

Semi-annual Environmental Monitoring Report

#14 Semiannual Report

(Reporting Period: July-December 2022)

Project Number: 43405-026

**GEORGIA: URBAN SERVICES IMPROVEMENT INVESTMENT PROGRAM
(TRANCHE 4)**

(FINANCED BY THE ASIAN DEVELOPMENT BANK)

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

January 2023

ABBREVIATIONS

ADB	Asian Development Bank
CAP	Corrective Action Plan
DC	Design Consultant
DEPP	Department of Environmental protection and Permit
DFPMD	Donors Funded Project Management Department
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
ERP	Emergency Response Plan
ES/ EMS	Environmental Specialist/ Environmental Monitoring Specialist
GoG	Government of Georgia
GRC	Grievance Redress Committee
GRM	Grievance Redress Mechanism
IPMO	Investment Program Management Office
USIIP	Urban Services Improvement Investment Program
IA	Implementing Agency
IEE	Initial Environmental Examination
LLC	Limited Liability Company
MFF	Multi-tranche Financing Facility
MoEPA	Ministry of Environment Protection and Agriculture
MoRDI	Ministry of Regional Development & Infrastructure
NEA	National Environmental Agency
SAEMR	Semi-Annual Environmental Monitoring Report
SC	Supervision Consultant
SIEE	Supplementary Initial Environmental Examination
USIIP	Urban Sector Improvement Investment Program
UWSCG	United Water Supply Company of Georgia
WS	Water Supply
WSS	Water Supply & Sanitation
WWTP	Waste Water Treatment Plant

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1. INTRODUCTION

1.1 Preamble

1. This report represents the Semi-Annual Environmental Monitoring Review (SAEMR) for “Urban Services Improvement Investment Program” (USIIP), Tranche 4 and describes the period of July-December 2022.
2. This report is the 14th Semi-Annual EMR for the T4 of USIIP.

1.2 Headline Information

3. During the reporting period, constructions works was carried out only under the JVA-01 and GUD-02 sub-projects and therefore, this report describes the activities carried out under these sub-projects. The progress of constructions works on both contracts were very slow. More detailed information on the status of implementation of sub-projects under USIIP/T4 is presented in Chapter 2 below.
4. The Contract for POT-01 sub-project under USIIP/T4, was awarded to TAHAL Group BV on 20 December 2017. Contractual date finished on July 2020 and Contractor was continuing works under Delay Damages. The progress of contractor was very slow. Finally, the Notice of Termination of construction works was issued on 23.03.2022.
5. Based on the above mentioned, it was decided to divide the work under POT-01 sub-project into 3 lots (LOT-01, LOT-02 and LOT-03) in order to complete the remaining rehabilitation works carried out by the contractor and commission the entire system. Finally The new contracts have been awarded to the Construction Companies in October 2022 for the implementation of the LOT-01, LOT-02 and LOT-03 under POT-01 sub-projects, detailed information is provided in the para 13-18 below.
6. The Supplementary Initial Environmental Examination (SIEE), including the three separate EMPs for each Lot under POT-01 sub-project was prepared by USIIP Environmental Specialist Ms. Kate Chomakhidze in October 2022 and approved by ADB. SIEE is considered together with existing IEE.

On 23 December 2021 Ludwig Pfeiffer informed the Client UWSCG that the company has declared insolvency

POT-02 Works suspended due to insolvency

2. PROJECT DESCRIPTION AND CURRENT ACTIVITIES

2.1 Project Description

7. 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.
8. 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.
9. Tranche 4 of the Investment Program includes:
 - Construction of Water Supply System in Zugdidi (Zug 01 - Contract No: P43405-ICB- Zug-01)
 - Construction of Sewerage System in Poti (Pot 01 - Contract No: P43405-ICB-Pot-01)
 - Construction of Wastewater Treatment Plant in Poti (Pot 02 - Contract No: P43405- ICB-Pot-02)
 - Construction of Water Supply System in Jvari (Jvari 02- Contract No: P43405-DC- Jvari-01)
 - Construction of Sewage Collection and Water Supply System in Gudauri (UWSCG- ICB-GUD-02-2028-GUD-02)
10. **Construction of Water Supply System in Zugdidi (ZUG 01).** The project comprises of the construction of 1 water supply pumping station – 1,170 m³, construction of new reservoirs (3,300 m³x3); distribution network - laying of approximately 220 km water supply pipelines; approximately 15 km transmission main; wells - drilling of 10 drinking water wells.
11. The contract ZUG-01 was signed on October 26, 2015 with AS Inshaat-N, LLC(Azerbaijan), the construction works were completed in September 2018 and further extended until October 2021 due to the additional construction works under VO#4 and VO#8, including construction of additional sewage network, connection of residential houses to the main collector and Installation of additional sewage Pump Stations in Anaklia. All construction works under ZUG-01 sub-project were completed in March 2022. Supervisory company SAFEGE started work on the preparation of the audit report, but the process was not completed during the reporting period, and therefore the post-construction audit report will be finalized during the next reporting period, and the main findings will be reflected in the next SAEMR, January-June 2023.
12. **Construction of Sewerage System in Poti (POT-01).** Pot-01 project includes the construction of 112.4 km of new sewerage pipes, and construction of 28 sewage pumping stations. United Water Supply Company of Georgia signed a contract with

TAHAL Group BV on 20 December 2017. Contractual date finished on July 2020 and Contractor was continuing works under Delay Damages and finally the works under POT-01 sub-project was terminated on 07.04.2022 and it was proposed rebidding of work under 3 lots.

13. The contract for the implementation of the POT-01/LOT-01 has been awarded to Construction Company – “ECETAS Insaat” (Turkey) in October 2022. Brief Description of LOT-01 and scope of works is provided below.

14. **Lot 1: Sewage System:** The new sewage system considers the continuation of the existing system. Therefore, all new sewers are orientated to the new or replaced old pumping stations. There are 28 Pumping Stations (PSs) and consequently 28 zones of gravity sewers. The pumping stations are not included in the scope of works of the present Lot. PSs are included under the LOT-03 of POT-01 sub-project. The Contractor’s works include the following major works:

- Verification of the existing topographical survey and performance of additional topographical survey (if verification reveals need of survey);
- Verification of the existing basic and detailed design prepared by Design Company Kocks as well as the details and shop drawings prepared by the previous contractor and performance of additional design, shop drawings if would be necessary;
- Installation of sewer gravity lines and house connections, including testing and CCTV investigation;
- Installation of pressure lines including testing;
- Road reinstatement and any other related works

15. The new pipes to be laid under this lot include:

- Corrugated DN 150 HDPE-pipes for service connections, ring stiff-ness 8 KN/m²
- Corrugated DN 200 to DN 800 HDPE-pipes for gravity sewers, ring stiffness 8 KN/m²
- PE 100-pipes for OD 140 to OD 500 pressure mains, SDR 17

16. **Lot 2: Sewage System:** The contract for the implementation of the Lot-02 under POT-01 has been awarded to “MBD Inssat” (Turkey) in October 2022. The new sewage system considers the continuation of the existing system, orientated to the new or replaced old pumping stations. The Contractor’s works include at least following major works:

- Verification of the existing topographical survey and performance of additional topographical survey (if verification reveals need of survey);
- Verification of the existing basic and detailed design prepared by Design Company Kocks as well as the details and shop drawings prepared by the previous contractor and performance of additional design, shop drawings if would be necessary;
- Installation of sewer gravity lines and house connections, including testing and CCTV investigation;
- Installation of pressure lines including testing;
- Road reinstatement and any other related works;

- All needed crossings
17. The new pipes to be laid under this lot include
- Corrugated DN 150 HDPE-pipes for service connections, ring stiffness 8 KN/m²
 - Corrugated DN 200 to DN 800 HDPE-pipes for gravity sewers, ring stiffness 8 KN/m²
 - PE 100-pipes for OD 140 to OD 500 pressure mains, SDR 17
18. **Lot 3: Sewage System:** The contract for the implementation of the Lot-03 under POT-01 has been awarded to “CHINA NUCLEAR INDUSTRY 23 CONSTRUCTION CO” Ltd (China) in October 2022. The proposed rebidding work under 3 lots involves about 80 KM sewer line and 28 Wastewater Pumping Stations, some 5200 sewer connections in houses (59% of the Entire city population), rail crossings and road crossings, therefore, it is proposed to split the work in 3 lots presented below. The commencement date for the project was October 2022.
19. **Construction of Wastewater Treatment Plant in Poti (POT-02).** The project comprises of the construction of new Wastewater Treatment Plant with the capacity of 11,663 m³/day for Poti. The contract for construction of WWTP in Poti was signed on December 21, 2017 with JV “Pfeiffer - EMIT” comprised by “Ludwig Pfeifer Hoch – and Tiefbau GmbH Co. KG (Germany)” and “EMIT Group – ErcoleMarelliImpiantiTecnologiciS.r.l. (Italy). Contractual date finished in August 2020 and Contractor is continuing works under Delay Damages, Potential completion of Contract was considered end of December 2021. Contractor suspended works in mid of December 2021 and informed Employer about Insolvency of Company, so far no decision has been made on the POT-02 subproject at this stage and the contract has not yet been officially terminated.
20. **Construction of Water Supply System in Jvari (JVA-01).** The major works to be implemented for rehabilitation and improvement of Jvari water supply system are following: construction of wells on the well field near the village Lia; installation of about 4 km long transmission pipeline; replacement of distribution pipes in the town; rehabilitation of existing reservoir or construction of new one depending on results of detailed investigation; construction of new pump station.
21. The contract for implementation of JVA-01 was signed on January 17, 2017 with AS Inshaat-N, LLC(Azerbaijan). Contractual date finished in December 2019 and Contractor is continuing works under Delay Damages, Potential completion of Contract was considered end of December 2021. According Contractor’s new working schedule all works should be completed in July-August 2023.
22. **Construction of Sewage Collection and Water Supply System in Gudauri (GUD-02).** The major works to be implemented for rehabilitation and improvement of Gudauri sewage collection and water supply system, including construction of well field, Raw Water Reservoir of 500m³, water pipes and sewage collection system.
23. The contract for implementation of GUD-02 sub-project was signed on 4 January 2019 with “China Nuclear Industry 23 Construction Co.” LTD (CNI23). The initial date of completion of the contract was April 2021 and further extended until the end of December 2021. New completion date was November 30, 2021, Contractor completed most of works and was prepared Partially Taking Over for Sewerage Network, Reservoir and Borehole N1, After November 30, 2022 Contractor is applying Delay Damages for Borehole N2 and N3. All works had to be completed during Defects Notification Period (November 30.2022). Construction works have not been completed yet. It will be completed until the June 2023.

24. Supervision Consultant for T4 of USIIP. Supervision Consultant for Tranche 4 of USIIP is “SAFEGE France with Engineering Solution LLC Georgia”.

2.2 Project Contracts and Management

25. The main institutions that are involved in implementation of the IEE/EMP under USIIP/T4 are UWSCG executing agency (EA), Supervision Consultant (SC) the Construction Company (CC) and to a lesser extent the Ministry of Environmental Protection and Agriculture of Georgia (MoEPA).

26. The Investment Program Management Office (IPMO) under UWSCG, is the Donors Funded Project Management Department, which is responsible for the day-to-day management of the project, including the implementation of the EMP. IPMO has an Environmental Specialist Ms. Kate Chomakhidze who is responsible for managing the environmental aspects of the USIIP. The head of the department is Ms. Irina Chikhladze.

27. The IPMO Environmental Specialist’s 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) Develop SAEMRs (and Final EMRs upon project completion), send it to ADB and address potential ADB’s comments until SAEMR disclosure; Provide ENG and summary of 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/SAFEGE hires a full time Environmental Specialist, Mr. Shalva Bosikashvili to assist the IPMO oversee day-to-day implementation of EMPs by contractors under USIIP/T4, including compliance with all government rules and regulations; Support IPMO in the review and endorsement of contractor’s SSEMP; Conduct inspections on contractor’s implementation of SSEMP and compliance with government rules and regulations; Ensure contractors comply with health and safety requirements per approved SSEMP’s Health and Safety Management Plan; Conduct investigations on grievances/complaints, incidents and accidents; Assist IPMO in addressing any grievances in a timely manner as per the GRM; Issue non-compliance notifications to CC; Monitor corrective actions as required in CAPs, and ensure non-compliances are resolved immediately and are not occurring repeatedly; Prepare recommendations for contractors repeated non-compliances on safeguards and EHS requirements; Submit monthly and quarterly environmental monitoring reports to IPMO.

29. The Construction Companies also appointed a full time Environmental specialists under POT-01 (LOT-01, LOT-02 and LOT-03), JVA-01 and GUD-02 sub-projects. More detailed information is provided in the Table 2 below. The contractor’s Environmental Specialists have a university degree (at Masters Level) in Environmental Science and have more than 5 years work experience in environmental management of infrastructure project.

Environmental Specialists of CCs are responsible for preparing the Site Specific Environmental Management Plans (SSEMPs) for endorsement by Supervision Consultant and approval by the UWSCG prior to the Contractor taking possession of the construction site and provide pre-works photo documentation; Ensuring the SSEMP is implemented effectively throughout the construction period; Establish and maintain site records of weekly site inspections using checklists based on SSEMP; Establish and maintain environmental accidents/incidents including resolution activities and environmental monitoring data; Developing Corrective action plans in response to non-compliance notices issued by the SC and UWSCG; Conduct Community relations activities including maintaining complaints register; Routine reporting of SSEMP compliance and community liaison activities; Implement Occupational Health and safety requirements. Implement site clean-up measures after civil works finalization.

30. During the reporting period the Department of Environmental Protection and Permits of the UWSCG was renamed the Department of Permits, Environmental Protection and Social Affairs and is working alongside IPMO to address the environmental and social issues of USIIP. The head of the department is Ms. Maka Goderdzishvili. The Department of Environmental Protection have two divisions, the Division of Permits and the Division of Environmental Protection and Social Affairs. Ms. Salome Mosidze is the Head of the Division of Environmental Protection and Social Affairs. More detailed description of implementation arrangements; responsibilities and staffing are provided in the **Table 1 below**.

Table 1: Institutionnel Arrangement, Responsibilities and Staffing

#	Millstones/Actions	Contractor (Environmental Specialist)	Construction Supervision Consultant (Environmental Specialist)	IPMO (Environmental Specialist)	Department of Permits, Environmental Protection and Social Affairs (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 SEM approved by IPMO.	Review and endorse the SEMP; Monitor implementation of SEMP on daily basis; Monitor monthly environmental monitoring reports or results prepared by the Contractor and report to IPMO.	Review and approve the SEMP; 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 SEMP; Implement updated SEMP.	Approve the design change to be submitted to IPMO; Make environmental assessment of the change and update the IEE and/or SEMP.	Review the updated IEE and/or SEMP and send it for clearance to ADB	Liaise with CSC in preparing updated IEE and/or SEMP; Upload the approved IEE/SEMP 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 SEMP	Review the updated IEE and/or SEMP and send it for clearance to ADB	Liaise with CSC in preparing updated IEE and/or SEMP

#	Millstones/Actions	Contractor (Environmental Specialist)	Construction Supervision Consultant (Environmental Specialist)	IPMO (Environmental Specialist)	Department of Permits, Environmental Protection and Social Affairs (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)	Department of Permits, Environmental Protection and Social Affairs (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	<ol style="list-style-type: none"> 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/T4 and relating to environmental safeguards is presented in Table 2 below.

Table 2: List of Main Organizations under USIIP/T4

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 Tel: +995 595 070442 nnadashvili@adb.org
		ADB RETA, Environmental Consultant	George Kobaladze Tel: +995 599 689834 E-mail: gkobaladze.consultant@adb.org.me
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/T4	Environmental Specialist	Ms. Ketevan Chomakhidze Tel: +995 577 380309 E-mail: Chomakhidzek@yahoo.com

Type of project participant	Name of Agency/Company	Environmental Staff	Name and contact details
Supervision Consultant	SAFEGE (France) with Engineering Solution LLC (Georgia)	Environmental Specialist:	Mr. Shalva Bosikashvili Tel:+995 595116041 E-mail: sbosikashvili@yahoo.com
Contractor ZUG-01	AS Inshaat-N LLC (Azerbaijan)	Environmental H&S Specialist	Mr. Nodar Usupishvili Tel:+995 577 68 16 71 E-mail: n.usupashvili@gmail.com
Contractor POT-01/LOT-01	"ECETAS Insaat" (Turkey).	Environmental H&S Specialist	Mr.Revaz Kalandadze Tel: +995 599 20 80 55 E-mail: rezo1969@gmail.com
Contractor POT-01/LOT-02	"MBD Inssat" (Turkey).	Environmental H&S Specialist	Mr.Revaz Kalandadze Tel: +995 599 20 80 55 E-mail: rezo1969@gmail.com
Contractor POT-01/LOT-03	"CHINA NUCLEAR INDUSTRY 23 CONSTRUCTION CO" Ltd (China)	Environmental H&S Specialist	Mr. Revaz Kalandadze Tel: +995 599 20 80 55 E-mail: rezo1969@gmail.com
Contractor POT-02	JV "Pfeiffer - EMIT" comprised by "Ludwig Pfeiffer Hoch – and TiefbauGmbH7Co. KG (Germany)" and "EMIT Group –	Environmental Specialist H&S Specialist	Mr.Nikoloz Neparidze Tel: +995 599 346 821 E-mail:

Type of project participant	Name of Agency/Company	Environmental Staff	Name and contact details
	Ercole Marelli Impianti Tecnologici S.r.l. (Italy)		nikoloz.nepharidze@ludwigpfeiffer.com
GUD-02	“China Nuclear Industry 23 Construction Co.” LTD (CNI23)	Environmental H&S Specialist	Mr. Aleksandre (Sasha) Mchedlishvili Tel: +995 574 02 77 33 E-mail: alexandermchedlishvili1@gmail.com

2.3 Project Activities during Current Reporting Period

32. During the reporting period construction activities were carried out only under JVA-01 and GUD-02 sub-projects, therefore these sub-projects are reported in this Semi-annual EMR. Contractor intensified all activities to improve the progress of the works on sites. The Engineers gave processed frequent instructions to the Contractor for the planning and outstanding documents preparation which shall ensure steady improvement of the works progress.
33. Information about the construction work under USIIP/T4 during the reporting period – July-December 2022 is presented in the Table 3 and Table 4 below.

POT-02 Sub-project

34. During the reporting period no progress was made under POT-02 sub-project, Contractor suspended all works in mid of December 2021.

POT-01 Sub-project

35. During the reporting period no progress was made under POT-01 sub-project. The Contract for POT-01 sub-project under USIIP/T4, was awarded to TAHAL Group BV on 20 December 2017. Contractual date finished on July 2020 and Contractor was continuing works under Delay Damages. The progress of contractor was very slow. Finally the Notice of Termination of construction works was issued on 23.03.2022. On 07.04.2022 the Termination was confirmed by the Employer.
36. Based on the above mentioned, it was proposed to divide the work into 3 lots in order to

complete the remaining rehabilitation work carried out by the contractor and commission the entire system. Finally The new contracts have been awarded to the CCc for the implementation of the LOT-01, LOT-02 and LOT-03 under POT-01 sub-projects, detailed information is provided in the para 13-18 above.

JVA-01 Sub-project

37. The progress of main activities under JVA-01 sub-project, carried out by contractor during the reporting period is provided in the Table 3 below:

Table 3. Project Progress during the July-December 2022 for JVA-01

Jvari Sites	Jvari Water Supply System Construction		
Jvari	Jvari Transmission Pipelines, boreholes and Reservoir	Executed During January-June 2022	Executed During July-December 2022
Works undertaken during July-December 2022	<p>Executed July 2022 – December 2022. Total Completed %:</p> <p>OD DCI 300 SDR7.4 - 4200m was laid- 4200 100%</p> <p>Reservoir:</p> <p>Civil works completed</p> <p>Pumping Station including reservoir and</p> <p>Transformer building: Civil works completed</p> <p>Lia Well Field: All 8 Borehole was equipped with pumps, ongoing Mechanical works</p>	452.5m	567m
			98%
			98%

GUD-02 Sub-project

38. The main activities under GUD-02 sub-project, carried out by contractor during the reporting period is provided in the Table 4 below:

Table 4: Project Progress during the July-December 2022 for GUD-02

GUD 02	Total Completed %	Executed During June-December 2022	Executed During July-December 2022
Works undertaken during July-December 2022	For GUD-02 Project was executed:		
	1. Installation of Corrugated Pipe D-200 – 22000 m (Out of 22000); - 100%	2909m	0m
	2. Installation of Concrete Manhole D 1000– 1549m;- 100%	305m	0m
Works undertaken during July - December 2022	3. Construction of Reservoir – 100 % (Civil Works and Pipe Connections)	Completed	Completed
	4. Construction of Boreholes: N1 Drilling and installation - 100%: N2- Drilling and installation -100% N3-was ongoing drilling – 102m	Construction of Boreholes: N1 Drilling - 100%: N2 Drilling - 75% and N3 Drilling - 85%	Construction of Boreholes Borehole N1- 100% Borehole N2 – 100% Installation Borehole N3-Drilling on going Contractor drilled 102m

2.4 Description of Any Changes to Project Design

39. During the reporting period, no design changes were made to sub-projects under USIIP/T4.

2.5 Description of Any Changes to Agreed Construction methods

- 40.** During the reporting period, no changes were made to the agreed construction methods for sub-projects under USIIP/T4.

3. ENVIRONMENTAL SAFEGUARD ACTIVITIES

3.1 General Description of Environmental Safeguard Activities



- 41.** A total of 8 site visits have been conducted at different times during reported period (July-December 2022) under JVA-01 and GUD-02 sub-projects and included The monitoring of compliance of construction activities under JVA-01 and GUD-02 sub-projects to the IEE/EMPs, SEMP's requirements.
- 42.** During 8 site visits under sub-projects JVA-01 and GUD-02, 24 EHS non-compliances were identified. Two non-compliances on November 10, 2022 for the GUD-02 subproject and twenty two for the JVA-01 sub-project during site visits on August 23, September 13; September 29; October 20; November 8; November 16 and December 6 2022. 7 Non-compliance Notices (NCN) sent to contractors by SC/ES and USIIP/ES.
- 43.** A summary of the status of the monitoring visits, including dates of site visits, photographs, persons involved in site visits, etc., is shown in Table 5 below. During the reporting period, onsite training workshop and a meeting with representatives of the Contractors and the Supervision Consultant were held. The above trainings were conducted to ensure that contractors understand their responsibilities for the implementation of the IEE/SEMP/EMP and to mitigate environmental issues associated with their construction activities.
- 44.** Individual and joint on-site monitoring activities were conducted by Environmental Specialists of SC and USIIP on a regular basis.
- 45.** Environmental Monitoring Specialist hired under the GUD-02 sub-project by contractor Mr. Aleksandre Mchedlishvili conducted the day-to-day monitoring of the construction sites, developed the monthly monitoring reports and submitted to SC/Safege.
- 46.** Environmental Monitoring Specialist of SC/Safege, Mr. Shalva Bosikashvili conducted monthly monitoring of project sites under USIIP/T4 and developed Non-Conformance Notices where required. He also developed quarterly environmental monitoring reports based on the monthly reports submitted by Contractor and environmental site inspections and submit to UWSCG.
- 47.** 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. Prepare Non-compliance Notice were required developed Semi-Annual Environmental Monitoring reports and submitted to ADB based on the quarterly reports prepared by SC and monitoring results.
- 48.** In accordance with the requirements of IEEs, Contractor is required to undertake parametric measurements and observations on air quality and noise and socio-cultural resources on the quarterly basis.

3.2 Site Audits


- 49.** Inspection and monitoring of construction sites were conducted under GUD-02 and JVA-01 sub-projects by ESs of UWSCG/USIIP and Safege. The schedule of Joint inspection and summary of audits carried out under JVA-01 and GUD-02 sub-projects are provided in the Table 5 below.



Table 5. Summary of site audits



Date of Visit	Name of Company	Auditors Name	Purpose of audit	Summary of any Significant Findings	Cross Reference to Audit Report	Status of implementation
Continuously during reporting period (January-June 2022)	AS Inshaat-N LLC (Azerbaijan) JVA-01	EH&S Specialist of Contractor Mr. Nodar Usupishvili	Day to day monitoring of sites Compliance with Environmental and HES requirements	Poor housekeeping Safety issues on construction sites	Monthly Monitoring Reports	Completed on the monthly basis
23 August 2022		Environmental Specialist of SC Mr. Shalva Bosikashvili	Regular Monitoring of Sites	<p>Drip tray should be used for fuel spillage prevention.</p> <p>Relevant traffic signs and flagmen should control traffic movement properly. PPE wearing is obligatory at the construction site.</p> <p>Unacceptable housekeeping, Site internally should be arranged properly and cleaned regularly. All construction materials and wastes should be properly segregated and stored adequately, Please see Photo N1 below</p>	Non-compliance notice were issued to contractor and corrective actions were required to immediately improve the situation on sites under JVA-01sub-project (Please see Annex C)	<p>Completed (30.08.2022)</p> <p>Completed (30.08.2022)</p> <p>Completed (30.08.2022)</p>


Date of Visit	Name of Company	Auditors Name	Purpose of audit	Summary of any Significant Findings	Cross Reference to Audit Report	Status of implementation
				 <p data-bbox="1152 630 1499 764">Unsafe wiring create H&S problems to workers at construction site, please see Photo N2 below</p> 		Completed (30.08.2022)



Date of Visit	Name of Company	Auditors Name	Purpose of audit	Summary of any Significant Findings	Cross Reference to Audit Report	Status of implementation
13 September 2022		Environmental Specialist of SC Mr. Shalva Bosikashvili	Regular Monitoring of Sites	<p>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;</p> <p>Drip tray should be used for fuel spillage prevention. Relevant traffic signs and flagmen should control traffic movement properly.</p> <p>PPE wearing is obligatory at the construction site.</p> <p>Unacceptable housekeeping; Site internally should be arranged properly and cleaned regularly. All construction materials and wastes should be properly segregated and stored adequately, Please see Photo N1 below</p>		<p>Completed, end of September 2022</p> <p>Completed, end of September 2022</p> <p>Completed, end of September 2022</p> <p>Completed, end of September 2022</p>



Date of Visit	Name of Company	Auditors Name	Purpose of audit	Summary of any Significant Findings	Cross Reference to Audit Report	Status of implementation
				 <p data-bbox="1152 630 1499 760">Construction materials scattered everywhere (material storage should be defined and marked)</p> <p data-bbox="1152 797 1499 862">Waste container without label</p>		<p data-bbox="1791 605 2003 703">Completed, end of September 2022</p> <p data-bbox="1791 743 2003 841">Completed, end of September 2022</p>
29 September 2022		<p data-bbox="636 894 852 1019">Environmental Specialist of SC Mr. Shalva Bosikashvili</p> <p data-bbox="636 1052 821 1149">USIIP/ES Ms. Kate Chomakhidze</p>	Regular Monitoring of Sites	Unacceptable housekeeping & falling hazard (no guard barrier), please see Photo N1 below	Non-compliance notice were issued to contractor and corrective actions were required to immediately improve the situation on sites under JVA-01 sub-project (Please see	Completed (30.09.2022)


Date of Visit	Name of Company	Auditors Name	Purpose of audit	Summary of any Significant Findings	Cross Reference to Audit Report	Status of implementation
				 <p>No hard barrier/no warning tape/no warning sign, Please see Photo N2 below</p>  <p>Worker without PPE/falling hazard</p>	Annex C)	<p>Completed (30.09.2022)</p> <p>Completed (30.09.2022)</p>


Date of Visit	Name of Company	Auditors Name	Purpose of audit	Summary of any Significant Findings	Cross Reference to Audit Report	Status of implementation
20 October 2022		<p>Environmental Specialist of SC Mr. Shalva Bosikashvili</p> <p>USIIP/ES Ms. Kate Chomakhidze</p>	Regular Monitoring of Sites	<p>Unacceptable housekeeping, Please see Photo N1 below</p>  <p>No hard barrier, no warning tape/sign around the open pits, Please see Photo N2 below</p> 	<p>Non-compliance notice were issued to contractor and corrective actions were required to immediately improve the situation on sites under JVA-01sub-project (Please see Annex C)</p>	<p>Completed, end of October 2022</p> <p>Completed, end of October 2022</p>



Date of Visit	Name of Company	Auditors Name	Purpose of audit	Summary of any Significant Findings	Cross Reference to Audit Report	Status of implementation
8 November 2022		<p>Environmental Specialist of SC Mr. Shalva Bosikashvili</p> <p>USIIP/ES Ms. Kate Chomakhidze</p>	Regular Monitoring of Sites	<p>Unacceptable housekeeping, please see Photo N1 below</p>  <p>No hard barrier, no warning tape/sign around the open pits, please see Photo N2 below</p>	<p>Non-compliance notice were issued to contractor and corrective actions were required to immediately improve the situation on sites under JVA-01 sub-project (Please see Annex C)</p>	<p>Completed end of November 2022</p> <p>Partially completed, all open trenches and excavated pits should be backfilled immediately after excavation is completed.</p>

Date of Visit	Name of Company	Auditors Name	Purpose of audit	Summary of any Significant Findings	Cross Reference to Audit Report	Status of implementation
						
16 November 2022		<p>ADB's Ms. Nino Nadashvili, Associate Safeguards Officer Georgia Resident Mission Asian Development Bank;</p> <p>Ms. Kate Chomakhidze UWSCG/USIIP/ Environmental consultants</p>	Quarterly environmental Safeguard Mission	<p>Provide warning signs or safety tapes around open trenches on the construction area for safety issues of workers, please see Photo N1 below</p>  <p>No hard barrier, no warning tape/sign around the open pits, please see Photo N2 below</p>	Verbal instruction was given to contractor to immediately improve the situation.	<p>Completed by the end of November 2022</p> <p>Not completed, will be completed by the end of January 2023 and reflected in</p>

Date of Visit	Name of Company	Auditors Name	Purpose of audit	Summary of any Significant Findings	Cross Reference to Audit Report	Status of implementation
				 <p>Rusted gas cylinder on the ground without proper protection, please see Photo N3 below</p>  <p>Temporary fencing of the Reservoir construction site should be provided, while after completion of construction hard fencing of steel on strong column supports should be provided</p>		<p>the next SAEMR, January – June 2023</p> <p>Not completed, will be completed by the end of January 2023 and reflected in the next SAEMR, January – June 2023</p> <p>Not completed, will be completed by the end of January 2023 and reflected in the next SAEMR, January – June 2023</p>

Date of Visit	Name of Company	Auditors Name	Purpose of audit	Summary of any Significant Findings	Cross Reference to Audit Report	Status of implementation
				Appropriate information banners to be installed at the entrance gates of the Jvari reservoir		Not completed, will be completed by the end of January 2023 and reflected in the next SAEMR, January – June 2023
6 December 2022		Environmental Specialist of SC Mr.Shalva Bosikashvili	Regular Monitoring of Sites	<p>Unsafe ladders makes threat to the H&S for workers, please see Photo N1 below</p>  <p>Rusted gas cylinder without cage on the ground in horizontal position, please see Photo N2 below</p>	Non-compliance notice were issued to contractor and corrective actions were required to immediately improve the situation on sites under JVA-01sub-project (Please see Annex C)	<p>Not completed, will be completed by the end of January 2023 and reflected in the next SAEMR, January – June 2023</p> <p>Not completed, will be completed by the end of January 2023 and reflected in the next SAEMR, January – June</p>

Date of Visit	Name of Company	Auditors Name	Purpose of audit	Summary of any Significant Findings	Cross Reference to Audit Report	Status of implementation
						2023
Continuously during reporting period (January-June 2022)	China Nuclear Industry 23 Construction Co., Ltd GUD-02	Environmental H&S Specialist of Contractor Mr.Aleksandre Mchedlishvili	Day to day monitoring of sites Compliance with Environmental and H&S issues Monthly Monitoring of construction sites	Site internally should be arranged properly and cleaned regularly. Minimize tree cutting on construction site, due to construction purposes	Prepare monthly monitoring reports	Completed (30.06.2022)

Date of Visit	Name of Company	Auditors Name	Purpose of audit	Summary of any Significant Findings	Cross Reference to Audit Report	Status of implementation
10 November 2022		<p>ADB's Environmental Safeguard mission headed by Ms. Nino Nadashvili, Associate Safeguards Officer Georgia Resident Mission Asian Development Bank;</p> <p>Ms. Kate Chomakhidze UWSCG/USIIP/ Environmental consultants</p>	Quarterly environmental Safeguard Mission	<p>Unacceptable housekeeping (Boring Well 3), Site internally should be arranged properly and cleaned regularly. All construction materials and wastes should be properly segregated and stored adequately, Please see Photo N1 below</p>  <p>Water pump and Generator without drip tray, Oil spill response kits should be placed at the appropriate locations. Drip tray should be used for fuel spillage prevention. Please see Photo N2</p> 	<p>Non-compliance notice were issued to contractor and corrective actions were required to immediately improve the situation on sites under GUD-02 sub-project (Please see Annex C)</p>	<p>Completed, end of November 2022</p> <p>Completed, end of November 2022</p>

3.3 Issues Tracking (Based on Non-Conformance Notices)

50. The contractors EHS performance are always reviewed by Supervision Consultant and USIIP environmental specialist. Necessary actions are undertaken when contractors are not in conformance and the EH&S issues.
51. One Non-Compliance Notices have been issued during the site visits under GUD-02 sub-project and six NCNs under JVA-01 sub-project. The contractors were always informed on the detected non-conformances and were demanded to improve on the deadline set and send CAP and/or photos of improvements. Environmental team of SAFEGE 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.
52. In case that the contractor did not make any improvements within the indicated deadline, Esc of SC and USIIP always held additional meetings and discussions with contractors how to correct the non-compliances. Since the deadline for final improvements of above issues are set by the end of January 2023, the main findings will be reflected in the next semi-annual EMR, January-June 2023.
53. A summary of the identified environmental issues under JVA-01 and GUD-02 sub-projects for July-December 2022 is presented in Table 6 and Table 7 below.

Table 6: Summary of Issues Tracking Activity for Current Period - JVA-01

Total Number of Issues for Project	22
Issues Opened This Reporting Period	5
Issues Closed This Reporting Period	17
Percentage Closed	77%

Table 7: Summary of Issues Tracking Activity for Current Period - GUD-02

Total Number of Issues for Project	2
Issues Opened This Reporting Period	0
Issues Closed This Reporting Period	2
Percentage Closed	100%

54. As presented in Table 7 above, during the reporting period, two non-compliances were identified under the GUD-02 sub-project, which were closed and there are no open issues

for GUD-02 sub-project. There are five issues still open under JVA-01 sub-project which will be improved by the end of January 2023 and improved photos of sites will be presented in the next Semi-annual EMR, January-June 2023. These issues are as following: (i) No hard barrier, no warning tape/sign around the open pits; (ii) there is a rusted gas cylinder on the ground without proper protection; (iii) Temporary fencing of the Reservoir construction site should be provided, while after completion of construction hard fencing of steel on strong column supports should be provided; (iv) Appropriate information banners to be installed at the entrance gates of the Jvari reservoir; (v) Unsafe ladders makes threat to the H&S for workers.

3.4 Trends

55. To identify trends in environmental issues, information from previous Semi-Annual EMR (January-June 2022) is used. The summary of the issues is provided in the Table 8 below. There were no unresolved issues identified within USIIP/T4 not only within the previous SAEMR, but also since the start of the sub-projects.

Table 8: Summary of identified trends in environmental issues

Semi-Annual EMR No	Total No of Issues	% issues Closed	% issues closed late
January-June 2022	22	87%	13%
July-December 2022	24	89%	11%

56. Most of the non-compliances were eliminated by the contractors within the specified time frame within the sub-projects JVA-01 and GUD-02. The required actions and deadline to improve the remaining inconsistencies are presented in table 21 below.
57. UWSCG Department of Permits, Environmental Protection and Social Affairs, IPMO and its USIIP Environmental Specialist, Ms. Ketik Chomakhidze, discussed with contractors the discrepancies and findings presented in Table 5 above. Following a site visit on November 16, 2022 under the JVA-01 subproject, this led to a meeting with the contractor to discuss non-compliances identified during the site visit and corrective actions to be taken immediately. All improvements will be duly reflected in the next SAEMR January-June 2023.

3.5 Unanticipated Environmental Impacts or Risks

58. There were no unanticipated Environmental Impacts and Risks under USIIP/T4 during the reporting period.

4. RESULTS OF ENVIRONMENTAL MONITORING

4.1 Overview of Monitoring Conducted during Current Period

59. During the reporting period Environmental measurements of Noise level and Ambient Air Quality were carried out by contractor only under GUD-02 sub-project.
60. Noise and air pollution standards defined by IFC/WHO 1999, are presented in the Table 9 and 10 below.

Table 9: Noise Level Guidelines

Noise	dBA National Regulations		dBA WHO	
	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

61. Air pollution standards by IFC/WHO 1999, are presented in the Table 10 below. National Air Pollution Standards are provided in the Table 11 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/ 1Hour 0,04/1Year
Aldehyde	n/a

62. 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 (100m ³) – working rooms and premises without office equipment	40	40	40
Small offices (100m 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)	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.

63. 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 (µg/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
Sulphur Dioxide (SO ₂)	10 minutes	-	500	-
	30 minutes	500	-	-
	1 Hour	-	-	350
Carbon Monoxide (CO)	24 Hours	50	20	125
	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	-

Parameter	Averaging Period	Limit ($\mu\text{g}/\text{m}^3$)		
		Maximum Permissible Concentration (MPC) in Georgia	IFC Guideline Value	EU Ambient Air Quality Guidelines
Ozone	8-hour daily max.	120	100	120

64. The Georgian Standards for vibration are designed for human comfort. These are shown in Table 13 below. 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	m/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.

65. Environmental quality measurements of noise level and ambient air quality under GUD-02 sub-project was conducted by the Ltd. NASETO GROUP on 22 September 2022 (See Table 14 and Table 15 below and Annex A). The distance from the construction sites to the nearest residential houses is more about 500 m. The next monitoring measurements will be conducted in March 2023 and results will be reflected in the next Semi-annual EMR, January-June 2023.
66. According to data received in 22 September 2022 noise level in some place (Gudauri Track, please see Table 14 below) exceeds the standards of the National Regulations and World Health Organization (IFC/WHO) 1999 under GUD-02 sub-projects and therefore additional mitigation measures which are presented in the table 21 below are required (please see IFC/WHO and national standards for Noise and Air pollution in Tables 9-11 above). It should be noted also that measurements carried out at construction sites, were temporary and conducted during the daytime from 12:10 pm to 15:15 pm and no complaints were received from the local population about the noise during the reporting period.

Table 14: Environmental Quality Measurements, GUD-02 (Noise, Vibration)

Measurement point		Measurement results							
Location	Coordinates	Noise Max. dBA (MAX) (1 hour)	Vibro Speed		Vibro Acceleration		Dust mg/m ³		
			m/s ²		db		PM _{2.5}	PM ₁₀	Total
Gudauri Pumping Station	38TO458893 4702408	47,2	<0,1	<66	<0,1	<100	0,013	0,018	0,021

Measurement point		Measurement results							
Gudauro Reservoir	38TO457008 4703113	51,4	<0,1	<66	<0,1	<100	0,012	0,014	0,019
Gudauro Track	38TO457187 4702170	76,4	<0,1	<66	<0,1	<100	0,025	0,030	0,042

67. According to data received in 22 September 2022 ambient air quality doesn't exceed the standards of the National Regulations and World Health Organization (IFC/WHO) 1999 under GUD-02 sub-projects and therefore no additional mitigation measures are required. As it was already mentioned above all measurements carried out at construction sites, were temporary and conducted during the daytime from 12:10 pm to 15:15 pm and no complaints were received from the local population about the noise during the reporting period.

Table 15: Environmental Quality Measurements, GUD-02 (Air Pollution)

Measurement Point		Measurement Results mg/m ³			
Location	Coordinates	Nitrogen dioxide	Sulfur dioxide	Carbon monoxide	Total Hydrocarbon
Gudauro Pumping Station	38TO458893 4702408	0,007	<0,01	0,48	<0,1
Gudauro Reservoir	38TO457008 4703113	0,012	<0,01	0,57	<0,1
Gudauro Track	38TO457187 4702170	0,019	<0,01	0,59	<0,1

68. During the reporting period, environmental quality measurements were not carried out within the framework of JVA-01, last measurements under the JVA-01 sub-project have been done in September 2021, due to the fact that all construction activities included only a small amount of earthworks and none of the activities under the sub-project had a potential to generate significant noise and air pollution, as there were no sensitive receptors in the proximity of the construction sites (approximately 800m). Also construction activities did not involve high noise/vibration generating activities like pile-driving or rock cutting. Notwithstanding the above, ES UWSCG / USIIP asked SC to issue a non-compliance notice to the contractor to ensure that environmental quality measurements are carried out during the construction works and provide the measurement data to UWSCG.

List of measurement devices unit and validity of calibration

69. During the environmental quality measurement the following measurement devices were used: Noise – Mini Sound level meter N05CC; Vibration – Smart Sensor – AR63B Vibration meter; Dust – Portable Dust Detector model LB-HD08 and Gasella Mikro Dust Pro (Self-calibration zero and optical filter). For nitrogen dioxide and carbon monoxide – Elan CO/NO₂; Total hydrocarbon MiniRae 7600, sulfure dioxide – WASP-XM-E-SO₂.

4.2 Trends

70. During the reporting period CCs were required to follow all mitigation measures identified in relevant IEE/EMP and SEMP within the framework of the GUD-02 and JVA-01 sub-projects

4.3 Summary of Monitoring Outcomes

71. According to the data received on September 22, 2022, the noise level in some places (the Gudauri highway) exceeds the standards of the National Regulations and World Health Organization (IFC/WHO) 1999 under GUD-02 sub-projects, which was also identified in the previous reporting period and therefore additional mitigation measures are required and are presented in Table 21 below. All other parameters are within acceptable limits.
72. As can be seen from the received data (please see Table 14 above), the noise level only at point N3 – Gudauri Truck is slightly exceeds (76,4dBA) than the norm established by the Georgian legislation for commercial/industrial area (Daytime 07:00 - 22:00 is 70 dBA), the impact is temporary, with all works including Installation of Concrete Manholes being completed until 6:00 p.m. There should not be any significant changes in the noise level in the vicinity of the residential houses as well (residential buildings at a distance of about 500 m). All mitigation measures to maintain noise level are within acceptable limits are provided in the table 21 below.

4.4 Material Resources Utilization

4.4.1 Current Period

73. The material resources utilized by contractor under GUD-02 sub-project during the reporting period – July-December 2022 is provided in the Table 16 below.

Table 16: Material Resources Utilization under GUD-02 Sub-project, July-December 2022

No.	Material	Quantity	Unit
1	Concrete	56	m ³
2	Rebar	5	t
3	Steel	0	t
4	Cement	2.5	t
5	Sand	35	m ³
6	Gravel	85	m ³
7	Diesel	12	t

74. The material resources utilized by contractor under JVA-01 sub-project during the reporting period – July-December 2022 is provided in the Table 17 below.

Table 17: Material Resources Utilization under JVA-01 Sub-project, July-December 2022

No.	Material	Quantity	Unit
1	Concrete	172,0	m ³
2	Rebar	12,0	t
3	Steel	0,15	t
4	Cement	16,0	t

5	Sand	570,0	m ³
7	Diesel	8720,0	t

4.4.2. Cumulative Resource Utilization

75. No cumulative resources utilization was provided by contractor despite of numerous verbal request and instructions. This information, will be reflected in the next SAEMR, July-December 2022.

4.5 Waste Management

4.5.1 Current Period

76. At the construction sites of GUD-02 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 services of the local Municipalities.
77. Hazardous waste is removed from the area on the basis of agreements concluded by contractors with certified companies under GUD-02 sub-project after the start of civil works.
78. There is need of routine organization and cleaning of sites. Contractors always have separate containers for household and hazardous waste with proper labeling at the construction site.
79. 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.
80. Waste generated under the GUD-02 sub-project during the reporting period, July-December 2022 is presented in the Table 18 below.
81. Construction Contractor for JVA-01-01 and GUD-02 projects have developed a waste management plan and agreed with the MoEPA in March 2017 and in April 2019 consequently. The Contractor has signed an agreement with the local Municipalities of Gudauri and Jvari regarding provision of the waste containers, collection and transportation of household waste. In addition to that the contractor has signed an agreement with the licensed companies for collection, transportation and treatment of the hazardous waste. Temporary hazardous waste storage area has been arranged at the construction sites. Different types of hazardous waste are kept in the restricted area (fenced on impervious base with roof) before transporting by the licensed waste transportation/treatment company. Information regarding the generation of waste during reporting period is given in the Table below:

Table 18: Waste generated under the GUD-02 sub-project during the reporting period, July-December 2022

#	Domestic, hazardous Waste & Sewage	Estimated Volume	Storage Area	Licensed Company
1	Household waste	3m ³	WWTP construction sites,	Gudauri Municipality

#	Domestic, hazardous Waste & Sewage	Estimated Volume	Storage Area	Licensed Company
2	Sewage water	1m ³	Wastewater treatment plant	Ltd. Sanitary
3	Used tires	1m ³	Temporary waste storage area at the Workshop	TRC Ltd.
4	Hydraulic and used oil	10liter	Temporary waste storage area at the Workshop	Medical Technology LLC
5	Oil drums	2pcs	Temporary waste storage area at the Workshop	Medical Technology LLC
6	Printer tonner	1kg.	Temporary waste storage area at the Workshop	Medical Technology LLC

82. Waste generated under the JVA-01 sub-project during the reporting period, July-December 2022 is presented in the Table below.

Table 19: Waste generated under the JVA-01 sub-project during the reporting period, July-December 2022

#	Domestic, hazardous Waste & Sewage	Estimated Volume	Storage Area	Licensed Company
1	Household waste	3m ³	WWTP construction sites,	Zugdidi Municipality
2	Used tires	1m ³	Temporary waste storage area at the	TRC Ltd.
	Hydraulic and used oil	5liter	Temporary waste storage area at the	Medical Technology LLC
	Oil drums	2pcs	Temporary waste storage area at the	Medical Technology LLC
	Printer tonner	1kg.	Temporary waste storage area at the	Medical Technology LLC

4.5.2 Cumulative Waste Generation

83. There is no information on the cumulative waste generation for the reporting period July-December 2022 for subprojects GUD-02 and JVA-01. IPMO, USIIP/ES held an additional meeting with SC and CC representatives to provide this information and reflect it in the next SAEMR January-June 2023.

4.6 Health and Safety

84. The EHS specialists, Mr. Aleksandre Mchedlishvili under GUD-02 and Mr. Nodar Ususpishvili under JVA-01 sub-project were available on their respective sites and their responsibilities include: maintaining safety and protection against HS accidents; provide H&S training including daily toolbox training sessions at each work site; approve H&S Plans for specific work activities; conduct routine site inspections and issue internal stop notices, if necessary, for unsafe activities; maintain H&S statistics log books for near misses, as well as incidents; and provide H&S input to Contractor reports.

4.6.1 Community Health and Safety

85. No community incidents have been reported to SC during reporting period under JVA-01 and GUD-02 sub-projects.

4.6.2 Worker Safety and Health JVA-01

86. No workers incidents have been reported during reporting period under JVA-01 sub-project.
87. H&S issues which were covered during the reporting period at the Jvari reservoir site are as follows:
(i) No hard barrier, no warning tape/sign around the open pits; (ii) there is a rusted gas cylinder on the ground without proper protection; (iii) Unsafe ladders makes threat to the H&S for workers.

4.6.3 Worker Safety and Health GUD-02

88. Environmental H&S Manager of GUD-02 sub-project Mr. Aleksandr Mchedlishvili was performing daily monitoring of construction sites, including supervision of ongoing works according to EH&S standards.
89. Health & safety and environment issues which were covered during the reporting period are as follows: workers always wear the PPE, safety barriers around the open tranches.
90. No workers incidents have been reported during reporting period under GUD-02 sub-project.

4.7 Training and Public Awareness

91. Routine personnel trainings and toolbox talks happen by the construction companies almost on daily basis under GUD-02 and JVA-01 sub-projects. Environmental Specialist of SC Mr. Shalva Bosikashvili and Environmental Specialist of USIIP Ms. Kate Chomakhidze also

provided verbal instructions and training for Construction Company's Environmental and H&S officers on a regular basis in accordance with the relevant Terms of References. The above trainings were conducted to ensure that contractors understand their responsibilities for the implementation of the IEE/EMP, and to mitigate environmental issues associated with their construction activities.

92. On November 17, 2022, a meeting with the Mayor of Poti was held at the Poti City Hall. The meeting was attended by representatives of UWSCG, SC/Safege, construction companies under POT-01 (LOT-01, LOT-02 and LOT-03). Information about the new obligations of the POT-01 subproject was provided to representatives of the Poti municipality. During the meeting, the details of the project implementation schedule, as well as the design of the project, were discussed. It was decided that regular meetings would be held in Poti municipality to discuss the progress of the POT-01 project (LOT-01, LOT-02 and LOT-03). Please see photo of the meeting below.

Photo N1: Poti City Hall, 17 November 2022



5. FUNCTIONING OF THE SEMP

5.1 SEMP Review

93. During the reporting period, three separate SEMPs were prepared under POT-01 sub-project for - LOT-01, LOT-02 and LOT-03. All SEMPs were reviewed and commented on by the SC and USIIP/ES and sent back to the contractor for finalizing the documents. The final SEMPs will be sent to ADB for final review and comments.
94. All other SSEMPs under USIIP/T4, such as ZUG-01, POT-01, POT-02, JVA-01 and GUD-02 sub-projects were prepared by Contractor, endorsed by SC and approved by UWSCG and reviewed/commented by the ADB.
95. SEMPs prepared by contractors, within the framework of ZUG-01, POT-01, POT-02 and JVA-01 sub-projects during the current and previous reporting periods are presented in table 20 below.

Table 20: SSEMPs Prepared under ZUG-01, POT-01, POT-02 and JVA-01 Sub-projects are given in the table below

No	Project/Site	Date of Approval
1	ZUG-01 – Ingiri Well fields and Pumping Station	March 2016
2	ZUG-01 – Bashi Reservoir	January 2016
3	Jvari-01 - Lia Well Fields	July 2018
4	¹ Pot-02 - Poti WWTP	31 May 2018
5	Pot-02 - Poti WWTP	Updated in August 2020
6	GUD-02 – Construction of Reservoir and well fields	September 2019
7	GUD-02 – Construction of water supply and sewerage network	September 2019

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

¹ Initial SEMP for POT-02 sub-project was prepared in May 2018 and further updated in August 2020 due to the design changes identified in VO#2, including construction of an emergency bypass for a new WWTP of Poti.

6. GOOD PRACTICE AND OPPORTUNITY FOR IMPROVEMENT

6.1 Good Practice

- 98.** During the reporting period, close monitoring, guidance and communication between the DEPP, IPMO, consultant supervision team and contractors were carried out, as suggested during the previous EMR, January-June 2022, to avoid non-compliances and improve the situation on construction sites within the GUD-02 and JVA-01 sub-projects.

6.2 Opportunities for Improvement

- 99.** During the next reporting period the tracking of actions to address non-conformances will be improved by PIU up to 100% out of current 89%. All non-conformances addressed will be reflected in the next SAEMR, January-June 2023.

7. SUMMARY AND RECOMMENDATIONS

7.1 Summary

- 100.** During the reporting period Individual and joint on-site monitoring activities were conducted by Environmental Monitoring Specialist of SC and Environmental Specialist of USIIP on a regular basis.
- 101.** A total of 8 site visits have been conducted at different times during reported period (July-December 2022) under USIIP/T4 - JVA-01 and GUD-02 sub-projects and included the monitoring of compliance of construction activities under JVA-01 and GUD-02 sub-projects to the IEE/EMPs, SEMP's requirements.
- 102.** During the above 8 site visits under JVA-01 and GUD-02 sub-projects, 24 EHS non-compliances were identified. Two non-compliances on November 10, 2022 for the GUD-02 subproject and twenty two for the JVA-01 sub-project during site visits on August 23, September 13; September 29; October 20; November 8; November 16 and December 6 2022. 8 non-compliance notices sent to contractor by SC/ES and USIIP/ES. Contractor developed Corrective Action Plans within the identified deadlines and sent improved photos of sites to SC and USIIP.
- 103.** A summary of the status of the monitoring visits, including dates of site visits, photographs, persons involved in site visits, etc., is shown in Table 5 above. During the reporting period, onsite training workshop and a meeting with representatives of the Contractors and the Supervision Consultant were held.
- 104.** Environmental Quality Measurements of the ambient air quality and noise level were carried out by contractor under GUD-02 sub-project. According to the data received on September 22, 2022, the noise level in some places (the Gudauri highway) exceeds the standards of the National Regulations and World Health Organization (IFC/WHO) 1999 under GUD-02 sub-projects, which was also identified in the previous reporting period as well. All other parameters are within acceptable limits.
- 105.** As can be seen from the received data (please see Table 14 above), the noise level only at point N3 – the Gudauri highway is slightly **exceeds** (76,4dBA) than the norm established by the Georgian legislation for commercial/industrial area (Daytime 07:00 - 22:00 is 70 dBA), the impact is temporary, with all works including Installation of Concrete Manholes being completed until 6:00 p.m. There should not be any significant changes in the noise level in the vicinity of the residential houses as well (residential buildings at a distance of about 500 m). All mitigation measures to maintain noise level are within acceptable limits are provided in the table 21 below.
- 106.** Environmental Monitoring Specialist of SC/Safege, Mr. Shalva Bosikashvili conducted monitoring of project sites under T4 and developed Non-Conformance Notices were required. He also developed quarterly environmental monitoring reports based on the monthly reports submitted by Contractor and environmental site inspections and submitted to UWSCG.
- 107.** 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 Environmental Monitoring reports and submitted to ADB based on the quarterly reports prepared by SC and

monitoring results.

7.2 Recommendations

108. During the reporting period, July-December 2022, the USIIP/T4 of Investment Program was implemented in accordance with the requirements of ADB - SPS 2009 and the National Legislation.

109. More detailed recommendations for the implementation of T4 during the next reporting period July-December 2022 are provided in the Table 21 below:

Table 21: Recommendations to Address Environmental Issues under JVA-01 and GUD-02 sub-projects.

Recommendations JVA-01 and GUD-02 sub-projects	
Recommendations	Implementation status and date
JVA-01	
No hard barrier, no warning tape/sign around the open pits	Instructions are given to contractor to improve the situation and to conduct following mitigation measures by the end of January 2023
There is a rusted gas cylinder on the ground without proper protection; (v) Unsafe ladders makes threat to the H&S for workers.	
Temporary fencing of the Reservoir construction site should be provided, while after completion of construction hard fencing of steel on strong column supports should be provided	
Appropriate information banners to be installed at the entrance gates of the Jvari reservoir;	
Unsafe ladders makes threat to the H&S for workers.	
GUD-02	
Noise from the construction activities should not cause disruption and nuisance to nearby community and other sensitive receptors (i.e. school, hospitals).	Instructions are given to contractor to improve the situation and to conduct following mitigation measures by the end of July 2022: 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

Recommendations JVA-01 and GUD-02 sub-projects

	<p>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., 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.</p>
--	---

- 110.**Finalize Post-Construction Environmental Audit Report by the Q1 of 2023 under the ZUG-01 sub-project and reflect findings of the audit report in the next Semi-Annual EMR of January-June 2023.
- 111.**Conduct monitoring of Environmental quality measurements of Ambient Noise and Air quality under JVA-01 sub-project (Reservoir site) at the nearest sensitive receptors (residential buildings at a distance of about 800 m) in March 2023.

Table 22: The Specific Plan for Environmental Measurement under JVA-01 sub-project

Parameters	Quarterly measurement
Dust	March 2023
Vibration	March 2023

Parameters	Quarterly measurement
Carbon monoxide	March 2023
Nitrogen dioxide	March 2023
Sulfur dioxide	March 2023
Noise	March 2023

112. Conduct monitoring of Ambient Noise and Air quality under GUD-02 project at the nearest sensitive receptors (residential houses) in March 2023.

Table 23: The Specific Plan for Environmental Measurement under GUD-02 Project

Parameters	Quarterly measurement
Dust	March 2023
Vibration	March 2023
Carbon monoxide	March 2023
Nitrogen dioxide	March 2023
Sulfur dioxide	March 2023
Noise	March 2023

Annexes

ANNEX A: ENVIRONEMNTAL MONITORING DATA of NOISE and AMBIENT AIR QUALITY GUD-02, JUNE 17 2022



3rd October 2022

To: UWSC
Attn. Mr. Al Tevdoradze
Director

Our Ref: UWSC-2107/OUT-VH
Contract: P43405-ICB-GUD-02
Subject: Supervisor of Gudauri 02 Works Contract - Quarterly Environmental Parametric Measurement Report

Dear Sir,

Please find attached Contractor's letter GUD02-CNI23-ENG-22078 dated 02/10/2022 - Quarterly Environmental Parametric Measurement Report.

For the Engineer

Victor Hruska
Team Leader

Urban Services Improvement Investment Program (Project 4)

SAFEGE-with Engineering Solutions LLC as sub-consultant - ADD ADDRESS
SAFEGE Europe & Africa - Gulied Elio 92, 1200 Brussels, BELGIUM - Tel: +32 2 736 45 90 - Fax: +322740236 91
NATN° / BF 0467395488 RPM Brussels - Bank: KBC - IBAN: BF49473105 88171 - BIC: KRFDRFR
SAFEGE Headquarters - 15/27 rue du Poul, Parc de l'Île, 92000 Nanterre, FRANCE
Tel: +33146147100 - Fax: +33 147247202 - Web: www.safege.com





China Nuclear Industry 23 Construction Co., Ltd
Construction of Sewage Collection and Water Supply Systems in Gudauri
(UWSCG-ICB-GUD-02-2018)

The Contractor

Address: 45 Java street, 0180 Tbilisi, Georgia
Telephone: +995 571246556

Sefege Ingenieurs Conseils/Engineering Solution LLC as sub-consultant
Mr. Victor Huska, Team Leader
Medea Chakhava #9
0177 Tbilisi, Georgia

[your reference/date] [our reference/date] [your contact] [e-mail]
GUD02-CNE23-ING-22078 Liao Ke: cn23georgian@thialis@gmail.com
2022-10-2

Construction of Sewage Collection and Water Supply Systems in Gudauri
(UWSCG-ICB-GUD-02-2018)
Subject: Quarterly Environmental Parametric Measurement Report

Dear Mr. Victor:

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

Yours sincerely

Contractor of Construction of Sewage Collection and Water Supply Systems in Gudauri

Mr. Liao Ke
Project Manager

Appendix: 8 pages

Copy to: Contractor internal

Construction of Sewage Collection and Water Supply Systems in Gudauri (UWSCG-ICB-GUD-02-2018).

**Date of Commencement March 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 centers 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 considers the "Construction of Sewage Collection and Water Supply Systems in Gudauri".

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 Svanetsminda 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 470.230.000.11.118.004.920).

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, №178, 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 Nesebo Group LLC, environmental quality analysis was carried out at various points in Gudauni.

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

Gudauni 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 (r2 / r1), 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.

"Rasfa მუქდღერ ინდუსტრი 23 ქაინტრაქტინ კო"-ს ფილიალი საქართველოში
 "Georgia Branch of China Nuclear 23 Construction Company Co.,Ltd"
 ჰერის მტკვრით დაბინძურების, ხსენების და ვიბრაციის გაზომვების შედეგები
 22.09.2022, 12⁰⁰ - 15⁰⁰

Dust air pollution, noise and vibration measurements on 22.09.2022, 12⁰⁰ - 15⁰⁰

№	გაზომვის წერტილის		გაზომვის შედეგები							
	Measurement point		Measurement results							
	ადგილი მდებარეობა	კოორდინატები	ხმაური A _{max} დბ	ვიბრო სიჩქარე Vibro Speed		ვიბრო ჩქარეობა Vibro acceleration		მტკვრი მგ/მ ³		
				მმ/წმ	დბ	მ/წმ ²	დბ	Dust mg / m ³		
Location	Coordinates	Noise A _{max} db	mm/s	db	m/s ²	db	P _{ms}	P _{ms}	Total	
1	გუდაური, სატუმბო სადგურია, Gudauri, Pumping station	3870458893 4702408	47,2	<0.1	<66	<0.1	<100	0.013	0.018	0.021
2	გუდაური, რეზერვუარი, Gudauri, Reservoir	3870457008 4703113	51,4	<0.1	<66	<0.1	<100	0.012	0.014	0.019
3	გუდაური, ტრასა, Gudauri, Track	3870457187 4702170	76,4	<0.1	<66	<0.1	<100	0.025	0.030	0.042

ჰერის აზოტის და დიოქსიდის დიოქსიდით, ნახშირბადის მონოქსიდით და
 ჯამური ნახშირწყალბადებით დაბინძურების გაზომვების შედეგები
 22.09.2022, 12⁰⁰ - 15⁰⁰

Nitrogen and sulfur dioxide, carbon monoxide and total hydrocarbon air pollution
 measurement results on 22.09.2022, 12⁰⁰ - 15⁰⁰

№	გაზომვის წერტილის		გაზომვის შედეგები მგ/მ ³			
	Measurement point		Measurement results mg/m ³			
	ადგილი მდებარეობა	კოორდინატები	აზოტის დიოქსიდი	დიოქსიდის სულფური	ნახშირბადის მონოქსიდი	ჯამური ნახშირწყალბადის საერთო
Location	Coordinates	nitrogen dioxide	sulfur dioxide	carbon monoxide	total hydrocarbon	
1	გუდაური, სატუმბო სადგურია, Gudauri, Pumping station	3870458893 4702408	0.007	<0.01	0.58	<0.1
2	გუდაური, რეზერვუარი, Gudauri, Reservoir	3870457008 4703113	0.012	<0.01	0.57	<0.1
3	გუდაური, ტრასა, Gudauri, Track	3870457187 4702170	0.019	<0.01	0.59	<0.1

გაზომვის დროს გამოყენებულია ხელსაწყოები/ During measurement tools used:
 ხმაურა/ Noise - Mini Sound Level Meter N05CC;
 ვიბრაცია/ Vibration- Smart Sensor ® AR63B Vibration Meter;
 დაბეტერინიზა/ Dust- Portable Dust Detector model LB-HD08
 და Gasella Mikro Dust Pro (თვითკალიბრაცია ნულზე და ოპტიკური ფილტრის/ Self-
 calibration zero and optical filter.) . აზოტის დიოქსიდის და ნახშირბადის მონიშვნაობის -
 nitrogen dioxide and carbon monoxide - Daaar CO/NO;
 ჯამური ნახშირწყალბადების - total hydrocarbon Miniflae 7600;
 ცივირადის 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:
 დაბეტერინიზაციის 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;
 ცივირადის დიოქსიდის ნორმა შეადგენს 0.5 მგ/მ³; / sulfur dioxide norm is 0.5 mg / m³;
 ნახშირბადის მონიშვნაობის 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.
 ვიბრაციის ნორმა შეადგენს 112 დბ; / Vibro-speed norm is 112 db;
 ელრომაგნიტური გამოსხივების სპეციალური დაცვა/სამუშაოების გამოცემის გარეშე - 126
 დბ./Vibro acceleration norm special protective outlets without using - 126 db.

დირექტორი:
 Director

ტექნიკური მენეჯერი
 Technical Contractor



მ. გაბუნია
 M. Gabunia

ს. ხაჯავა
 S. Khassava

Godeuri, Reservoir 22.09.2022



Godeuri, Pump Station 22.09.2022



ANNEX B: PHOTOS OF JVA-01, POT-01 and GUD-02 SUB-PROJECTS

Construction of Water Supply and Sewerage Network in Gudauri, GUD-02 Gudauri Reservoir



JVA-01 - Construction of Jvari Headwork



JVA-01 - Construction of Jvari Reservoir



POT-01 - Meeting at the Poti City Hall with the Mayor of Poti, 17 November 2022



ANNEX C: NON-COMPLIANCE NOTICE (GUD-02), 10 NOVEMBER 2022

Non-Compliance Notice

Project: Construction Supervision (under USIIP, Tranche 4 Projects), UWSCG/USIIP/QCBS/02-2014	Non-compliance Notice Gudauri
Contract No.: UWSCG-ICB-GUD-02-2018	
Contractor: China Nuclear Industry 23 Construction Co., Ltd	
Reference:	
This notice is to advise the prime Contractor, on the referenced Contract, of the following notice on health, safety and environmental measures to be implemented urgently .	
GENERAL COMMENT FOR ALL SITES: 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. Relevant traffic signs and flagmen should control traffic movement properly. H&S standards and rules should be addressed and implemented.	
NON-COMPLIANCE IN Gudauri	
Construction of Sewage Collection and Water Supply Systems in Gudauri	
<ul style="list-style-type: none">- Unacceptable housekeeping (Boring Well 3)- Water pump and Generator without drip tray	
Unacceptable housekeeping	
	
Water pump and Generator without drip tray	



All these conditions have to be remedied within 10 days by the prime Contractor China Nuclear Industry 23 Construction Co., Ltd	
Date of site visit: 10.11.2022	
ShalvaBosikashvili - Environmental specialist - "SAFEGE"	
KetevanChomakhidze - Environmental specialist "UWSCG"	

NON-COMPLIANCE NOTICE, JVA-01, 23 AUGUST 2022

Non-Compliance Notice

Project: Construction Supervision (under USIIP, Tranche 4 Projects), UWSCG/USIIP/QCBS/02-2014	non-compliance Notice JVARI-01
Contract No: P43405-DC-JVA-01	
Contractor: AZ-Inshaat-N	
Reference:	

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

GENERAL COMMENT FOR ALL SITES:

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. Relevant traffic signs and flagmen should control traffic movement properly. PPE wearing is obligatory at the construction site.

NON-COMPLIANCE IN JVARI

- Unacceptable housekeeping
- Unsafe wiring

Unacceptable housekeeping



Unsafe wiring



All these conditions have to be remedied within 14 days by the prime Contractor AZ-Inshaat-N

Date of site visit: 23.08.2022

Shalva Bosikashvili - Environmental specialist - "SAFEGE"

Ketevan Chomakhidze - Environmental specialist "UWSCG"

NON-COMPLIANCE, JVA-01, 13 SEPTEMBER 2022

Non-Compliance Notice

Project: Construction Supervision (under USIP, Tranche 4 Projects), UWSCG/USIIP/QCBS/02-2014	non-compliance Notice JVARI-01
Contract No: P43405-DC-JVA-01	
Contractor: AZ-Inshaat-N	
Reference:	
This notice is to advise the prime Contractor, on the referenced Contract, of the following notice on health, safety and environmental measures to be implemented urgently .	
GENERAL COMMENT FOR ALL SITES: 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. Relevant traffic signs and flagmen should control traffic movement properly. PPF wearing is obligatory at the construction site.	
NON-COMPLIANCE IN JVARI	
<ul style="list-style-type: none">▪ Unacceptable housekeeping; waste container without label▪ Construction materials scattered everywhere (material storage should be defined and marked)	
Unacceptable housekeeping; waste container without label	
	
Construction materials scattered everywhere	



All these conditions have to be remedied within 14 days by the prime Contractor AZ-Inshaat-N.


Date of site visit: 13.09.2022

Shalva Bosikashvili - Environmental specialist - "SAFEGE"

Ketevan Chomakhidze - Environmental specialist "UWSCG"

NON-COMPLIANCE NOTICE, JVA-01, 29 SEPTEMBER 2022

Non-Compliance Notice

Project: Construction Supervision [under USIP, Tranche 4 Projects]. UWSCG/USIP/QCBS/02-2014	non-compliance Notice JVARI-01
Contract No: P13105-DC-JVA-01	
Contractor: AZ-Inshaat-N	
Reference:	
<p>This notice is to advise the prime Contractor, on the referenced Contract, of the following notice on health, safety and environmental measures to be implemented urgently.</p> <p>GENERAL COMMENT FOR ALL SITES: 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. Relevant traffic signs and flagmen should control traffic movement properly. PPE wearing is obligatory at the construction site.</p> <p>NON-COMPLIANCE IN JVARI</p> <ul style="list-style-type: none"> • Unacceptable housekeeping & falling hazard (no guard barrier) • No hard barrier/no warning tape/no warning sign • Worker without PPE/falling hazard <p><i>Unacceptable housekeeping & falling hazard (no guard barrier)</i></p>  <p><i>No hard barrier/no warning tape/no warning sign</i></p>	



Worker without PPE/falling hazard



All these conditions have to be remedied within 14 days by the prime Contractor AZ-Inshaaf-N



Date of site visit: 22.09.2022

Shalva Bosikashvili - Environmental specialist - "SAFEGE"

Ketevan Chomakhidze - Environmental specialist "UWSCG"

NON-COMPLIANCE NOTICE, JVA-01, 20 OCTOBER 2022

Non-Compliance Notice

Project: Construction Supervision (under USIIP, Tranche 4 Projects), UWSCG/USIIP/QCBS/02-2014	non-compliance Notice JVARI-01
Contract No: P43405-DC-JVA-01	
Contractor: AZ-Inshaat-N	
Reference:	
This notice is to advise the prime Contractor, on the referenced Contract, of the following notice on health, safety and environmental measures to be implemented urgently .	
GENERAL COMMENT FOR ALL SITES: 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. Relevant traffic signs and flagmen should control traffic movement properly. PPE wearing is obligatory at the construction site.	
NON-COMPLIANCE IN JVARI	
<ul style="list-style-type: none">• Unacceptable housekeeping• No hard barrier, no warning tape/sign around the open pits	
Unacceptable housekeeping	
	
No hard barrier/no warning tape/no warning sign	



All these conditions have to be remedied within 14 days by the prime Contractor AZ-Inshaat-N


Date of site visit: 20.10.2022

Shalva Bosikashvili - Environmental specialist - "SAFEGE"

Ketevan Chomakhidze - Environmental specialist "UWSCG"

NON-COMPLIANCE NOTICE, JVA-01, 8 NOVEMBER 2022

Non-Compliance Notice

Project: Construction Supervision (under USIP, Tranche 4 Projects), UWSCG/USIP/QCBS/02-2014	non-compliance Notice JVARI-01
Contract No: P43405-DC-JVA-01	
Contractor: AZ-Inshaaal-N	
Reference:	
This notice is to advise the prime Contractor, on the referenced Contract, of the following notice on health, safety and environmental measures to be implemented urgently .	
GENERAL COMMENT FOR ALL SITES: 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. Relevant traffic signs and flagmen should control traffic movement properly. PPE wearing is obligatory at the construction site.	
NON COMPLIANCE IN JVARI	
<ul style="list-style-type: none">• Unacceptable housekeeping• No hard barrier, no warning tape/sign around the open pits	
Unacceptable housekeeping	
	
No hard barrier/no warning tape/no warning sign	



All these conditions have to be remedied within 14 days by the prime Contractor AZ-Inshaat-N



Date of site visit: 08.11.2022

Shalva Bosikashvili - Environmental specialist - "SAFEGE"

Ketevan Chomakhidze - Environmental specialist "UWSCG"

NON-COMPLIANCE NOTICE, JVA-01, 6 DECEMBER 2022

Non-Compliance Notice

Project: Construction Supervision (under USIIP, Tranche 4 Projects), UWSCG/USIIP/QCBS/02-2014	non-compliance Notice JVARI-01
Contract No: P43405-DC-JVA-01	
Contractor: AZ-Inshaat-N	
Reference:	
This notice is to advise the prime Contractor, on the referenced Contract, of the following notice on health, safety and environmental measures to be implemented urgently .	
GENERAL COMMENT FOR ALL SITES: 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. Relevant traffic signs and flagmen should control traffic movement properly. PPE wearing is obligatory at the construction site.	
NON-COMPLIANCE IN JVARI	
<ul style="list-style-type: none">▪ Unsafe ladders▪ Rusted gas cylinder without cage on the ground in horizontal position	
Unsafe ladders	
	
Gas cylinder without cage on the ground in horizontal position	



All these conditions have to be remedied within 14 days by the prime Contractor AZ-Inshaat-N

Date of site visit: 06.12.2022

Shalva Bosikashvili - Environmental specialist - "SAFEGE"

Ketevan Chomakhidze - Environmental specialist "UWSCG"