents and businesses	
26 March		Enough and proper wooden/metal walkways/planks across open trenches should be installed.	Contractor is instructed to improve standards while working on trenches and follow requirements of SEMP/EMR.
26 March		Resident houses nearby areas should be clean from construction materials to avoid disturbance of residents and businesses	
26 March		All transmission line construction segments should be cleaned/well organized on regular bases	
26 March		Workers always should use complete PPE	
26 March		Refilling/compaction and reinstatement process should bring site at the same or better condition as it was before construction	
17 May		Construction wastes should be removed timely and completely	
17 May		Safety signs/tapes should be installed around open trenches to avoid accidents	Contractor is instructed to improve standards while working on trenches and follow requirements of SEMP/EMR.
17 May		Waste should be placed only at the proper waste container	
17 May		Workers always should use complete PPE	

17 May		Site internally should be arranged properly and cleaned regularly	Contractor is instructed to improve the situation and follow requirements of SSEMP/EMR.
17 May		Site should be properly fenced from all sides and equipped with lockable gate	Contractor is instructed to improve the situation and follow requirements of SSEMP/EMR.
17 May		Proper warning and information signs should be arranged at the entrance and perimeter of the site	Contractor is instructed to improve the situation and follow requirements of SSEMP/EMR.
17 May		Safety signs/tapes and trench side barriers around of deep open excavation should be installed from all sides to avoid accidents	Contractor is instructed to immediately improve the situation and install safety signs from all sides of open excavation to avoid accident and to send improved photos to UWSCG.
17 May		Construction territory should be lighted adequately	
17 May		Trees at the construction site and nearby deep excavation zone should be protected to avoid its damage	
17 May		Safety tapes and fencing around concrete washing pit and proper sign should be installed	
17 May		Safety officer should be permanently available at the construction site	Contractor is instructed to improve the situation and follow requirements of SSEMP/EMR.
17 May		Oils or similar liquid containers should be stored properly at dedicated place	Contractor is instructed to improve the situation and follow requirements of SSEMP/EMR.
17 May		Proper fuel/oil spill response items (sand, sawdust, special containers) should be available at the site	Contractor is instructed to improve the situation and follow requirements of SSEMP/EMR.
June to December 2018			
5 September		High visible safety signs/tapes around of deep excavation should be installed from all sides to avoid accidents	Contractor is given strong instruction to improve the situation, develop CAP (if requested) and send improved photos of Site to SC and UWSCG by the end of January 2019.
5 September		Construction waste should be timely removed from the construction site and disposed properly	
5 September		Site internally should be arranged properly and cleaned regularly	
5 September		Proper fuel/oil spill response items (sand, sawdust, special containers) should be available at the construction site	Contractor is given strong instruction to improve the situation, develop CAP (if requested) and send improved photos of Site to SC and UWSCG by the end of January 2019.
5 September		All construction materials should be properly segregated and stored adequately	
5 September		Ladder safety should be ensured	

5 September		Safety signs/tapes around of all open trenches should be installed to avoid accident of population	Contractor is given strong instruction to improve the situation, develop CAP (if requested) and send improved photos ofSite to SC and UWSCG by the mid of January.
5 September		Construction activities information signs should be installed at each construction segment	
5 September		Walls of the deep trenches (>1.5m) are not strengthened by boards to avoid landfall of the soil and accidents	
5 September		Surplus waste soil should be removed and disposed in a proper place	
5 September		Noise from the construction activities should not cause disruption and nuisance to nearby community and other sensitive receptors (i.e. school, hospitals).	Instruction are given to contractor to improve the situation and to conduct mitigation measures
15 October		Equipment & vehicles used for construction activities should be in good condition (no leakage) to avoid leakage and ground/water contamination	The contractor is given strict instructions to improve the situation and remove the oldequipment located near the construction site
15 October		Safety signs/tapes around of all open trenches should be installed (at the non-operational segments)	Contractor is given strong instruction to improve the situation, develop CAP and send improved photos ofsite.Instruction are given to contractor to improve the situation and to conduct mitigation measures
15 October		Surplus/accumulated soil for backfilling purposes should be managed/stored properly	
15 October		Trees of nearby construction zone should be protected to avoid its damage	
15 October		Workers always should use complete PPE	
15 October		Construction activities information signs should be installed at each construction segment	
15 October		Trench side barriers around of deep open trenches should be installed to avoid accident of population	
15 October		Walls of the deep trenches (>1.5m) should be strengthened by boards to avoid landfall of the soil and accidents (workers damage)	
January to June 2019			
1 April		Daily presence of HSE officer at the construction territoryis necessary	Contractor is given stronginstruction to improve thesituation, develop CAP (ifrequested) and sendimproved photos ofSite to SC and UWSCG bythe end of July 2019.
1 April		Safety rules during electric cable use should berespected	
1 April		Construction area and wooden materials should be freedfrom big nails to avoid personnel damage. Used nailsshould be collected regularly to avoid workers damage	
1 April		Fuel/oil spill response items (sand, sawdust, specialcontainers) should be available at the	

		site and used asneeded	Instructions are given tocontractor to improve thesituation and to conductmitigation measures
1 April		Site internally should be arranged properly and cleanedregularly	
1 April		Noise from the construction activities should not causedisruption and nuisance to nearby community and othersensitive receptors (i.e., school, hospitals).	
1 April		Walls of the deep trenches (>1.5m) should bestrengthened by boards to avoid landfall of the soil andaccidents (workers damage)	
31 May		Construction activities information signs should beinstalled at each construction segment	
31 May		Construction materials should be brought when neededto avoid its long-time disposal in the streets anddisturbance of residents and businesses	
31 May		All transmission line construction segments should becleaned/well organized on regular bases	
31 May		Workers always should use complete PPE	
31 May		Refilling/compaction and reinstatement process shouldbring site at the same or better condition as it was beforeconstruction	Contractor is given stronginstruction to improve thesituation, develop CAP (ifrequested) and sendimproved photos ofSite to SC and UWSCG bythe mid of July 2019.
31 May		Walls of the deep trenches (>1.5m) should bestrengthened by boards to avoid landfall of the soil andaccidents (workers damage)	
31 May		Noise from the construction activities should not causedisruption and nuisance to nearby community and othersensitive receptors (i.e. school, hospitals).	
June to December 2018			
3 October		High visible safety signs/tapes and trench side barriersaround of deep open excavation should be installed fromall sides to avoid accidents	Contractor is given stronginstruction to improve thesituation, develop CAP (ifrequested) and sendimproved photos ofSite to SC and UWSCG bythe end of January 2020.
3 October		Waste should be timely removed from the constructionsite and disposed properly.	
3 October		Noise from the construction activities should not causedisruption and nuisance to nearby community and othersensitive receptors (i.e. school, hospitals).	Instructions are given tocontractor to improve thesituation and to conductmitigation measures
January to June 2019			
28 April		Noise from the construction activities should not causedisruption and nuisance to nearby community and othersensitive receptors (i.e. school, hospitals).	Instructions are given tocontractor to improve thesituation and to conductmitigation measures

28 April		Proper warning and safety signs should be provided at the entrance and perimeter of the construction territory	Contractor is given strong instruction to improve the situation immediately, develop CAP (if requested) and send improved photos of Site to SC and UWSCG by the 5th July 2020.
28 April		Household and Hazardous Waste container with relevant indication sign should be installed at the construction area	
28 April		Workers always should use complete PPE. Also special equipment during high altitude works should be always used to avoid accidents (workers damage)	

ANNEX 2: POST-CONSTRUCTION ENVIRONMENTAL AUDIT CHECKLIST

Required mitigation measure of environmental impact	Measures implemented				Comment
	yes	partially	no	N/A	
Site territory fenced fully	x				All project zones were fenced. It should be noted that the existing fence within the scope of Kvitiri pumping station and Partskhanakanebi chlorination station subproject has not been upgraded.
Topsoil placed at original location		x			The rehabilitation works were carried out in all project zones, where the removed topsoil in the project zone was used. The topsoil was not removed from Mukhrani Reservoir area.
Vegetation cover reinstated		x			The grass has been self-restored on the territory.
Trees replanted as needed				x	No trees were planted in the project zone.
Construction waste and surplus/waste soil removed completely and disposed properly		x			With few exceptions, the construction and household waste were removed from the project area. Uncontrolled disposal of the construction waste was fixed in the areas of Godogani and Kvitiri reservoirs and Partskhanakanebi chlorination station.
Hazardous waste removed and disposed properly.	x				No facts of uncontrolled disposal of hazardous waste were fixed in the project area.
Fuels and lubricants spills eliminated	x				No traces of leakage were identified in the project area.
Contractor equipment and machinery removed	X				All the construction equipment was removed from the project zones.
All temporary facilities removed and cleaned up	x				The temporary auxiliary buildings are fully removed from the site.
Streets with installed network reinstated to pre-construction or better conditions	x				The access roads to the project zone are reinstated. Their physical state is satisfactory.
Post-Construction territory reinstated to pre-construction or better conditions		x			The project zone is reinstated in line with the requirements.

ANNEX F: POST CONSTRUCTION AUDIT REPORT, URE-01

ADB Project No: 43405

Project: Construction of Water Supply and Wastewater Network in Ureki (URE-01)



Post - Construction Environmental Audit Report

July 2021

TABLE OF CONTENTS

ABBREVIATIONS.....	3
I. INTRODUCTION.....	4
1.1 Preamble	4
1.2. Project background.....	4
1.3 Main Stakeholders of the Project	5
II. SUMMARY OF PREVIOUS ENVIRONMENTAL AUDITS.....	7
III. SUMMARY OF OBSERVATIONS OF THE SITE VISITS.....	8
3.1. Audit results	8
3.3 Non-compliances and corrective actions	10
ANNEXES:	14
<i>Annex 1: Non-compliances observed during the Environmental Audits conducted during the 2017-2020 reporting period</i>	<i>14</i>
<i>Annex 2: Post-Construction Environmental Audit Checklist.....</i>	<i>19</i>

ABBREVIATIONS

ADB	Asian Development Bank
CAP	Compensation Action Plan
DC	Design Consultant
EA	Executing Agency
EHS	Environmental Health & Safety
EIA	Environmental Impact Assessment
EIP	Environmental Impact Permit
EMP/ SSEMP	Environmental Management Plan/Site-Specific Environmental Management Plan
ES	Environmental Specialist
GoG	Government of Georgia
GRC	Grievance Redress Committee
GRM	Grievance Redress Mechanism
IA	Implementing Agency
USIIP	Urban Sector Improvement Investment Program
IEE	Initial Environmental Examination
MoEPA	Ministry of Environment Protection and Agriculture of Georgia
MoRDI	Ministry of Regional Development & Infrastructure
UWSCG	United Water Supply Company of Georgia
WS	Water Supply

I. INTRODUCTION

1.1 Preamble

1. This report represents the Post Construction Environmental Audit Report for Construction of Water Supply and Wastewater Network in Ureki (URE-01) under "Urban Services Improvement Investment Program" (USIIP) funded by the Asian Development Bank. URE-01 sub-project is simultaneously funded by T1,T2 and T3 of USIIP.
2. This Post Construction Audit Report is being prepared to comply with the 2009 ADB's SPS and Georgian legislation, including safeguards requirement and aims to identify past and present concerns from the production and business activities of Project Company that related to impacts on environment. The specific objectives of the audit can be summarized as follows:
 - Determine and verify whether all environmental requirements, criteria and constraints, prescribed in IEE and SSEMP have been adhered to during the construction phase.
 - Determine and verify whether the mitigation actions and rehabilitation requirements contained in the SSEMP have been appropriate and successful to prevent or control environmental pollution and/or damage.
 - Ensure that an appropriate environmental monitoring and control program exists to follow up on mitigation and rehabilitation works completed during the construction phase.
 - To identify any shortcomings in the SSEMP and EMS system implemented during the construction phase and to recommend alterations to the EMS applicable to the operational phase.

1.2. Project background

3. The Urban Services Improvement Investment Program was developed as the Governments response to the lack of adequate and/or safe water supply, sewerage and sanitation in urban areas of Georgia. This is intended to optimize social and economic development in selected urban areas through improved urban water and sanitation services, and is financed by the ADB through its Multi-tranche Financing Facility. The Ministry of Regional Development and Infrastructure is the Executing Agency and the United Water Supply Company of Georgia, LLC is the Implementing Agency of the Investment Program. UWSCG is a 100% state-owned company.
4. The Investment Program will improve infrastructure through the development, design and implementation of a series of subprojects, each providing improvements in a particular sector (water supply and/or sewerage) in one town. Subprojects will rehabilitate existing infrastructure and/or create new and expanded infrastructure to meet the present and future demand. Water supply improvements will include source augmentation and head works, pumping systems, treatment facilities, transmission and distribution network; and, sewerage improvement works will include sewer network, pumping stations, main collectors and waste water treatment plants.
5. The project comprises of the construction of 1 water supply pumping station and 31 sewage pumping stations (Shekviteli - 18, Ureki - 13; construction of new reservoirs (2,000 m³ x 3,000 m³ and 1 x 1,200 m³); distribution network - laying of approximately 70

km water supply pipelines (distribution network will be divided into 3 areas); laying of approximately 70 km sewage pipelines; installation of approximately 1,500 water meters; wells - drilling of 10 drinking water wells (**Figure 1**).

6. Implementation of infrastructural projects negatively impacts on environment as we are all aware. Construction of water infrastructure impacts on all components of the natural environment, during which changing of landscape, fragmentation of soil surface, losing of fertile layer of soil, elimination of green cover and migration ways of animals, changing of river bed and pollution of surface water, reducing of living area of birds and fishes may also occur.

Figure 1: Location Map of the Project



1.3 Main Stakeholders of the Project

7. The main institutions that are involved in implementation of the IEE/EMP are UWSCG executing agency (EA), Supervision Consultant (SC) the Contractor and to a lesser extent the Ministry of Environment and Natural Resources Protection (MoENRP).
8. Investment Program Management Office (IPMO) established within UWSCG is responsible for the day to day management of the project including implementation of the EMP. The IPMO has an Environmental Specialist who is responsible for management of the environmental aspects of USIIP.
9. The IPMO (Environmental Specialist) responsibilities in respect of implementation of the EMP are as follows:

- (i) Approve the Site Specific Environmental Management Plan (SSEMP) before Contractor takes possession of construction site;
 - (ii) Monitor implementation of EMP and ensure the environmental safeguards compliance;
 - (iii) Review the updated IEE and/or SEMP and send it for clearance to ADB;
 - (iv) Ensure that contractors have access to the EMP and IEE report;
 - (v) Finalize SAEMRs (and Final EMRs upon project completion), send it to ADB and address potential ADB's comments until SAEMR disclosure; Provide ENG and GEO final versions of SAEMRs to be uploaded on UWSCG website;
 - (vi) Review and approve the Corrective Action Plan and provide to ADB for review and comments if any;
 - (vii) Participate in public consultations during project implementation;
 - (viii) In case of need assist IPMO Social/Resettlement Consultant in resolving process of environmental safeguards related complaints;
 - (ix) Assist in organizing trainings for the Contractors in coordination with ADB/RETA consultant;
 - (x) Participate in external trainings in environmental management and environmental auditing
10. The SC includes a full time Environmental Specialist to assist the IPMO supervise and monitor implementation of the EMP during construction.
11. The Contractor also appoints a full time Environmental Specialist to be a senior member of the construction management team based on site for the duration of the contract. The ES shall have a university degree (preferably at Masters Level) in Environmental Science or related discipline and have at least 10 years work experience in environmental management of infrastructure project.
12. Department of Environmental Protection and Permits of UWSCG work together with IPMO on addressing the Environmental Safeguard issues of USIIP. More detailed description of implementation arrangements, responsibilities and staffing under URE-01 sub-project are provided in the Table 1 below.

Table 1. List of contracts under the Project

Organization	Name of main staff and Environmental Specialist	Contact data (including phone and web-site) and address of the organization
Asian Development Bank	ADB Country EnvironmentalFocal	Ninette R. Pajarillaga E-mail: npajarillaga@adb.org
	ADB RETA InternationalEnvironmental Safeguards Consultant	KetiDgebuadze +995 577232937 ketdgeb@yahoo.com
	Associate Safeguards Officer, Georgia Resident Mission Asian Development Bank	Nino Nadashvili +995 595 070442 nnadashvili@adb.org

Organization	Name of main staff and Environmental Specialist	Contact data (including phone and web-site) and address of the organization
UWSCG	UWSCG, Department of Environmental Protection and Permits, Head	Ms. MakaGoderdzishvili Tel: +995 599 229925 m.goderdzishvili@water.gov.ge
	UWSCG/IPMO Department of Projects Management, Head	Ms. Ana Onashvili Tel: +995 599 692090 ana.onashvili@water.gov.ge
UWSCG/USIIP	Environmental Specialist	Ms. KetevanChomakhidze Tel:+995 577 380309 Chomakhidzek@yahoo.com
Supervision Consultant A Consortium of Consulting Firm ledby EptisaServiciosde Ingeniria S.L.(Spain) in associationwith SAFEGE(Belgium) and JSCGeorgian WaterProject (Georgia)	Environmental Specialist	Mr. Irakli Legashvili Tel:+995 577 177016 chem_ira@yahoo.com
Construction Company JV of Peri Ltd(Georgia) LeadingPartner and Slon LLC (Azerbaijan)	Environmental H&S Specialist	Mr. Levan Asabashvili Tel: +995 599 962 693 levani.asabashvili@mail.ru

II. SUMMARY OF PREVIOUS ENVIRONMENTAL AUDITS

13. In the construction phase, as a result of the environmental audits conducted by the organizations (UWSCG/IPMO/DEPP, Supervision Company) involved in the project in 2017-2020 revealed total 44 non-compliances. The environmental reports submitted to the Asian Development Bank give a detailed description of all non-compliances and corrective actions developed. According to the environmental audit reports published on the Asian Development Bank website, all of the non-compliances fixed in 2017-2020 have been remedied.

14. For the detailed information about the results of the accomplished audits, see **Annex 1**.

III. SUMMARY OF OBSERVATIONS OF THE SITE VISITS

3.1. Audit results

15. Construction of Water Supply and Wastewater Network in Ureki (URE-01). The Contract is signed with JV of Peri Ltd (Georgia) Leading Partner and Slon LLC (Azerbaijan) on October 28, 2014. Commencement date was November 24, 2014. Initial Completion date was scheduled on November 22, 2018 but due to changes in the design of project, which includes the construction of an Aqueduct across the Natanebi River, the construction of Gabion walls to protect well fields from flooding and erosion, and the construction of an additional deep well No. 8 along the banks of the Natanebi River, completion date was extended to September 2019.
16. The final (closing) environmental audit of Ureki water supply and sewerage network was conducted by the environmental audit team in 17 May of 2021.
17. The audit team visited the following facilities: (i) the water intake area; (ii) Reservoir #1; (iii) Reservoir #3; and (iv) pumping station. For the locations of the mentioned facilities, see **Figure 1** above. Besides, the access roads to the mentioned facilities are restored/built.
18. All the above-mentioned sites were fenced and it was impossible for strangers as well as domestic animals to enter the site (see **Figure 2 - 5**).

Figure 2: Territory of reservoir #3



Figure 3: Territory of reservoir #1 station



Figure 4: Territory of the pumping station



Figure 5: Borehole area



19. The construction waste was disposed from all facilities except some minor exceptions (see non-compliance 1) and the area was cleaned (**Figures 6 - 9**).

Figure 6: Reservoir #3



Figure 7: Reservoir #1



Figure 8: Pumping station



Figure 9: Borehole area



20. The restoration works are completed all over the area and the topsoil was taken back to the project area. It should be noted that no artificial plantings were done in the area. So, it is clear that the self-restoration process took place in the project area (see **Figures 10 and 11**).

Figure 10: Self-restored grass – the territory of the first reservoir



Figure 11: Self-restored grass – the territory of the pumping station



21. The access roads to the project area were restored and paved. Their physical state corresponds to the IEE requirements (**Figures 12 and 13**).

Figure 12: Access road to the first reservoir



Figure 13: Access road to the pumping station



3.3 Non-compliances and corrective actions

22. As mentioned above, no significant non-compliances were observed during the environmental audit and all corrective actions that need to be taken do not require additional funding and time.
23. **Non-compliance #1:** There was chaotically disposed construction and household waste observed on the territory of the pumping station (see **Figures 14 and 15**).

Figures 14 and 15. The waste disposed chaotically. The territory of the pumping station

- 24. **Requirement:** Following the completion of the project, the waste must be handed over to a duly licensed company.
- 25. **Corrective action:** The waste must be collected and disposed from the project area. The waste must be handed over only to duly licensed contractors for further management.
- 26. **Non-compliance #2:** The area of the construction materials on the territory of the pumping station was not fenced and was not protected from the impact of the atmospheric precipitation (**Figures 16 and 17**).

Figure 16 and 17: The construction waste on the territory of the pumping station



- 27. **Requirement:** The area with the construction waste must be fenced and have relevant information signs.
- 28. **Corrective action:** The territory of the construction materials area must be duly fenced. The construction materials must be disposed in the project area more compactly and must be protected from the atmospheric precipitation by using an appropriate protective cover.
- 29. A number of violations of the rules of safety were observed in the water intake area.
- 30. **Non-compliance #3:** The underground infrastructure and the well in the project area were not duly covered (**Figures 18 and 19**).

Figures 18 and 19: Open infrastructural objects in the water intake area



- 31. **Requirement:** All underground infrastructural facilities must be closed after the project is complete to prevent service personnel or animals from falling into them.
- 32. **Corrective action:** In the first stage, the area must be fenced or warning signs must be installed. And finally, it will be necessary to provide a capital cover or a hatch over such underground facilities.
- 33. **Non-compliance #4:** A power cable was fixed near the power transmission pole located in the water intake area, which was cut off for unknown reasons and lying on the ground in an uncontrolled manner (see **Figures 20 and 21**).

Figures 20 and 21: The wire cable on the earth surface



- 34. **Requirement:** A power transmission line is not admitted to be on the ground in an uncontrolled manner.
- 35. **Corrective action:** First of all, the given area must be marked. Then, owner of the given cable must be identified and addressed immediately to carry out relevant repair works. If the given wire is used to supply power to the wells, it is necessary to install them in compliance with the requirements of the relevant instructions.

III. CONCLUSIONS AND RECOMMENDATIONS

36. Table 2 gives the summary information about the non-compliances observed during the environmental audit and due corrective actions and probable terms of their realization.

Table 2: Summary information

#	Non-compliance	Corrective action	Terms of accomplishment	Note
1.	There was chaotically disposed construction and household waste observed on the territory of the pumping station	The waste must be collected and disposed from the project area. The waste must be handed over only to duly licensed contractors for further management.	1 month	
2	The area of the construction materials on the territory of the pumping station was not fenced and was not protected from the impact of the atmospheric precipitation	The territory of the construction materials area must be duly fenced. The construction materials must be disposed in the project area more compactly and must be protected from the atmospheric precipitation by using an appropriate protective cover.	1 month	
3.	The underground infrastructure and the well in the project area were not duly covered	In the first stage, the area must be fenced or warning signs must be installed. And finally, it will be necessary to provide a capital cover or a hatch over such underground facilities.	1 month	The area must be fenced or the warning signs must be installed in the shortest possible time, in maximum 2 or 3 days
4.	A power cable was fixed near the power transmission pole located in the water intake area, which was cut off for unknown reasons and lying on the ground in an uncontrolled manner	First of all, the given area must be marked. Then, owner of the given cable must be identified and addressed immediately to carry out relevant repair works. If the given wire is used to supply power to the wells, it is necessary to install them in compliance with the requirements of the relevant instructions.	2 weeks	The area must be fenced or the warning signs must be installed in the shortest possible time, in maximum 2 or 3 days

ANNEXES:

Annex 1: Non-compliances observed during the Environmental Audits conducted during the 2017-2020 reporting period

Date	Ref Number	Subject	Content/Issues	Status of Implementation
January to July 2017				Completed
9-10 February		High visible safety signs/tapes and trench side barriers around of deep open trenches should be installed to avoid accident of population	Instruction is given to the contractor to keep the standard and ensure safety of local population	
9-10 February		Construction activities information signs should be installed at each construction segment		
9-10 February		Walls of the deep trenches (>1.5m) should be strengthened by boards to avoid landfall of the soil and accidents	Construction is given instruction to improve the situation. Non compliance Notice was developed by SC to improve the situation on site.	
9-10 February		Where are necessary proper wooden/metal walkways/planks across open trenches should be installed		
9-10 February		Accumulated waste soil should be removed from construction area and disposed in a proper place	No additional actions are required	
9-10 February		Construction materials should be brought when needed to avoid its long time disposal in the streets and disturbance of residents and businesses		
9-10 February		Resident houses nearby areas should be clean from construction materials to avoid disturbance of residents and businesses		

Date	Ref Number	Subject	Content/Issues	Status of Implementation
January to July 2017				
9-10 February		Trees of nearby construction zone should be protected to avoid its damage		
9-10 February		Use tarpaulins to cover during materials transportation	Despite numerous instructions given by SC and Environmental Specialist of USIIP to contractor trucks with tarpaulins are not used by contractor to cover construction material during transportation, immediate improvements are requested from contractor	
9-10 February		Workers always should use complete PPE		
9-10 February		All network line construction segments should be cleaned/well organized on regular bases		
9-10 February		Entrance door of construction site should be in better operational condition and closed as needed		
9-10 February		Piles of soil at the construction territory should be managed properly (grading/leveling)		
9-10 February		Site internally should be arranged properly with signage and cleaned regularly		
29-30 May		Trees at the construction site and nearby deep excavation zone should be fenced protect to avoid its falling and damage		
29-30 May		Proper warning and information signs should be arranged at the entrance and perimeter of the site		
29-30 May		Safety signs/tapes and trench side barriers around of deep open excavation should be installed from all		

Date	Ref Number	Subject	Content/Issues	Status of Implementation	
January to July 2017					
		sidesto avoid accidents			
29-30 May		Walls of the deep trenches (>1.5m) should be strengthened to avoid landfall of the soil and accidents			
29-30 May		Workers always should use complete PPE			
29-30 May		Trenches should be fenced adequately			
July to December 2017					
3 August		Safety rules during high-altitude works should be respected to avoid workers damage	Contractor developed Corrective Action Plan and improved the situation within the proposed deadlines		
3 August		During high-altitude works special protection equipment should be used	Contractor developed Corrective Action Plan and improved the situation within the proposed deadlines		
3 August		Implementing works without special protection equipment is strictly prohibited			
3 August		Workers always should use complete PPE	Contractor developed Corrective Action Plan and improved the situation within the proposed deadlines		
7 November		All construction materials (pipes) should be accurately stacked and stored properly at the special dedicated place	Contractor is requested to keep the standards and to follow EMP requirements		
7 November		Special warning and information signs should be installed	Contractor is requested to keep the standards and to follow EMP requirements		
7 November		Trees (nearby territory) should be freed from pipes to avoid its damage	Contractor is requested to keep the standards and to follow EMP requirements		
7 November		Piles dedicated warehouse should be fenced, protected and organized as suggested for warehouse arrangement			
7 November		Protect River bank alongside theUreki Well fields	Contractor is requested to protect River Bank alongside the Ureki Well fields as soon		

Date	Ref Number	Subject	Content/Issues	Status of Implementation
January to July 2017				
			as final design is proposed by Eptisa	
7 November		Contractor to install fencings forUreki Well Fields	Contractor is requested to finalize fencing of Ureki Well Fields	
January to June 2018				
24 April		All construction materials (pipes) should be accurately stacked and stored properly at the special dedicated place	No additional actions are required	
24 April		Special warning and information signs should be installed		
24 April		There should be separate waste containers for municipal and hazardous waste at the site with signatures, placed at special designated area with roofing and concrete base		
24 April		Workers always should use complete set of PPE		
24 April		Trees (nearby territory) should be freed from pipes to avoid its damage		
24 April		Construction materials should be segregated precisely and stored properly	Contractor to developed Corrective Action Plan and improved the situation within the proposed deadlines, site improvements with relevant photos will be presented in EMR July-December 2018.	
24 April		Site internally should be arranged properly (including signage) and cleaned regularly (animals should not be available at the site)		
24 April		Site gate should be operation at every entrance or exit with relevant signage		
24 April		Waste should be placed at the proper standard waste containers with labeling		
24 April		Containers of lubricants should be		

Date	Ref Number	Subject	Content/Issues	Status of Implementation
January to July 2017				
		managed properly (concrete flooring and relevant roofing)		
24 April		Construction equipment should be in good condition		
24 April		Site fencing should be complete and with visible materials on it		
24 April		Construction materials should be segregated precisely and stored properly		
24 April		Site internally should be arranged properly (including signage) and cleaned regularly (animals should not be available at the site)		
January to June 2019				
February		Site internally should be arranged properly and cleaned regularly	Contractor was given strong instruction to improve the situation within the 2 working days and keep improved Standards on sites	

ANNEX G: GENERAL GUIDELINES RELATED TO INFECTION (COVID-19) CAUSED BY NOVEL CORONAVIRUS (SARS-CoV-2) FOR CONSTRUCTION SECTOR



MINISTRY OF INTERNALLY DISPLACED
PERSONS FROM THE OCCUPIED
TERRITORIES, LABOUR, HEALTH AND
SOCIAL AFFAIRS OF GEORGIA

Labour Conditions Inspection Department
Create Together Safe Working Environment

Annex №2

General Guidance Related to Infection (COVID-19) Caused by Novel Coronavirus (SARS-CoV-2) for Construction Sector

Note: In accordance with Order N281/N of the Minister of Internally Displaced Persons from the Occupied Territories, Labour, Health and Social Affairs of Georgia on "the rule for Examination for Short-term Employment Disability and Issuance of Doctors Note", the Ministry of Internally Displaced Persons from the Occupied Territories, Labour, Health and Social Affairs of Georgia will issue an equivalent document to the doctors excuse note (Medical Certificate) to persons quarantined in order to prevent the spread of coronavirus. The document will serve as the basis to receive monthly payment and therefore, the working days spent in quarantine or in self-isolation will be legitimate and fully paid to the employees. In order to get the certificate, an interested person has to apply to the Ministry of Internally Displaced Persons from the Occupied Territories, Labour, Health and Social Affairs of Georgia at - info@mhsh.gov.ge.

For further information, please contact:

☎ 15 05

☎ 116 001

StopCoV.ge

The job of builders involves constantly changing work places and work activity existing in open-air conditions. For this reason, in terms of virus spread, construction falls within the medium risk sector because its specificity covers natural ventilation. Nevertheless, it is important to consider the following preventive measures at construction work.



The staff must not appear in the workplace if they :

- Left the affected country over the past 14 days;
- Were in close contact with infected person/persons for the past 14 days (they must be self-isolated/quarantined as per the rule);
- Have symptoms of respiratory infection (coughing, temperature, sneezing, difficulty in breathing, general weakness etc.);
- Are among the ones who have high risk of getting infected with COVID-19 or serious complications: over 70 years of age, people suffering from chronic diseases (cardio-vascular diseases, diabetes, bronchial asthma and other respiratory diseases).

Employer's responsibilities

- Whether or not the incidence of infection is detected, employer should develop an emergency action plan to support reduction of working days missed due to illness, and in case of detection – prevention of spread;
- Provide employees with information about safe working procedures and about prevention of virus spread (guide with the recommendations defined by LEPL L. Sakvarelidze National Center for Disease Control and Public Health of the Ministry of Internally Displaced Persons from the Occupied Territories, Labour, Health and Social Affairs of Georgia);
- Inside the working space post announcements about COVID-19 and about the preventive measures that have been identified by LEPL L. Sakvarelidze National Center for Disease Control and Public Health;
- In relation to the employees who can perform job remotely (administrative personnel) ensure as much as possible use of such working mode;
- At the entrances of break room/dining room, place disinfecting rugs with relevant mandatory sign marking;
- Provide hand-washing facility with soap and other disinfectants. If hand-washing facility is not feasible, at least 70% alcohol-based hand cleansing liquid should be used;
- Visibly place the hand sanitizers and post the rules of their proper use;
- Make sure that employees have access to hand sanitizers and are aware of their use with proper rules;
- Provide all employees and contractors, personnel responsible for cleaning with information about relevant preventive measures to avoid spread of coronavirus in the working environment;
- Train the employees in proper use and further storage/removal of personal protective equipment and disinfectants;

StopCoV.ge

1505

116 001

2

- Depending on their work specificity, provide the employees with necessary personal protective equipment (protective clothing, protective shoes, helmet, gloves, respirator) and establish control on their use;
- Periodically, several times a day ensure natural ventilation of closed spaces/facilities;
- At certain periodicities disinfect frequently used working equipment and working places;
- Maintain ergonomics at construction site. Ensure timely cleaning of working space and timely disposal of construction waste.
- For employees and visitors ensure closed containers for used disposable tissues and other used hygienic waste in the working space.

Employees' responsibilities

Ensuring proper hand hygiene regularly and thoroughly is the best way to be protected from most of the viruses. Therefore, it is necessary to take the following measures in the workplace:

- Follow hygiene rules in your workplace;
- Carry out the working process in accordance with emergency situations action plan defined by employer/occupational safety manager;
- When greeting do not shake hands and avoid contact with others (touching etc.);
- Avoid gatherings, it is recommended not more than 10 people in one working platform by keeping a safe distance (at least 2 m);
- While performing your work, fully use personal protective equipment provided by the employers;
- Treat with disinfectants the working places and tools used in the course of the work;
- Before and after taking meals, before and after using the restrooms thoroughly wash your hands with soap and water. After washing dry your hands well;
- If you can not wash and dry your hands, use alcohol-based hand sanitizers;
- Keep safe distance (at least 2 m);
- While coughing or sneezing, cover the face with a clean tissue or elbow and place used dispensable tissue in the waste bin;
- Avoid touching your eyes, nose and mouth with your hands.



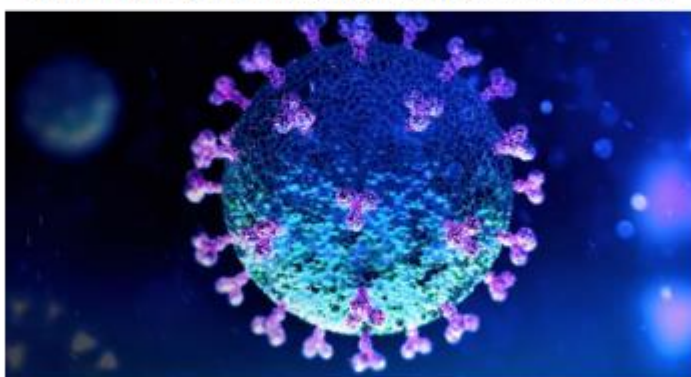
ANNEX H: COVID 19 EMERGENCY MANAGEMENT PLAN



**Georgia: CONSTRUCTION SUPERVISION CONSULTANCY SERVICES
FOR URBAN SERVICES IMPROVEMENT INVESTMENT PROJECT (USIIP)**

Financed by the Asian Development Bank and Government of Georgia

COVID-19 Emergency Management Plan in Construction Sector



Prepared by: **EPTISA** - Supervision Consultant
Tbilisi, Georgia

For: *Ministry of Regional Development & Infrastructure (MRDI)*
United Water Supply Company of Georgia (UWSCG)

Content

1. PREAMBLE	3
1.1 Project Description	3
1.2 Coronavirus	3
2. PURPOSE	4
3. CONTROLLING RISKS ON SITE	5
3.1 Screening workers coming to site	5
3.2 Workplace Mapping	7
3.3 Physical Distancing	7
3.4 Hygiene	8
3.5 Shared tools, plant and equipment	8
3.6 Cleaning and Disinfecting	9
3.7 Personnel hoists	9
3.8 Personal Protective Equipment (PPE)	10
3.9 Common areas	11
3.10 Inspections	11
3.11 Travel	11
3.12 General Communication	12
3.14 Other measures	12
3.15 Vulnerable workers	12
4. Summary of recommendations and responsibility	13
5. Covid-19 informational banners	15

1. PREAMBLE

1.1 Project Description

1. The overall aim of the project is to improve the health condition of residents by addressing the problems associated with poor water and sewerage services in the towns Kutaisi, Tbilisi. The objective of the project is to solve the most urgent public health problems through the installation of new water systems; new water and sewerage networks; and new treatment facilities. The 'water supply' component aims to augment water production, treatment capacity and maintain water pressure for 24 hours a day.
2. The civil works contracts award sequence is as follow:

Contract Package	Contractor	Start Date	Completion Date
KUT-01	SMK Ulusal Insaat Ve Ticaret	8-Jun-15	28-Mar-20
TBI-01	DAGI Ltd.	01-Mar-16	29-Sep-19
ABA-01	"AS Inshaat-N" LLC	02-Feb-18	14-Mar-20
GUD-03	"China Nuclear Industry 23 Construction Co." LTD	17-Jul-19	06-Jun-22

3. Project Management Organisation
 - Executing Agency (EA) - Ministry of Regional Development and Infrastructure (MoRDI)
 - implementing agency (IA) - United Water Supply Company of Georgia (UWSCG)
 - Supervision Consultant – Eptisa
 - Contractors – SMK Ulusal Insaat Ve Ticaret; DAGI Ltd; "AS Inshaat-N" LLC; China Nuclear Industry 23 Construction Co. - LTD

1.2 Coronavirus

4. Coronaviruses are a large family of viruses that cause respiratory infections. These can range from the common cold to more serious diseases. Coronavirus (COVID-19) is a disease caused by a new form of coronavirus. It was first reported in December 2019 in Wuhan City in China.
5. Health authorities around the world believe the coronavirus (COVID-19) is spread from close contact with an infected person, mostly through face-to-face contact or between members of the same household. The coronavirus (COVID-19) is spread by people with symptoms when

- they cough or sneeze. People may also pick up the coronavirus (COVID-19) from surfaces contaminated by a person with the infection.
6. Studies suggest that COVID-19 may persist on surface for a few hours or up to several days. This may vary under different conditions such as the type of surface, temperature or humidity of the environment.
 7. A coronavirus infection can cause mild to severe respiratory illness. The most common coronavirus (COVID-19) symptoms reported are:
 - Fever
 - Breathing difficulties and breathlessness
 - Cough
 - Sore throat
 - Fatigue or tiredness.
 8. Coronavirus (COVID-19) is most likely to spread from person-to-person through:
 - Close contact with an infected person.
 - Touching objects or surfaces (such as door handles or tables) contaminated by a person with the infection.
 9. Close contact means having face-to-face contact for more than 15 minutes with someone who has a confirmed case of coronavirus (COVID-19) – or alternatively sharing a closed space with them for more than two hours.
 10. Close contact can happen in many ways, but examples include:
 - Living in the same household or household-like setting (for example, a boarding school or hostel)
 - Direct contact with the body fluids or laboratory specimens of a confirmed case
 - Being in the same room or office for two hours or more
 - Face-to-face contact for more than 15 minutes in some other setting such as in a car or a lift or sitting next to them on public transport.

2. PURPOSE

11. The purpose of these document for the Construction sector, is to:
 - Provide direction to employers and workers
 - Outline the steps to be taken to best provide a safe and healthy environment, and
 - Identify the action available in the event of interruption to building and construction work, as a result of the coronavirus (COVID-19) pandemic.

12. The Document is intended to have application across all sectors of the building and construction sector. Construction sites are diverse and vary in complexity. To allow for flexible interpretation of these guidance, it is recommended that employers apply a risk-based approach and implement reasonably practical controls based on the environment and specific hazards at each construction site.
13. This Document have been developed to maintain the safe operation of construction sites, ensuring the safety of workers.
14. Following of these recommendations these is necessary to minimize and avoid the closure of any construction site.
15. The recommendations apply to all personnel attending on a building and construction site or project, whether management, staff, employees, contractors or service providers.

3. CONTROLLING RISKS ON SITE

16. To assist with providing and maintaining safe operations during coronavirus (COVID-19) the below measures should be implemented to assist in providing a safe and healthy environment at work.
 - Screening workers coming to site
 - Workplace Mapping
 - Physical Distancing
 - Hygiene
 - Shared Tools, Plant and Equipment
 - Cleaning and Disinfecting
 - Personnel Hoists
 - Personal Protective Equipment
 - Common Areas
 - Inspections
 - Travel
 - General Communications
 - Other measures
 - Vulnerable workers

3.1 Screening workers coming to site

17. To minimize the risk of transmission of coronavirus (COVID-19) on site, employers must implement a two-phase screening process; phase one being an initial declaration and phase two on going daily screening.

18. Initial declaration is to be conducted by all workers (this includes any person who attends site), including current and new-starters. Each worker must provide a declaration that they to the best of their knowledge:
- have not been diagnosed with coronavirus (COVID-19) in the last 14 days, or
 - are not in a period of 14 day quarantine as directed by a health professional, or
 - have not been overseas in the last 14 days, or
 - have not been in contact with anyone who has coronavirus (COVID-19), or
 - have not been in contact with anyone who is currently being tested for coronavirus (COVID-19), or
 - do not have anyone in their household who has symptoms consistent with COVID-19.
19. Once the initial declaration has been made by the worker, ongoing screening (phase 2) should be conducted for every worker prior to the start of their shift, asking to the best of their knowledge:
- have they been overseas in the last 14 days, or
 - have they been in contact with anyone who has coronavirus (COVID-19), or
 - have they been in contact with anyone who is currently being tested for coronavirus (COVID-19), or
 - do they have anyone in their household who has symptoms consistent with COVID-19.
20. If a worker declares any of the above they may be required to self-isolate.
21. Screening should be conducted, whilst maintaining safe distances or over the phone before entering site, on a mobile app, via text message system, or other non-contact methods. It is advisable to have a system in place that limits the sharing of pens/ notebooks/ computers etc.
22. If a worker has recently had close contact with a confirmed case, they need to:
- self-isolate at home for a period of 14 days and follow the self-isolation Guidelines
 - not attend work
 - contact their employer
 - seek urgent medical attention if they have symptoms consistent with COVID-19
 - not return to work until they have been cleared by a medical practitioner.
23. If a worker is experiencing symptoms consistent with COVID-19 or had close contact with a confirmed case, they must:
- not attend work
 - contact their employer for further advice and;
 - not return to work until they have been cleared by a medical practitioner.

3.2 Workplace Mapping

24. In the event of an employee being confirmed as having COVID-19, those who are potentially affected need to be quickly identified.
25. Employers should implement processes to record the schedule and work locations for workers that enables tracing of those who have come into contact with the confirmed case.
26. The record should include:
 - day and time work was undertaken
 - members of teams that worked together
 - specific work area on the construction site
 - any breaks taken, including time and location
27. Movement between sites, or areas within large sites, should be minimized as much as possible.
28. Where attending multiple sites is necessary (e.g. for HSRs, first aiders, emergency wardens) movement between sites should be recorded in the workplace mapping.

3.3 Physical Distancing

29. Physical distancing of at least 1.5-2 meters should be implemented wherever possible. Employers should consider each work task and whether there is a safe alternative way to undertake the work with an increased distance between workers.
 - Mark safe distances in work, transit and break areas (e.g. on floors and walls).
 - Consider different shift patterns to minimize the number of workers onsite (e.g. AM/PM shifts).
 - Stagger start times, breaks and finish times to avoid congestion in high traffic areas and minimize workers coming into contact with each other as they move around the site.
 - Plan for how physical distancing will be maintained during inclement weather (e.g. use of lunch or crib rooms and amenities).
 - Install temporary physical barriers (e.g. fences, screens) between work areas, where appropriate.
30. Where it is not possible to undertake work tasks and maintain physical distancing, other control measures need to be implemented. For example:
 - Minimize the number of worker to worker interactions that need to be completed within 1.5 meters
 - Minimize the number of workers involved in activities that need to occur within 1.5 meters of each other
 - Provide personal protective equipment (PPE) (e.g. gloves, masks, glasses).

31. Where essential work activities need to be undertaken in restricted spaces (e.g. lift shafts, personnel hoists, lifts), the number of workers working in the space should be minimized.

3.4 Hygiene

32. Good hygiene practices and general cleaning helps with minimizing the spread of coronavirus (COVID-19). Employers should review general hygiene requirements and the cleaning regimes in place.
33. Employers should display health information in prominent locations on the construction site such as tea rooms, site offices, toilets, foyers, lifts and site entrances.
34. Every effort must be made by employers to upgrade personal hygiene and minimize worker to worker contact and all workers must co-operate in all necessary measures to achieve these objectives. These measures need to include:
- Promote regular hand washing with soap for at least 20 seconds. Employers must facilitate regular hand washing by providing ease of access/additional facilities where possible. Communicate to all workers where hand sanitizers are located and encourage their regular use.
 - Promote good cough etiquette by covering your cough and sneeze, or cough into your elbow or shoulder.
 - Avoid touching your nose, eyes or mouth.
 - Provide hand sanitizer and/or hand washing facilities with soap in all site entrances and exits hoists, amenities and areas/levels of the site.
35. Employers must ensure that workers have access to appropriate amenities. Employers should review and revise the number and locations of amenities, to reduce movement around the site.
36. Amenities need to include:
- Hand washing facilities (whether permanent or temporary), such as a wash basin, clean running water, soap and paper towels, placed in strategic locations to ensure employees can access them in a timely manner.
 - Access to hand sanitizer.
 - Rubbish bins with touch-free lids (e.g. foot pedal bins).
 - Thorough and regular sanitation.
 - Appropriate waste management systems.

3.5 Shared tools, plant and equipment

37. Workers should avoid the shared use of tools, plant and equipment wherever possible. For example, drop saws, drills, grinders, ladders or elevating work platforms should not be used by more than one worker.

38. Where it is not possible to eliminate shared use:

- Provide cleaning products (e.g. alcohol spray or solution) where communal tools, plant and equipment are located.
- Keep cleaning products with tools, plant and equipment as they move around the site.
- Ensure all operators thoroughly wash or sanitize their hands before and after every use.
- Ensure all parts of tools, plant and equipment (e.g. including handles, handrails) are wiped down before and after use.

39. The shared use of phones, desks, offices, computers and other devices should also be avoided. Where this is not possible, these items should be regularly disinfected.

3.6 Cleaning and Disinfecting

40. Cleaning and disinfecting of surfaces is to be conducted using cleaning products as per DHHS Cleaning and Disinfection guidelines to reduce coronavirus (COVID-19) Transmission – the specific guidance is available here:

- Cleaning and disinfection of amenities and meal areas must occur between work group breaks
- Cleaning and disinfection of Personnel Hoists should occur at the end of each hoist operator shift
- Implement regular cleaning and disinfection (minimum of twice daily) to 'Frequently Touched Surfaces', surfaces such as toilets, door handles, stair handrails, light switches, lift buttons, table tops.
- Additional cleaning/disinfecting on-site. There must be an increased frequency of industrial grade cleaning/additional cleaning/disinfecting on sites across all areas including particular emphasis on commonly touched/communal surfaces;

3.7 Personnel hoists

41. Workers using hoists and lifts may be at greater risk of exposure to coronavirus (COVID-19), because they are required to be in close contact with others and potentially contaminated surfaces.

42. Control measures to reduce the risk in personnel hoists should include systems of work, physical distancing, personal hygiene, PPE and cleaning.

43. It is acknowledged that not all hoists and lifts are identical in size or dimension, and have varying weight limits.

44. Where it is not possible to implement physical distancing measures in a personnel hoist, all other available control measures need to be used.

45. Control measures may include:

- Limiting worker movement between levels and floors on site, where it is possible and safe to do so.
- Reviewing which hoists are available for use on site and identifying if additional hoists can be used (for example where a partially occupied building is under construction, consider whether a residential lift be used solely for construction persons).
- Physical distancing of 1.5-2 m and hygiene systems to be followed when waiting for hoist, particularly on floors where worker volumes may increase during peak times (start, break, finish times). For example the ground floor, floors with meal or break out spaces and floors with bathroom amenities.
- Determine how many workers can use a hoist at any time (including hoist operator) taking into consideration the limited duration and additional control measures in these Guidelines.
- Mark out hoist floor, identifying:
 - where workers stand
 - what direction they are to face when in the hoist to avoid face to face contact
 - Sequencing of entering and exiting
- Mark the hoist waiting area at each floor ensuring the physical distancing is maintained
- Regularly communicate and remind workers (e.g. through posters, digital displays):
 - diagram of positioning of workers and sequence of worker entering
 - not to touch walls/doors of the hoist
 - advise the cleaning regime in place
- During peak periods have system in place to limit crowding of workers entering/exiting the work area. For example:
 - developing a schedule for use of the hoist
 - Staggering what floors workers are to use the hoists. Hoist operators may be exposed to additional risk. They should:
- Be provided with PPE that protects them from worker to worker transmission and from touching contaminated surfaces (e.g. face shield or surgical mask/P2 respirator and glasses).
- Perform frequent hand washing with soap and water or the application of hand sanitizer positioned within the hoist.
- Where possible, change hoist operator every two hours into a different role.

3.8 Personal Protective Equipment (PPE)

46. Employers must provide information, instruction and training on the safe use, decontamination and maintenance of any PPE provided.

47. Any PPE provided needs to be practical for the work environment (e.g. allowing the necessary visibility and mobility) and properly decontaminated or disposed of at the end of every shift.
48. Employers should monitor and encourage correct use of PPE, for example providing information on posters and digital screens about:
- Washing or sanitizing hands before putting PPE on, and putting face protection on before gloves
 - Removing gloves before face protection, washing or sanitizing hands after removing PPE and decontaminating or disposing of used PPE safely.

3.9 Common areas

49. Common areas on sites such as the amenities pose risks, and these are reduced by ensuring the following measures are adopted.
50. The time spent in those areas must be limited so as not to breach time constraints recommended by DHHS.
51. Staggering of meal breaks and separation of work groups to achieve maximum personal space and reduce the number of workers accessing those areas at any one time consistent with the Government requirements.
52. Sanitization must occur between occupation of amenities by different work groups
53. Spread out furniture to ensure physical distancing measures in common areas
54. There must be an increased frequency of industrial grade cleaning/additional cleaning with specific emphasis on cleaning after each meal breaks in those areas
55. Workers electing to minimize amenity access
56. Staggered working hours must be considered on sites with appropriate consultation (consideration must be given to Construction Management Plans, and workers must be given adequate notice of a change in hours).

3.10 Inspections

57. During inspections of the sites everyone should ensure all measures are in place to ensure compliance. Employers and Health and Safety Representatives are encouraged to work together to assist in this important objective.

3.11 Travel

58. Adequate arrangements are to be made by workers to ensure their travel to and from work is conducted safely in accordance with Government advice, and that adequate sanitization facilities are in place for workers upon attending the work site and when returning to the work site during work.
59. Workers should ensure that for transport to and from work that they adhere to the hygiene and cleaning guidance, and the physical distancing

60. Work vehicles that are shared should be regularly cleaned to ensure adequate hygiene and protection.

3.12 General Communication

61. Ensuring everyone is informed is fundamental to managing this pandemic and ensuring the safe operations of construction sites.
62. These recommendations have been developed to be communicated to all employers, workers and stakeholders. Everyone is urged to regularly promote and adhere to this document.
63. Site inductions should be updated as required to include information on coronavirus (COVID-19) potential risks and workplace specific controls that have been implemented such as daily screening, health checks and symptoms of coronavirus (COVID-19), staggered start, finish and meal times, good hygiene practices and cleaning regimes and PPE requirements.
64. Toolbox talks should be regularly conducted, and workers are to be encouraged to put forward practical ideas for changing work practices to avoid the spread of coronavirus (COVID-19). Toolbox talks should also provide clarity to workers on leave arrangements for those that cannot work, and to encourage self-reporting and minimize the spread of risk.
65. Toolbox talks should also include updates from the responsible Health Officer as they occur and additional information on the severity of the pandemic and the importance of physical distancing at toolbox meetings.

3.14 Other measures

66. Construction sites are diverse and vary in complexity, employers must apply a risk-based approach and implement reasonably practical controls based on the environment and specific hazards at each construction site. In addition to the aforementioned measures and controls mentioned in this section, employers should consider other measures for implementation such as:
- using alternatives to face to face meetings where practicable,
 - reducing the length and size of meetings, especially for critical employees, by requiring some or all to dial in,
 - consider off-site fabrication,
 - ensuring working from home arrangements are enabled where feasible,
 - Structuring management teams to ensure contingency in the event of team members needing to be isolated or quarantined at home.

3.15 Vulnerable workers

67. Has been identified the following groups of people as vulnerable workers in relation to coronavirus (COVID-19):

- people over the age of 70,
- people with chronic diseases (cardiovascular disease, diabetes, bronchial asthma and other respiratory diseases)

68. Where practical, reasonable action should be taken to minimize vulnerable workers from conducting higher risk roles

4. Summary of recommendations and responsibility

Table of Summary of recommendations and responsibility

Activity	Responsible for implementation
To provide employees with the information about the work safety procedures and prevention of virus spread (guided by the recommendations of the Ministry of Internally Displaced Persons from the Occupied Territories, Labor, Health and Social Affairs of Georgia and LEPL L. Sakvarelidze National Center for Disease Control and Public Health);	Employer
To place ads in the workspace about the COVID-19 and its preventive measures defined by the LEPL L. Sakvarelidze National Center for Disease Control and Public Health;	Employer
To ensure maximum use of remote work in relation to those employees who can perform work remotely (administrative personnel);	Employer
To put mattings at the entrance of the lounge room / dining room, with the relevant sign of indication;	Employer
To ensure hand washing at the workspace with appropriate soap and other hygiene products. In case of inability to wash hands, to provide with at least 70% alcohol-based hand cleaning liquids;	Employer
To place hand sanitizers and the instruction for their proper use in a prominent place;	Employer
To ensure that employees have access to hand sanitizers and know how to use them in accordance with the relevant instructions;	Employer
To provide information to all staff and contractors, as well as cleaning staff, on appropriate preventive measures to avoid the spread of coronavirus in the work environment;	Employer
To train the employees on the proper use of personal protective equipment and its subsequent storage / disposal;	Employer
To provide employees with the necessary personal protective equipment (overalls, special shoes, helmet, gloves, medical mask) based on the specifics of their job and establish control over their use;	Employer
Periodically, several times a day ensure natural ventilation of indoor spaces / closets;	Employer
Periodically ensure disinfection of workplaces and frequently used equipment;	Employer
To keep ergonomics in order at the construction site. To ensure the prompt cleaning of workspace and removal of construction waste.	Employer
To ensure placement of closed containers for the disposable napkins and other hygiene waste used by both employees and visitors.	Employer

Follow the rules of hygiene at your workplace;	Employee
Carry out the work process in accordance with the Emergency Action Plan defined by the employer / work safety manager;	Employee
Avoid shaking hands and direct contact with others (touch, etc.) while saluting;	Employee
Avoid gathering, the work of more than 10 people on one work platform at a safe distance (less than 2 m) is not recommended;	Employee
When performing the work, make full use of the personal protective equipment provided by the employer;	Employee
Clean the workplaces and the tools and equipment used during the work process with disinfectants;	Employee
Thoroughly wash your hands with soap and water before and after eating, as well as before and the bathroom. Dry your hands thoroughly after washing;	Employee
Use alcohol-based hand sanitizers in case if you are unable to wash and dry your hands;	Employee
Keep a safe distance (not less than 2 m);	Employee
Cover your mouth with clean napkin or elbow when coughing and sneezing and then throw the used disposable napkin in the trash;	Employee
Avoid touching your eyes, nose, or mouth with your hands.	Employee

5. Covid-19 informational banners



