Semi-annual Environmental Monitoring Report

#17 Semiannual Report

(Reporting Period: January-June 2024)

Loan Number: 3238

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

July 2024

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

Contents

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 January-June 2024.

2. This report is the 17th Semi-Annual EMR for the T4 of USIIP.

1.2 Headline Information

3. During the reporting period, civil works were conducted only under the POT-01 (LOT-02, LOT-03) sub-project within the Urban Services Improvement Investment Program Tranche 4. As such, this report focuses on the activities executed under these specific sub-projects. All other activities within the USIIP/T4 were finalized in earlier reporting periods. Further details regarding the implementation status of these projects are provided in Chapter 2 below.

2. PROJECT DESCRIPTION AND CURRENT ACTIVITIES

2.1 Project Description

4. 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 (MFF). 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.

5. The Investment Program improves infrastructure through the development, design and implementation of a series of subprojects, each providing improvements in a particular sector (water supply and/or sanitation) in one town. Sub-projects rehabilitate existing infrastructure and/or create new and expanded infrastructure to meet the present and future demand. Water supply improvements include source augmentation and head works, pumping systems, treatment facilities, transmission and distribution network; and, sewerage improvement works include sewer network, pumping stations, main collectors and waste water treatment plants.

6. Tranche 4 of the Investment Program includes:

- Construction of Water Supply System in Zugdidi – ZUG-01
- Construction of Sewerage System in Poti – POT-01
- Construction of Wastewater Treatment Plant in Poti - POT-02
- Construction of Water Supply System in Jvari - JVARI-01
- Construction of Sewage Collection and Water Supply System in Gudauri - GUD-02

7. **Construction of Water Supply System in Zugdidi (ZUG 01)**. The project comprised 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.

8. 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. All construction works under ZUG-01 sub-project were competed in March 2022.

Post-Construction Environmental Audit

9. **The Post-construction Environmental Audit Report** within the framework of the ZUG-01 subproject was prepared by the Supervisory Consultant of USIIP/T4 - "SAFEGE France with Engineering Solution LLC Georgia" in October 2023.

10. Based on the Post-construction Environmental Audit Report, the contractor has promptly resolved all non-compliances identified within the ZUG-01 sub-project. Currently, there are no outstanding environmental issues related to ZUG-01. The aforementioned mentioned report is attached to this report (please see Annex E)

11. **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. Detailed information on current status of POT-01 sub-project (all three lots) is provided in paragraphs 12-20 below.

12. **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. The project Completion date was March 2024.

13. **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. 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

14. 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

15. The Post-construction Environmental Audit Report under the POT-01/LOT-01 sub-project will be prepared by the Supervision Consultant SAFEGE and submitted to UWSCG in December 2024.

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 project Completion date was March 2024, but construction works were not completed by this time and will continue until the end of December 2024 under Government Financing, as MFF was closed in March 2024.

17. 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 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;
- All needed crossings

18. 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

19. The Post-construction Environmental Audit Report under the POT-01/LOT-02 sub-project will be prepared by the Supervision Consultant SAFEGE and submitted to UWSCG in December 2024.

20. **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 project Completion date was March 2024, but construction works were not completed by this time and will continue until the end of December 2024 under Government Financing, as MFF was closed in March 2024.

21. The proposed project includes construction and rehabilitation of 28 sewerage Pumping Stations in Poti under POT-01 sub-project.

22. The Post-construction Environmental Audit Report under the POT-01/LOT-03 sub-project will be prepared by the Supervision Consultant SAFEGE and submitted to UWSCG in December 2024.

23. **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 Gmbh7Co. KG (Germany)" and "EMIT Group – ErcoleMarelliImpiantiTecnologiciS.r.l. (Italy). Due to bankruptcy of Ludwig Pfeiffer in December 2021, there were not any construction activities and physical progress. The Supervision Consultant notified in March 2022 the Contractor to restart activities on site. But there were no reaction from Contractor's side. In April 2023, the Engineer submitted revised Recommendation for Termination of the POT-02 to UWSCG. The POT-02 sub-project was finally terminated and UWSCG received the final decision and a No-objection from ADB in October 2023.

24. **Construction of Water Supply System in Jvari (JVA-01)**. The major works implemented for rehabilitation and improvement of Jvari water supply system are following: construction of 8 wells on the well field near the village Lia; installation of more than 4 km (4,558m) long transmission pipeline (DN300); replacement of distribution pipes (43,500m of DN90-200 pipes) in the town; rehabilitation of existing reservoir of 120m^3; installation of 150 hydrants and 2500 meters.

25. The contract for implementation of JVARI-01 was signed on January 17, 2017 with AS Inshaat–N, LLC(Azerbaijan) and the Contract completion date was February 2024.

26. The Post-construction Environmental Audit Report for the JVARI-01 sub-project was prepared by the Supervision Consultant SAFEGE and submitted to UWSCG in February 2024 (Please see Annex F). Table 1 below and Annex F present the non-compliances identified during the post-construction audit report, as well as the improvements implemented by the contractor and UWSCG in June 2024.

27. Summary of non-compliances identified during the site visit in June 2024 by the ESs of SAFEGE and UWSCG/USIIP within the Post-construction Environmental Audit, Corrective Actions to be Implemented, relevant photographs, responsible units and status of improvements are presented in the table below.

Table 1: Summary Information of Post-construction Environmental Audit under Jvari-01 Sub-project

#	Non-compliance	Corrective action	Construction Site	Terms of accomplishment	Responsibility	Status
			Jvari Reservoir			
1	Prevent access of public to the reservoir site - the fence of the reservoir should be completed and equipped with signs, information and warnings	Reservoirs sites should be equipped with proper fence		**End of June 2024**	**UWSCG**	**Completed in June 2024** 
		Reservoirs sites should be equipped with proper warning and information signs		**End of June 2024**	**UWSCG**	**Not yet Completed will be implemented in July 2024**
2.	Waste	nstruction		**End of**	**UWSCG**	**Completed, end of**

#	Non-compliance	Corrective action	Construction Site	Terms of accomplishment	Responsibility	Status
	management at the reservoir site: Remains of construction waste are not removed and not properly disposed	waste should be removed completely and disposed properly		**June 2024**		**May 2024** Construction waste removed completely and disposed properly 

28. **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.

29. 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. Construction works have not been completed yet, delay damages for Borehole N2 and N3 are still to be finalized. The final completion date is September 2024.

30. The Post-construction Environmental Audit Report under the GUD-02 sub-project will be prepared by the Supervision Consultant SAFEGE and submitted to UWSCG in October 2024.

31. **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

32. 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).

33. The Investment Program Management Office (IPMO) under UWSCG, is the Department of Management of Projects Financed by Donor Organizations, 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 acting head of the department is Mr.David Akhvlediani.

34. 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

35. The SC/SAFEGE hires a full time Environmental Specialist, Mr.Shalva Bosikashvili to assist the UWSCG 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.

36. 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 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.

37. UWSCG has Department of Permits, Environmental Protection and Social Affairs 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.

38. More detailed description of EMP implementation arrangements, responsibilities and staffing under UWSCG is provided in the **Table 2 below**.

Table 2: 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 SEMP 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 SEMPs; 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	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.	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	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

39. A list of main organizations involved in the USIIP/T4 and relating to environmental safeguards is presented in Table 3 below.

Table 3: 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
		Safeguards Officer Georgia Resident Mission Asian Development Bank	Nino Nadashvili Tel: +995 577 44 09 90 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 Permits, Environmental Protection and Social Affairs, Head	Ms. Maka Goderdzishvili Tel: +995 599 229925 E-mail: m.goderdzishvili@water.gov.ge
		UWSCG/IPMO Department of Projects Management, Head	Mr. David Akhvlediani Tel: +995 599 348090 E-mail: d.akhvlediani@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
Contract JVA-01	AS Inshaat–N, LLC(Azerbaijan)	Environmental H&S Specialist	Mr.Gia Khulordava Tel: + 995 577 345049
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.Vakhtang Burchuladze Tel: +995 577 477432 E-mail: v.burchuladze1@gmail.com
Contractor POT-01/LOT-02	"MBD Inssat" (Turkey).	Environmental H&S Specialist	Mr.Vakhtang Burchuladze Tel: +995 577 477432 E-mail: v.burchuladze1@gmail.com
Contractor POT-01/LOT-03	"CHINA NUCLEAR INDUSTRY 23 CONSTRUCTION CO" Ltd (China)	Environmental H&S Specialist	Mr.Vakhtang Burchuladze Tel: +995 577 477432 E-mail: v.burchuladze1@gmail.com

Type of project participant	Name of Agency/Company	Environmental Staff	Name and contact details
Contractor POT-02	JV "Pfeiffer - EMIT" comprised by "Ludwig Pfeifer Hoch – and TiefbauGmbh7Co. KG (Germany)" and "EMIT|Group – ErcoleMarelliImpianti TecnologiciS.r.l. (Italy)	Environmental Specialist H&S Specialist	Mr.Nikoloz Neparidze Tel: +995 599 346 821
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

40. During the reporting period construction activities were carried out only under POT-01/LOT-01/LOT-02/LOT-03 sub-project, therefore this sub-project is reported in this Semi-annual EMR. Contractor intensified all activities to improve the progress of the works on sites.

41. The main activities under POT-01/LOT-01 sub-project, carried out by contractor during the reporting period is provided in the Table 4 below:

Table 4: POT-01 LOT-1, project progress during January-June 2024

HDPE PRESSURE PIPES PERFORMED ACTIVITIES CONTRACT	Completed Total (m)	Completed Total (%)	Executed during January-June 2024
Ø 140 (mm) : 940	0	0	620
@ 180 (mm): 560	377	25%	0
Ø 280 (mm) : 535	535	100%	0
Ø 400 (mm) : 1000	633	84.45%	0
Ø 450 (mm) : 1176	799	114%	0
Ø 500 (mm) : 2365	2458	122 %	966

HDPE PRESSURE PIPES PERFORMED ACTIVITIES CONTRACT	Completed Total (m)	Completed Total (%)	Executed during January-June 2024
Ø 6300 (mm) : 0			
TOTAL = 6576	4802	73%	1586
HDPE GRAVITY CORRUGATED PIPE IN LINEAR METER			
Ø 150 (mm) : 26693	23678	88.7%	5919
Ø 200 (mm) : 11120	10585	95.19%	4051
Ø 300 (mm) : 15506	13913	89.72 %	3189
Ø 400 (mm) : 723	636	87.95%	0
Ø 500 (mm) : 1652	1516	91.74%	116
Ø 800 (mm) : 77	66	85.71	66
TOTAL = 55771	50394	90.3 %	13341

42. The main activities under POT-01/LOT-02 sub-project, carried out by contractor during the reporting period is provided in the Table 5 below:

Table 5: POT-01 LOT-2, project progress during January-June 2024

HDPE PRESSURE PIPES PERFORMED ACTIVITIES CONTRACT	Completed Total (m)	Completed Total[%]	Executed during January-June 2024
Ø 140 (mm) : 0	0	0%	0
@ 180 (mm): 577	1058	183.3%	1058
@ 225 (mm): 880	696	79%	696
Ø 280 (mm) : 212	0	0%	0
Ø 315 (mm) : 145	0	0%	0
Ø 355 (mm) : 760	0	0%	0
Ø 400 (mm) : 990	0	0%	0
Ø 450 (mm) : 0	0	0%	0
Ø 500 (mm) : 0	0	0%	0
Ø 6300 (mm) : 0	0	0%	0
TOTAL = 3564	1754	49.2%	1754
HDPE GRAVITY CORRUGATED PIPE IN LINEAR METER			
Ø 150 (mm) : 33885	19106	56.4%	5170
Ø 200 (mm) : 15465	11528	74.5%	1872
Ø 300 (mm) : 22092	16253	73.5 %	4005
Ø 400 (mm) : 3117	426	13.6%	59
Ø 500 (mm) : 289	141	48.7%	0
TOTAL = 74848	47454	63.4%	11106

43. The main activities under POT-01/LOT-03 sub-project, carried out by contractor during the reporting period is provided in the Table 6 below:

Table 6: POT-01 LOT-3, project progress during January-June 2024

HDPE PRESSURE PIPES PERFORMED ACTIVITIES CONTRACT	Completed Total	Completed Total[%]	Executed during January-June 2024
Construction of 28 Pumping Stations			
11 reinforced concrete	pile works Civil works	100% 36%	25% 31%
16 small PE	Not started (Only Material is on site)	0%	2%

2.4 Description of Any Changes to Project Design

44. 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

45. 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

46. A total 7 site visits have been conducted at different times during reported period (January-June 2024) under POT-01/LOT-01/LOT-02/LOT-03 and GUD-02 sub-projects and included monitoring of compliance of construction activities to the IEE/EMPs, SEMPs requirements. During these inspections, 14 non-compliance were identified under the POT-01 and GUD-02 sub-projects. Subsequently, 7 Non-compliance Notices were issued to contractors to address and rectify the identified issues.

47. "During the reporting period, the ADB's Environmental Safeguard Mission conducted visits to USIIP/T4 construction sites. Specifically, visits took place on May 29, 2024, for POT-01/LOT-01/LOT-02/LOT-03 sub-projects and on June 4, 2024, for the GUD-02 sub-project. During these visits, verbal instructions were provided to contractors regarding worker safety issues related to working at heights under POT-01/LOT-03 sub-project. Additionally, the SC issued Non-Compliance Notices for identified issues under the GUD-02 sub-project. Detailed findings of all significant non-compliances observed during these site visits are outlined in Table 7 below.

48. During the reporting period individual and joint on-site monitoring activities were conducted by Environmental Specialists of SC Mr. Shalva Bosikashvili and UWSCG/USIIP Ms.Kate Chomakhidze on a regular basis. 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 7 below.

49. Environmental Monitoring Specialist hired under the POT-01/LOT-01/LOT-02 and LOT-03 sub-projects by contractor Mr. Vakhtang Burchuladze conducted the day-to-day monitoring of the construction sites, developed the monthly monitoring reports and submitted to SC/Safege.

50. Environmental Monitoring Specialists of SC/Safege developed quarterly environmental monitoring reports based on the monthly reports submitted by Contractor and environmental site inspections and submit to UWSCG.

51. Environmental Specialist of USIIP Ms. Kate Chomakhidze developed Semi-Annual Environmental Monitoring Report under USIIP T4 and submitted to ADB based on the quarterly reports prepared by SC and monitoring results.

3.2 Site Audits

52. As it was mentioned above during the reporting period, January-June 2024, inspection and monitoring of construction sites were conducted under POT-01 and 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 POT-01, JVA-01 and GUD-02 sub-projects are provided in the Table 7 below.

Table 7. 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 2024)	**POT-01/LOT-01/LOT-02/LOT-03**	Environmental Specialist of SC Mr.Shalva Bosikashvili	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
16 January 2024	Contractor: "MBD Inssat" (Turkey). POT-01/LOT-02	Environmental Specialist of SC Mr.Shalva Bosikashvili Ms. Kate ChomakhidzeUWSCG/USIIP/Environmental Specialist	Monthly Monitoring of Sites	Open pit without warning signs and barriers, Photo N1  Worker without PPE in the trench, Photo N2	Non-compliance notice were issued to contractor and corrective actions were required from contractor to immediately improve the situation, under POT-01/LOT-02 sub-project (Please see Annex C)	Completed. February 2024, Photo N1  Completed, end September 2023, Photo N2

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 February 2024	Contractor: “ECETAS Insaat” (Turkey) POT-01/LOT-01	Environmental Specialist of SC Mr.Shalva Bosikashvili	Regular Monitoring of sites	Open pit without hard barrier and warning signs, Photo N1  Worker without PPE including helmet in the trench	Non-compliance notice were issued to contractor and corrective actions were required from contractor to immediately improve the situation, under POT-01/LOT-02 sub-project (Please see Annex C)	Completed, open Pit was backfilled with surplus soil March 2024 Completed March 2024, Photo N1

Date of Visit	Name of Company	Auditors Name	Purpose of audit	Summary of any Significant Findings	Cross Reference to Audit Report	Status of implementation
						
15 February 2024	Contractor: “MBD Inssat” (Turkey). POT-01/LOT-02	Environmental Specialist of SC Mr.Shalva Bosikashvili Ms. Kate ChomakhidzeUWSCG/USIIP/Environmental Specialist	Regular Monitoring of Sites	Open pit without warning signs and barriers, Photo N1  Worker without PPE in the trench Construction waste was dumped on the construction area	Non-compliance notice were issued to contractor and corrective actions were required from contractor to immediately improve the situation, under POT-01/LOT-02 sub-project (Please see Annex C)	Completed, February 2024, Photo N1  Completed February 2024 Completed February 2024

Date of Visit	Name of Company	Auditors Name	Purpose of audit	Summary of any Significant Findings	Cross Reference to Audit Report	Status of implementation
17 May 2024	Contractor: CHINA NUCLEAR INDUSTRY 23 CONSTRUCTION CO" Ltd (China)	Environmental Specialist of SC Mr.Shalva Bosikashvili	Regular Monitoring of sites	***WWTP Poti 01 LOT3*** Concrete spill and unacceptable housekeeping PS12, Photo N1 		Completed end of May 2024
17 May 2024	Contractor: "ECETAS Insaat" (Turkey) POT-01/LOT-01	Environmental Specialist of SC Mr.Shalva Bosikashvili	Regular Monitoring of sites	Trench without proper hard barrier and warning sign, deformed shoring Photo N1 	Non-compliance notice were issued to contractor and corrective actions were required from contractor to immediately improve the situation,	Partially Completed. In some cases tranches still lack proper barriers and warning signs Completed, May 2024, Photo N1

Date of Visit	Name of Company	Auditors Name	Purpose of audit	Summary of any Significant Findings	Cross Reference to Audit Report	Status of implementation
				Worker without PPE in the trench	under POT-01/LOT-02 sub-project (Please see Annex C)	
17 May 2024	Contractor: “MBD Inssat” (Turkey). POT-01/LOT-02	Environmental Specialist of SC Mr.Shalva Bosikashvili	Regular Monitoring of sites	**WWTP Poti 01 LOT2** Worker without PPE in the trench 	Non-compliance notice were issued to contractor and corrective actions were required from contractor to immediately improve the situation, under POT-01/LOT-02 sub-project (Please see Annex C)	Completed. End September 2023, Photo N1 

Date of Visit	Name of Company	Auditors Name	Purpose of audit	Summary of any Significant Findings	Cross Reference to Audit Report	Status of implementation
4 June 2024	GUD-02 Contractor: "China Nuclear Industry 23 Construction Co." LTD (CNI23)	ADB's Environmental Safeguard Mission, Nino Nadashvili, Associate Safeguard Officer Georgia Resident Mission Asian Development Bank Environmental Specialist of SC Mr.Shalva Bosikashvili Ms. Kate ChomakhidzeUW SCG/USIIP/Environmental Specialist	Semi-annual Environmental Safeguard Mission, Monitoring of sites	Oil spills at the Reservoir area Pipes should be removed and disposed accordingly, Photo N1  Waste scattered on the reservoir are should be removed and disposed accordingly, Photo N2 	Non-compliance notice were issued to contractor and corrective actions were required from contractor to immediately improve the situation, under POT-01/LOT-02 sub-project (Please see Annex C)	Completed, Pipes are removed from the territory removed, Photo N1  Completed, June 2024, Photo N2 

3.3 Issues Tracking (Based on Non-Conformance Notices)

53. As it was mentioned above, a total of 7 site visits have been conducted at different times during reported period (January-June 2024) under USIIP/T4/POT-01/LOT-01/LOT-02/LOT-03 and GUD-02 sub-projects to the IEE/EMP and SEMPs requirements.

54. During the site visits, a total of 11 non-compliances were identified under all three lots of the POT-01 sub-project, resulting in the issuance of 6 Non-Compliance Notices to the contractor. Additionally, 3 non-compliances were identified within the GUD-02 sub-project, leading to the issuance of 1 Non-Compliance Notice to the contractor.

55. The contractors were always informed on the detected non-conformances and were demanded to improve on the deadline set and send Corrective Action Plan and 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.

56. In case that the contractor did not make any improvements within the indicated deadline, Environmental Specialist of SC and USIIP always held additional meetings and discussions with contractors how to correct the non-compliances. The deadline for final improvements of above issues are set by the end of July 2024.

57. A summary of the identified environmental issues under POT-01 and GUD-02 sub-projects for January-June 2024 are presented in Table 8 and Table 9 below.

Table 8: Summary of Issues Tracking Activity for Current Period – POT-01/LOT-01/LOT-02/LOT-03

Total Number of Issues for Project	11
Issues Opened This Reporting Period	1
Issues Closed This Reporting Period	**10**
Percentage Closed	**91%**

Table 9: Summary of Issues Tracking Activity for Current Period – GUD-02

Total Number of Issues for Project	3
Issues Opened This Reporting Period	0
Issues Closed This Reporting Period	**3**
Percentage Closed	**100%**

3.4 Trends

58. To identify trends in environmental issues, information from previous Semi-Annual EMR (July-December 2023) was used. The summary of the issues is provided in the Table 10 below.

Table 10: Summary of identified trends in environmental issues

Semi-Annual EMR No	Total No of Issues	% issues Closed	% issues closed late
July-December 2023	64	90%	10%
January-June 2024	14	96%	4%

59. Most of the non-compliances were eliminated by the contractors within the specified time frame within the POT-01 (LOT-01, LOT-02, LOT-03) sub-project. Some of the non-compliances identified during the site visits such as the protection of open trenches during the construction work still remains the problem, despite the regular site instructions on ESHS, issuance of notices of non-compliance, meetings and discussions with SC and CC representatives on HS safety issues. The required actions and deadline to improve the remaining inconsistencies are presented in table 28 below.

3.5 Unanticipated Environmental Impacts or Risks

60. 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

61. During the reporting period Environmental measurements of Noise level and Ambient Air Quality were carried out by contractor only under POT-01 (LOT-01/02/-3) sub-project (Please see para 68-91 below).

62. Noise pollution standards defined by IFC/WHO 1999, is presented in the Table 11 below.

Table 11: Noise Level Guidelines

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

63. Air pollution standards by IFC/WHO 1999, is presented in the Table 12 below.

Table 12: 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

64. Georgian Standards for noise level is presented in the Table 13 below.

Table 13: 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 thanindicated in the Table.

65. Table 14 shows the threshold values of the major air pollutants as defined by the GEO, IFC and EU legislation.

Table 14: 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
	24 Hours	50	20	125
Carbon Monoxide (CO)	30 minutes	5,000	-	-
	24 Hours	3,000	-	-
Total Suspended Particulates (TSP) / Dust	24 Hours	150	-	-
	30 minutes	500	-	-
PM10	1 year	40	20	40
	24 hours	50	50	50
PM2.5	1 year	25	10	25
	24 hours		25	-

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

66. The Georgian Standards for vibration are designed for human comfort. These are shown in Table 15 below. Note that no standards for building damage exist.

Table 15: 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 incon-stant 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.

67. During the reporting period, environmental instrumental measurements (such as noise levels, ambient air quality and vibration) were not conducted for the JVA-01 and GUD-02 sub-projects because no construction activities occurred under these sub-projects.

Environmental quality measurements of noise level, ambient air quality and vibration under POT-1/LOT-01 sub-project

68. Environmental quality measurements of noise level and ambient air quality under POT-1/LOT-01 sub-project was conducted by the LLC BBE Scientific Research Laboratory on 25 June 2024 (See Table 17 and Table 18 below and Annex A). The distance from the construction sites to the nearest residential houses was about 50 m.

69. The above mentioned monitoring was carried out at one location. Directly during the monitoring, the work process was actively underway, all equipment was in working condition. Therefore, the monitoring results represent a real, complete picture of the impact of the implemented activities on the environment.

Ambient Air Pollution, POT-1/LOT-01

70. During the monitoring process, the air quality was measured according to the following parameters: the concentration of PM 10, PM 2.5, NO2, SO2, and CO in the air was determined. Each instrument used was calibrated, cleaned and pre-tested for field work. The GPS coordinates of the monitoring points are presented in the table below.

Table 16: GPS coordinates of the monitoring points

Monitoring Point Reference	Type of Monitoring	E	N	Date
Lot №I Ecetas	Noise	41.669523	42.135553	25.06.24
Lot №I Ecetas	Air Quality	41.669523	42.135553	25.06.24

71. Results of the ambient air monitoring under POT-01/LOT-01 sub-project is presented in the table below.

72. During the monitoring process, all devices were included and the work process was running at full load.

Table 17: Dust Particles (µg/m3); Carbon Monoxide (CO); Nitrogen Oxides (NO2) and Sulfur Oxides (SO2) monitoring results (PPM)

Parameters	Minimum	Maximum	Average value of measurements
PM 10	0.016	0.085	0.047
PM 2.5	0.003	0.007	0.005
CO	1.6	2.3	2.0
NO2	0.075	0.089	0.082
SO2	0.80	0.91	0.86

73. According to the results of the air quality monitoring conducted on 25 June 2024, the quality of air pollution does not exceed the permissible norms.

Noise level, POT-1/LOT-01

74. Noise levels were measured at 1 location - under POT-01/LOT-01 sub-project. The purpose of noise level monitoring is to determine what impact the workflow has on residents.

75. Noise, Monitoring Results access road to the CAMP is presented in the Table below.

Table 18: Noise, Monitoring Results access road to the CAMP

Different Parameters of Noise Level	Result (dB)
LAF_{max}	81.7
LAF_{min}	73.9
LAF_{av}	77.8

76. According to data received in 25 June 2024, under **POT-01/LOT-01 sub-project** noise level of 81.7, 73,9 and 77.8 dBA exceeded the standards of the National Regulations and World Health Organization (IFC/WHO), which is 70dBA (Industrial; commercial) for a very short period of time. The nearest residential house was located approximately 50m from the construction site and therefore appropriate noise abatement measures were immediately taken, resulting in noise levels returning to normal levels of 70 dBA. Additional mitigation measures to reduce noise propagation in future are presented in the table 28 below. IFC/WHO and national standards for Noise are presented in the Tables 13 above. It should also be noted that measurements carried out at construction sites, were temporary and conducted during the daytime from 12:00 pm to 14:15 pm and no complaints were received from the local population about the noise during the reporting period.

Environmental quality measurements of noise level, ambient air quality and vibration under POT-1/LOT-02 sub-project

77. Environmental quality measurements of noise level and ambient air quality under POT-1/LOT-02 sub-project was conducted by the LLC BBE Scientific Research Laboratory on 25 June 2024 (See Annex A). The distance from the construction sites to the nearest residential houses was about 50 m.

78. The above mentioned monitoring was carried out at one location under the POT-01/LOT-02 sub-project. Directly during the monitoring, the work process was actively underway, all equipment was in working condition. Therefore, the monitoring results represent a real, complete picture of the impact of the implemented activities on the environment.

Ambient Air Pollution, POT-1/LOT-02

79. During the monitoring process, the air quality was measured according to the following parameters: the concentration of PM 10, PM 2.5, NO2, SO2, and CO in the air was determined. Each instrument used was calibrated, cleaned and pre-tested for field work.

80. Results of the ambient air monitoring under POT-01/LOT-02 sub-project is presented in the table below.

Table 19: Dust Particles (µg/m3); Carbon Monoxide (CO); Nitrogen Oxides (NO_2) and SulfurOxides (SO_2) monitoring results (PPM)

Parameters	Minimum	Maximum	Average value of measurements
PM 10	0.025	0.147	0.077
PM 2.5	0.005	0.019	0.013
CO	0.0	0.0	0.0
NO_2	0.124	0.148	0.134
SO_2	1.84	2.01	1.92

81. According to the results of the air quality monitoring conducted on 25 June 2024 the quality of air pollution does not exceed the permissible norms and therefore no additional actions are required.

Noise level, POT-01/LOT-02

82. Noise levels were measured at 1 location under POT-01/LOT-02 sub-project. The purpose of noise level monitoring is to determine what impact the workflow has on residents.

Table 20: Noise, Monitoring Results access road to the second camp

Different Parameters of NoiseLevel	Result (dB)
LAF_{max}	78.8
LAF_{min}	67.0
LAF_{av}	72.9

83. During the monitoring process, all devices were included and the work process was running at full load.

84. According to data received in 25 June 2024, under **POT-01/LOT-02 sub-project** noise level of 78.8 dBA exceeded the standards of the National Regulations and World Health Organization (IFC/WHO), which is 70dBA (Industrial; commercial) for a very short period of time. The nearest residential house was located approximately 50m from the construction site and therefore appropriate noise abatement measures were immediately taken, resulting in noise levels returning to normal levels. IFC/WHO and national standards for Noise are presented in the Tables 13 above. It should be noted also that measurements carried out at construction sites, were temporary and conducted during the daytime from 13:00 pm to 15:15 pm and no complaints were received from the local population about the noise during the reporting period.

Environmental quality measurements of noise level, ambient air quality and vibration under POT-1/LOT-03 sub-project

85. Environmental quality measurements of noise level and ambient air quality under POT-1/LOT-03 sub-project was conducted by the LLC BBE Scientific Research Laboratory on 25 June 2024 (See Annex A). The distance from the construction sites to the nearest residential houses was about 150 m.

86. The above mentioned monitoring was carried out at one location under the POT-01/LOT-03 sub-project. Directly during the monitoring, the work process was actively underway, all equipment was in working condition. Therefore, the monitoring results represent a real, complete picture of the impact of the implemented activities on the environment.

Ambient Air pollution, POT-01/LOT-03

87. During the monitoring process, the air quality was measured according to the following parameters: the concentration of PM 10, PM 2.5, NO2, SO2, and CO in the air was determined. Each instrument used was calibrated, cleaned and pre-tested for field work. Results of the ambient air monitoring under POT-01/LOT-03 sub-project is presented in the table below.

Table 21: Dust Particles (µg/m3); Carbon Monoxide (CO); Nitrogen Oxides (NO_2) and SulfurOxides (SO_2) monitoring results (PPM)

Parameters	Minimum	Maximum	Average value of measurements
PM 10	0.007	0.011	0.010

Parameters	Minimum	Maximum	Average value of measurements
PM 2.5	0.003	0.003	0.003
CO	0.0	0.0	0.0
NO_2	0.086	0.126	0.107
SO_2	0.56	0.64	0.60

88. According to the results of the air quality monitoring conducted on 25 June 2024 the quality of air pollution does not exceed the permissible norms and therefore no additional actions are required.

Noise level, POT-01/LOT-03

89. Noise levels were measured at 1 location under POT-01/LOT-02 sub-project. The purpose of noise level monitoring is to determine what impact the workflow has on residents.

Table 22: Noise, Monitoring Results access road to the second camp

Different Parameters of NoiseLevel	Result (dB)
LAF_{max}	83.1
LAF_{min}	72.8
LAF_{av}	77.95

90. During the monitoring process, all devices were included and the work process was running at full load.

91. According to data received in 25 June 2024, under **POT-01/LOT-03 sub-project** noise level of 83.0 dBA exceeded the standards of the National Regulations and World Health Organization (IFC/WHO), which is 70dBA (Industrial; commercial) for a very short period of time. The nearest residential house was located approximately 45m from the construction site and therefore appropriate noise abatement measures were immediately taken, resulting in noise levels returning to normal levels. IFC/WHO and national standards for Noise are presented in the Tables 11 above. It should be noted also that measurements carried out at construction sites, were temporary and conducted during the daytime from 14:15 to 16:15 pm and no complaints were received from the local population about the noise during the reporting period.

Measurement devices unit and validity of calibration

Ambient Air Pollution

92. For air monitoring, BBE team used 4 different sensors of Aeroqual Series 500 (PM10/PM2.5, CO, NOx, SOx).

93. The Series 500 Portable Air Quality Monitor is a handheld portable monitor used to measure up to 30 pollutants using the unique sensor head format. Sensors are housed within an interchangeable cartridge (“head”) that attaches to the monitor base. The head can be removed and replaced in seconds, allowing users to measure as many gases as they wish. Sensor heads feature active fan sampling which ensures a representative sample is taken, increasing measurement accuracy.

94. A long-life lithium battery and in-field zero and span calibration make this an easy-to-use device. Monitor ID identifies the monitor uniquely and ensures that all data from it are tied to that monitor. Location ID can be used to tag measurements to a specific location – helpful when sampling at multiple sites over the course of a day or week.

Figure 1: Air Quality Measuring Instrument Aeroqual Series 500

Noise

95. The noise monitoring spot was chosen so it could fully show the impact of construction processes on the population. Noise was monitored for an hour. BBE team used REED instruments 9300 to determine the noise level.

96. The sound level meter consists of a calibrated microphone, electronic circuits, and a display. The microphone detects small air pressure variations associated with sound and converts them into electrical signals. The aforementioned signals are then processed using the instrument's electronic circuitry. The display shows the sound level in decibels.

97. The sound level meter acquires the sound pressure level at a particular location. A sound level meter is used for acoustic measurements. It is a hand-held instrument with a microphone.

Figure 2: Noise level is determined by the REED INSTRUMENTS 9300 model adapter

98. Vibration level is determined by the REED instruments SD-8205 model adapter.

99. Vibration analysis is a process that monitors vibration levels and investigates the patterns in vibration signals. It is commonly conducted both on the time waveforms of the vibration signal directly, as well as on the frequency spectrum, which is obtained by applying Fourier Transform on the time waveform.

Figure 3: REED instruments SD-8205 model adapter

4.2 Trends

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

4.3 Summary of Monitoring Outcomes

101. According to the data received on 25 June 2024 under POT-01/LOT-01 and POT-01/LOT-02 sub-projects the noise level exceeds the standards of the National Regulations and World Health Organization (IFC/WHO) 1999, But compared to the previous reporting period, the situation has improved and noise level under POT-01/LOT-01 and LOT-02 only slightly exceeds the acceptable IFC and national standards. The following mitigation measures will be implemented by CC (please see Table 28 below):

- Plan activities in consultation with SC and IPMO/UWSCG so that activities with the greatest potential to generate noise are planned during periods of the day that will result in least disturbance;
- Noisy construction activities should be avoided during night time;
- All construction equipment and vehicles shall be well maintained, regularly inspected for noise emissions
- Impose speed limits on construction vehicles to minimize emissions along areas where sensitive receptors are located (i.e. temples, hospitals, schools, houses)
- Install noise barriers (e.g., panels, curtains, or partitions) to reduce the emission of engine noise

4.4 Waste Management

4.5.1 Current Period

102. Due At the construction sites of POT-01 sub-project, there are mainly produced household and hazardous waste. Mainly household waste is collected in municipal containers which are served by the local cleaning services of the local Municipalities.

103. Hazardous waste is removed from the area on the basis of agreements concluded by contractors with certified companies under POT-01 sub-project after the start of civil

works.

104. There is need of routine cleaning of sites. Contractors are strongly requested to have separate containers for household and hazardous waste with proper labeling at the construction site.

105. 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.

106. Waste generated under the POT-01 is sub-project during the reporting period until the end of June 2024 is presented in Table 23 below.

Table 23: Waste generated under the POT-01 sub-project until the end of June 2024

#	Domestic, hazardous Waste & Sewage	Estimated Volume	Storage Area	Licensed Company
1	Household waste	2.5m^3	WWTP construction sites,	Poti Municipality
4	Hydraulic and used oil	30 liter	Temporary waste storage area at the Workshop	Medical Technology LLC

Waste was olso generated under the JVA-01 sub-project which is presented in the Table below.

Table 24: Waste generated under the JVA-01 sub-project until the end of June 2024

#	Domestic, hazardous Waste & Sewage	Estimated Volume	Storage Area	Licensed Company
1	Household waste	0,5m^3	WWTP construction sites,	Zugdidi Municipality
3	Hydraulic and used oil	7liter	Temporary waste storage area at the	Medical Technology LLC

4.5.2 Cumulative Waste Generation

107. Cumulative waste generation under the GUD-02 sub-project of whole project life is provided in the Table below.

Table 25: Cumulative Waste generated under the GUD-02 sub-project

January-June 2023			
1	Household waste	1	m^3
2	Sewage water	0,5	m^3
3	Hydraulic and used oil	6	L
4	Printer tonner	0,5	Kg.
July-December 2022			
1	Household waste	3	m^3
2	Sewage water	1	m^3
3	Hydraulic and used oil	10	L
4	Printer tonner	1	Kg.
January-June 2022			
1	Household waste	1	m^3
2	Sewage water	0,5	m^3
3	Hydraulic and used oil	6	L
4	Printer tonner	0,5	Kg.
July-December 2021			
1	Household waste	3	m^3
2	Sewage water	2	m^3
3	Hydraulic and used oil	8	L
4	Printer tonner	1	Kg.
January-June 2021			
1	Household waste	1	m^3
2	Sewage water	2	m^3

3	Hydraulic and used oil	7	L
4	Printer tonner	1	Kg.
July-December 2020			
1	Household waste	1,5	m^3
2	Sewage water	3	m^3
3	Hydraulic and used oil	6	L
4	Printer tonner	2	Kg.
January-June 2020			
1	Household waste	O,5	m^3
2	Sewage water	1	m^3
3	Hydraulic and used oil	9	L
4	Printer tonner	1	Kg.
July-December 2019			
1	Household waste	1	m^3
2	Sewage water	3	m^3
3	Hydraulic and used oil	7	L
4	Printer tonner	1	Kg.
January-June 2019			
1	Household waste	0,5	m^3
2	Sewage water	1	m^3
3	Hydraulic and used oil	5	L
4	Printer tonner	1	Kg.
July-December 2023			
1	Household waste	0,5	m^3
3	Hydraulic and used oil	5	L
Total			
1	Household waste	13	m^3
2	Sewage water	14	m^3
3	Hydraulic and used oil	71	L

4	Printer tonner	9	Kg.

108. Cumulative waste generation under the JVA-01 sub-project from January 2022 to December 2023 is provided in the Table below.

Table 26: Cumulative Waste generated under the JVARI-01 sub-project

January-June 2023		
Household waste	2	m^3
Used tires	1	m^3
Hydraulic and used oil	6	L
Printer tonner	0,7	Kg.
July-December 2022		
Household waste	1,5	m^3
Sewage water	0,5	m^3
Hydraulic and used oil	5	L
Printer tonner	0,3	Kg.
January-June 2022		
Household waste	3	m^3
Sewage water	0,7	m^3
Hydraulic and used oil	3	m^3
Printer tonner	0,4	Kg.
July-December 2023		
Household waste	2	m^3
Hydraulic and used oil	7	m^3
Total January 2022 – December 2023		
Household waste	8,5	m^3
Sewage water	2,2	m^3
Hydraulic and used oil	22	L
Printer tonner	1,4	Kg.

4.5 Health and Safety

109. The EHS specialists, Mr. Aleksandre Mchedlishvili under GUD-02 and Mr. Vakhtang Burchuladze POT-01 and Mr. Gia Khulordava 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.

4.5.1 Community Health and Safety

110. No workers incidents have been reported during reporting period under JVA-01, GUD-02 and POT-01 sub-projects.

4.6 Training and Public Awareness

111. Routine personnel on-job trainings and toolbox talks happen by the construction companies almost on daily basis under POT-01 and GUD-02 sub-projects. Environmental Specialist of SC Mr. Shalva Bosikashvili and Environmental Specialist of USIIP Ms. Kate Chomakhidze also provided verbal instructions and on-job training for Construction Company's Environmental and H&S officers on 16 January 2024. The above trainings were conducted to ensure that contractors understand their responsibilities in implementing the IEE/EMP and SEMP requirements. This training aims to mitigate environmental issues related to the construction activities, particularly concerning the operation of open trenches of sewerage network sections and work at heights in Pumping Stations.

5. FUNCTIONING OF THE SEMP

5.1 SEMP Review

112. SEMPs prepared by contractors, within the framework of ZUG-01, POT-01, POT-02 and JVA-01sub-projects during the current and previous reporting periods are presented in table 27 below.

Table 27: 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
8.	POT-01/LOT-01, POT-01/LOT-02 and POT-01/LOT-03, Construction of Sewerage System in Poti	February 2023

113. 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

115. 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 2023, to avoid non-compliances and improve the situation on construction sites within the GUD-02, POT-01 and JVARI-01 sub-projects.

6.2 Opportunities for Improvement

116. During the next reporting period the tracking of actions to address non-conformances will be improved by IPMO up to 100% out of current 96%.

7. SUMMARY AND RECOMMENDATIONS

7.1 Summary

117. 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.

118. A total of 7 site visits have been conducted at different times during reported period (January-June 2024) under USIIP/T4 - GUD-02 and POT-01 sub-projects and included the monitoring of compliance of construction activities under GUD-02 and POT-01 sub-projects to the IEE/EMPs, SEMPs requirements.

119. During the above 7 site visits under GUD-02 and POT-01 sub-projects, 14 Environmental and HS non-compliances were identified. Contractor developed Corrective Action Plans within the identified deadlines and sent improved photos of sites to SC and USIIP.

120. 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 8 above. During the reporting period, onsite training workshop and a meeting with representatives of the Contractors and the Supervision Consultant were held.

121. According to data received in 25 June 2024, under POT-01/LOT-01 sub-project noise level of 81.7 dBA exceeded the standards of the National Regulations and World Health Organization (IFC/WHO), which is 70dBA (Industrial; commercial). The nearest residential house was located approximately 50m from the construction site and therefore additional mitigation measures were required and are presented in the table 28 below.

122. According to data received in 25 June 2024, under POT-01/LOT-02 sub-project noise level of 78.8 dBA also exceeded the standards of the National Regulations and World Health Organization (IFC/WHO), which is 70dBA (Industrial; commercial). The nearest residential house was located approximately 50m from the construction site and therefore additional mitigation measures were required and are presented in the table 28 below. All other parameters are within acceptable limits.

123. According to data received in 25 June 2024, under POT-01/LOT-03 sub-project noise level of 80 dBA also exceeded the standards of the National Regulations and World Health Organization (IFC/WHO), which is 70dBA (Industrial; commercial). The nearest residential house was located approximately 45m from the construction site and therefore additional mitigation measures were required and are presented in the table 28 below. All other parameters are within acceptable limits.

124. 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.

125. Environmental Specialist of USIIP Ms. Kate Chomakhidze performed monitoring of contractor's performance in accordance with the requirements of approved IEE/EMPs, SEMPs, 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

126. During the reporting period, January-June 2024, the USIIP/T4 of Investment Program was implemented in accordance with the requirements of ADB - SPS 2009 and the National Legislation.

127. More detailed recommendations for the implementation of T4 during the next months until the end of July 2024 are provided in the Table 28 below:

Table 28: Recommendations to Address Environmental Issues under POT-01 and GUD-02 sub-project.

Recommendations POT-01 and GUD-02 sub-projects	
Recommendations	**Implementation status and date**
POT-01/LOT-01/LOT-02	
Noise from the construction activities should not cause disruption and nuisance to nearby community, Especially when sensitive receptors - residential houses are located 50m-60m away from construction sites.	Instructions are given to contractor to improve the situation and to conduct following mitigation measures by the end of July 2024 Plan activities in consultation with SC and IPMO/UWSCG so that activities with the greatest potential to generate noise are planned during periods of the day that will result in least disturbance Noisy construction activities will be avoided during night time All construction equipment and vehicles shall be well maintained, regularly inspected for noise emissions Impose speed limits on construction vehicles to minimize emissions along areas where sensitive

Recommendations POT-01 and GUD-02 sub-projects	
	receptors are located (i.e. temples, hospitals, schools, houses) Install noise barriers (e.g., panels, curtains, or partitions) to reduce the emission of engine noise Conduct meetings with population and provide information related to schedule of construction activities and noise caused by the project activities.
Walls of the deep trenches (>1.5m) should be strengthened by adequate and sufficient quantity of boards to avoid landfall of the soil and accidents (workers damage)	Will be completed by the end of July 2024

128. Post-Construction Environmental Audit report will be prepared under GUD-02 sub-project in September 2024.

129. Conduct monitoring of Environmental quality measurements of Ambient Noise and Air quality under POT-01 (LOT-01, LOT-02 and LOT-03) sub-project at the nearest sensitive receptors (residential buildings at a distance of about 50 m) in September 2024.

Table 29: The Specific Plan for Environmental Measurement under POT-01 sub-project

Parameters	Quarterly measurement
Dust	September 2024
Vibration	September 2024
Carbon monoxide	September 2024
Nitrogen dioxide	September 2024
Sulfur dioxide	September 2024
Noise	September 2024

Annexes

ANNEX A: ENVIRONEMNTAL MONITORING DATA OF NOISE AND AMBIENT AIR QUALITY POT-01/LOT-01, 25 JUNE 2024

JSC BUILDING CONSTRUCTION AND TRADE FIRM ECRTAS GEORGIAN BRANCH-
Physical Parameters Report - 2024

JSC BUILDING CONSTRUCTION AND TRADE FIRM ECRTAS GEORGIAN BRANCH-
Physical Parameters Report -
October 2023

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1. General Information

Project number: #250624

Date of the monitoring: 25.06.24

Monitoring of physical parameters was carried out in June. The mentioned monitoring was carried out at one location.

Directly during the monitoring, the work process was actively underway, all equipment was in working condition. Therefore, the monitoring results represent a real, complete picture of the impact of the implemented activities on the environment.

During the monitoring process, the air quality was measured according to the following parameters: the concentration of PM 10, PM 2.5, NO_2, SO_2, and CO in the air was determined.

Each instrument used was calibrated, cleaned and pre-tested for field work.

Table 2.1 GPS coordinates of the monitoring points

#	Monitoring Point Reference	Type Of Monitoring	E	N	Date
1.	Lot №1 Ecrtas	Noise	41.669523	42.135553	25.06.24
2.	Lot №1 Ecrtas	Air Quality	41.669523	42.135553	25.06.24

2. Air Quality Monitoring

Ambient air monitoring is an integral part of an effective air quality management system. The purpose of air quality monitoring is to study if an area has an air pollution problem and how construction works affect the air quality, which can lead to negative impacts on the environment, working personnel and the local population in close proximity of the works. Monitoring helps in assessing the level of pollution in relation to the ambient air quality standards.

Table 2.1 Dust Particles, Carbon Monoxide (CO) Nitrogen Oxides (NOx) and Sulfur Oxides (SOx) Concentration Permissible Limits

Parameter	Time Interval	Maximum Permissible Concentration µg/m³	National limit for Human Rights of Health –MPC, µg/m³	IFC/WHO (updated 2016) –guideline value, µg/m³	EU Air Quality Standards. Permitted Exceedances Per Year µg/m³
PM2.5	1 hr	25		25	
	1 year	10	12-17	10	25 / n/a
PM10	1 hr	50		50	
	24 hrs	50	35-35		50 / 35
	1 year	20	20-28	20	40 / n/a
CO	8 hour mean	10	5-7		1000
NO_2	1 hour	200	35-140	200	200 / 18
	1 year	40	26-32	40	40 / n/a
SO_2	1 hour	350	350	500	350 / 3
	24 hrs	125	5	20	125 / 24
	1 year	500			

In order to evaluate dust particle concentration in the air, the team used Aeroqual Series 500, which includes PM10, PM2.5 sensors. The specific sensor is calibrated and tested for its accuracy and precision. CO concentration was also evaluated using Aeroqual series 500, with specific CO sensor, which is also calibrated and tested.

2.1 Air Monitoring Point -AAS #1

During the monitoring process, all devices were included and the work process was running at full load.

Figure2.1 Air Quality Monitoring point (AAS- #1)

Table 2.1.1 #AAS-#1 Dust Particles (µg/m3), Carbon Monoxide (CO), Nitrogen Oxides (NOx) and Sulfur Oxides (SOx) monitoring results (PPM)

Parameter	Minimum	Maximum	Average value of measurements	Methods used
PM 10	[illegible]	[illegible]	0.047	Aeroqual [illegible] PM Sensor
PM2.5	[illegible]	[illegible]	0.028	Aeroqual [illegible] PM Sensor
CO	[illegible]	[illegible]	2.0	Aeroqual [illegible] CO Sensor
NOx	[illegible]	[illegible]	0.083	Aeroqual [illegible] NO2 Sensor
SOx	[illegible]	[illegible]	0.00	Aeroqual [illegible] SO2 Sensor

2.2 Conclusion

According to the results of the air quality monitoring conducted on June [illegible] 2024, which was carried out with the Aeroqual 500 Series, [illegible] according to the above mentioned standards, the quality of air pollution does not exceed the permissible norms.

3. Noise Level Monitoring

Optimal Limits of Noise Level. These limits are based on IFC guidelines

Noise levels were measured at 1 location - NM # 1. The purpose of noise level monitoring is to determine what impact the workflow has on residents. Noise was measured using the [illegible] Instruments [illegible] (sound level).

Recipient status	Time Interval	The average permissible norm of noise (dB)	Maximum permissible norm of noise (dB)
Populated area	7:00-23:00	55	70
Populated area	23:00-7:00	45	60
Industrial, Commercial	Day-Night	70	90

3.1 Noise Level Monitoring point

During the monitoring process, all devices were included and the work process was running at full load.

Figure 3.1 Noise (NM#1) Monitoring Point

Table 3.1.1 Noise (NM#1) Monitoring Results

Different Parameter of Noise Level	Result (dB)
LAF_{max}	81.1
LAF_{min}	71.9
LA_{eq}	**77.6**

3.2 Conclusion

During the noise level monitoring conducted on June [illegible] 2024, the exceeding of the allowed limit values was observed at the monitored location.

6. Annex 1 –Calibration Certificates

Annex I -Calibration Certificate


aeroqual


aeroqual


aeroqual


aeroqual

ENVIRONEMNTAL MONITORING DATA of NOISE and AMBIENT AIR QUALITY POT-01/LOT-02, 24 JUNE 2024

LLC BBE Scientific Research Laboratory

MBD Insaat Sanayi ve Ticaret Anonim Sirketi
Branch
Physical Parameters Report - 2024

Georgia, Tbilisi, Vaja Pshavela Avenue, Quarter 53, Building 97
Tel: 555 51 40 33
Email: bbelab2019@gmail.com
Website: www.bbe.ge
Director: Irakli Ramadovili

June 2024

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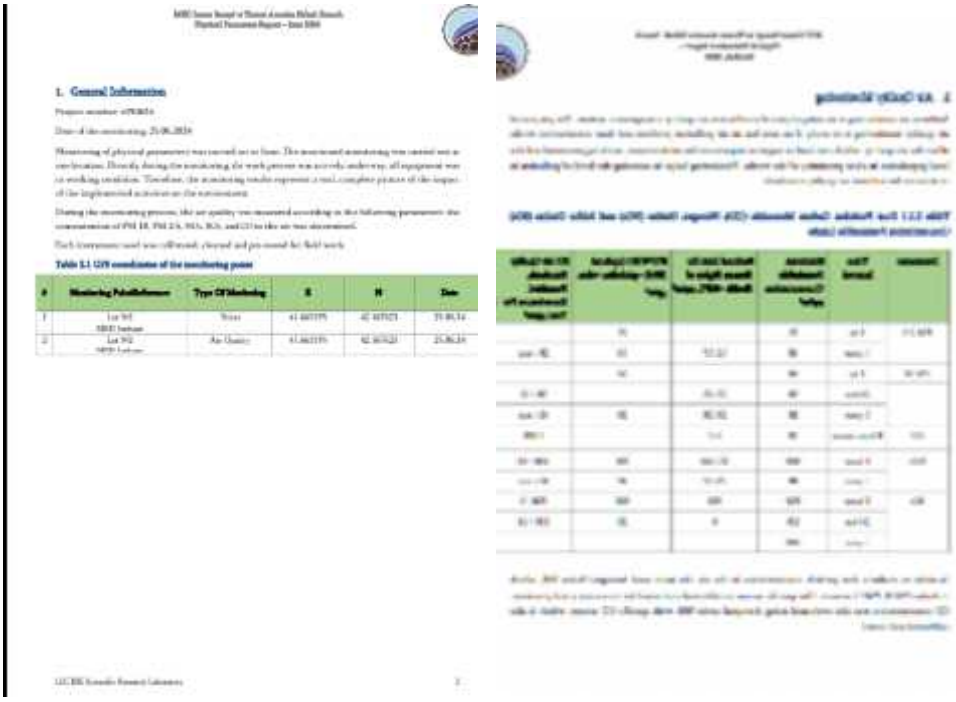


1. General Information

Table 1.1 GPS coordinates of the monitoring point

#	Monitoring Point&Reference	Type Of Monitoring	E	N	Date
1	Lot N1 MBD Insaat	Noise	41.665195	42.167025	21.06.24
2	Lot N2 MBD Insaat	Air Quality	41.665195	42.167025	21.06.24

LLC BBE Scientific Research Laboratory 3

2.1 Air Monitoring Point –AAS#1

During the monitoring process, all devices were included and the work process was running at full load.

Figure 2.1 Air Quality Monitoring point (AAS–#1)

Table 2.1.1 #AAS #1 Dust Particles (µg/m3) Carbon Monoxide (CO) Nitrogen Oxides (NOx) and Sulfur Oxides (SOx) monitoring results [FFM]

Parameters	Minimum	Maximum	Average value of measurements	Methods used
PM 10	0.026	0.142	**0.077**	Aeroqual SERIES500 PM Sensor
PM 2.5	0.006	0.019	**0.013**	Aeroqual SERIES500 PM Sensor
CO	0.0	0.0	**0.0**	Aeroqual SERIES500 CO Sensor
NOx	0.124	0.148	**0.136**	Aeroqual SERIES900 NOx Sensor
SOx	1.84	2.01	**1.92**	Aeroqual SERIES900 SOx Sensor

2.2 Conclusion

According to the results of the air quality monitoring conducted on June 25th 2024, which was carried out with the Aeroqual 500 Series- monitor at the mentioned locations, according to the above-mentioned standards, the quality of air pollution does not exceed the permissible norms.

3. Noise Level Monitoring

Optimal Limits of Noise Level. These limits are based on IFC guidelines

Noise levels were measured at 1 location - NM # 1. The purpose of noise level monitoring is to determine what impact the workflow has on residents. Noise was measured using the IEED Environment 9300 (412 sound level).

Recipient zones	Time interval	The average permissible norms of noise (dB)	Maximum permissible norms of noise (dB)
Populated area	7:00- 23:00	55	70
Populated area	23:00- 7:00	45	60
Industrial, Commercial	Day-Night	70	70

3.1 Noise Level Monitoring point

During the monitoring process, all devices were included and the work process was running at full load.

Figure 3.1 Noise (NM#1) Monitoring Point

Table 3.1.1 Noise (NM#1) Monitoring Results

Different Parameters of NoiseLevel	Result (dB)
LAF_{max}	78.8
LAF_{min}	67.0
LAF_{eq}	**72.9**

3.2 Conclusion

During the noise level monitoring conducted on June 25th 2024, the exceeding of the allowed limit values was not observed at the mentioned location.

5. Measurement Reports

[illegible]
[illegible]@gmail.com
Georgia, Tbilisi, [illegible]
Block [illegible]
[illegible]
[illegible]

Report № [illegible]

Date of Report Delivery: 11.07.2024
Measurement type: Noise Level Monitoring
Client Name: Ltd. "Geogdi", ID [illegible]
Sampling place: City of [illegible], Lot 2
Sampling date: 25.06.2024
Measurement Done By: [illegible]

Different Parameters of Noise Level	Result (dB)
[illegible]	78.8
[illegible]	67.0
[illegible]	**72.0**

Examiner: [illegible]

QC Lab Manager: [illegible]

Agreed: Director of Laboratory [illegible]

ENVIRONEMNTAL MONITORING DATA of NOISE and AMBIENT AIR QUALITY POT-01/LOT-03, 25 April 2023


Physical Parameters Report
2024
Customer – LTD "Saba"/ 205166568
Report Prepared For – LTD „China Nuclear 23 Construction"
404592789
June 2024

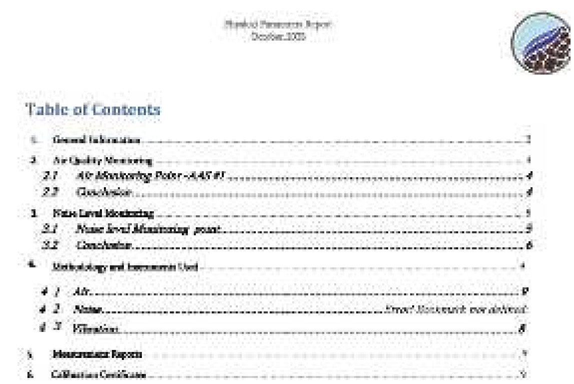
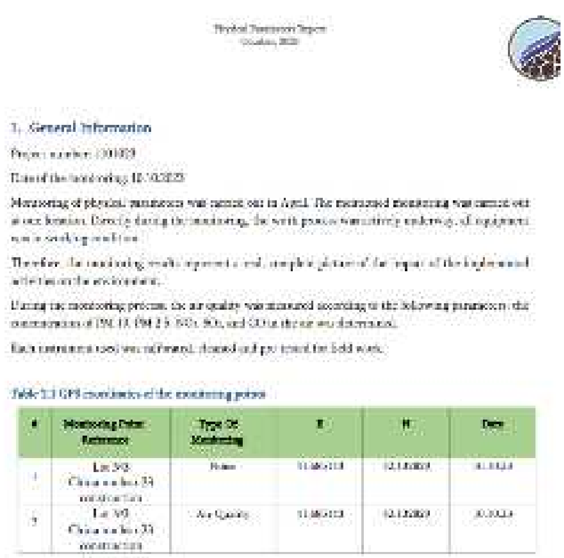


Table of Contents


1. General Information
Table 2.1 GPS coordinates of the monitoring points


1. General Information
Table 2.1 GPS coordinates of the monitoring points

3. Air Quality Monitoring

3.1 Air Monitoring Point -AAS #1

Figure 3.1 Air Quality Monitoring point (AAS- #1)

3.2 Conclusion

3. Noise Level Monitoring

3.1 Noise Level Monitoring point

Physical Parameters Report – June 2024

Table 3.1.1 Noise (NM#1) Monitoring results

Different Parameters of NoiseLevel	Result (dB)
LAF_{max}	83.1
LAF_{min}	72.8
LAF_{eq}	**77.95**

3.2 Conclusion

During the noise level monitoring conducted on June 25th 2024, the exceeding of the allowed limit values was observed at the mentioned location.

LLC [illegible] Scientific Research Engineering Laboratory
Identification Number: [illegible]

+995 [illegible]
[illegible]@gmail.com
Georgia, Tbilisi, [illegible] Str., Block III, Build 47
https://www.facebook.com/[illegible]
[illegible]

Report № 1110724-5

Date of Report Delivery - 11.07.2024
Measurement type: Air Quality Monitoring
Client Name: Ltd. "[illegible]", ID [illegible]
Sampling place: City of [illegible], Lot 3
Sampling date: 25.06.2024
Measurement Done By: [illegible] Zedgenidze

Parameters	Minimum	Maximum	Average value of measurements	Methods used
PM 10	0.007	0.011	**0.010**	Aeroqual SERIES 500 PM Sensor
PM 2.5	0.003	0.003	**0.003**	Aeroqual SERIES 500 PM Sensor
CO	0.0	0.0	**0.0**	Aeroqual SERIES 500 CO Sensor
NO₂	0.086	0.126	**0.107**	Aeroqual SERIES 500 NO₂ Sensor
SO₂	0.56	0.64	**0.60**	Aeroqual SERIES 500 SO₂ Sensor

Examiner: [illegible] Zedgenidze

QC Lab Manager: [illegible]

Agreed: Director of Laboratory [illegible]

LLC [illegible] Scientific Research Engineering Laboratory
Identification Number: [illegible]

+995 [illegible]
[illegible]@gmail.com
Georgia, Tbilisi, [illegible] Str., Block III, Build 47
https://www.facebook.com/[illegible]
[illegible]

Report № 1110724-6

Date of Report Delivery - 11.07.2024
Measurement type: Noise Level Monitoring
Client Name: Ltd. "[illegible]", ID [illegible]
Sampling place: City of [illegible], Lot 3
Sampling date: 25.06.2024
Measurement Done By: [illegible] Zedgenidze

Different Parameters of Noise Level	Result (dB)
LAF_{max}	83.1
LAF_{min}	72.8
LAF_{eq}	**77.95**

Examiner: [illegible] Zedgenidze

QC Lab Manager: [illegible]

Agreed: Director of Laboratory [illegible]

Physical Parameters Report
October, 2023

4. Annex 1 – Calibration Certificates








ANNEX B: PHOTOS OF POT-01/LOT-01/LOT-02/LOT-03, JVA-01, GUD-02 SUB-PROJECTS

Construction of Sewerage System in Poti – POT-01

Construction of CAMP

Construction of Sewerage Network POT-01/LOT-01/LOT-02

Construction of Pumping Stations: POT-01/LOT 3

JVA-01 - Construction of Jvari Well Fields

JVA-01 - Construction of Jvari Well Fields Reservoir

GUD-02 - Construction of Reservoir

ANNEX C: NON-COMPLIANCE NOTICE, POT-01-LOT-01, 16 FEBRUARY 2024

SAFEGE
Ingénieurs Conseils
EngineeringSolutions

21st February 2024

TO: ECETAŞ A.Ş.
Attn. Cenk TOKGOZ

Our Ref.: POTI 01-LOT 1- 104/OUT -VH

Contract: USIIP/T4/CW/2022/L1/POT-01

Subject: Construction of Poti Sewerage Systems – Non-Compliance Notice –16/02/2024

Dear Sir,

Please find attached Non-Compliance Notice.

You are notified to take immediate measures for remedial of the situation and assure normal working conditions c site.

For the Engineer

Victor Hruska
Team Leader

Urban Services Improvement Investment Program (Project 4) ADB

SAFEGE-with Engineering Solutions LLC as sub-consultant – ADD ADDRESS
SAFEGE Europe & Africa – Gulledelle 92, 1200 Brussels, BELGIUM – Tel: +32 2 739 46 90 – Fax: +32 2 742 38 91
VAT N° (BE) 0467 395 488 RPM Brussels – Bank: KBC – IBAN: BE 49 4731 0518 8171 – BIC: KREDBEBB
SAFEGE Headquarters – 15/27 rue du Port, Parc de l'Île, 92000 Nanterre, FRANCE
Tel: +33 1 46 14 71 00 – Fax: +33 1 47 24 72 02 – Web: www.safege.com

IQNet

Non-Compliance Notice

Project: Construction Supervision (under USIIP, Tranche 4 Projects), UWSCG/USIIP/QCBS/02-2014	**Non-compliance Notice Poti 01**
Contract No: P43405-ICB-POT-01	
Contractor: ECETAS	
Reference:	

This notice is to advice 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 POTI 01

WWTP Poti 01 LOT1

- Open pit without hard barrier and warning sign
- Worker without helmet in the trench

Open pit without hard barrier and warning sign

Worker without helmet in the trench

	
All these conditions have to be remedied within 10 days by the prime Contractor **ECETAS.**	
Date of site visit: 16.02.2024	
Shalva Bosikashvili - Environmental specialist - "SAFEGE"	
Ketevan Chomakhidze - Environmental specialist "UWSCG"	

NON-COMPLIANCE NOTICE, POT-01-LOT-02, 16 JANUARY 2024

SAFEGE
Ingénieurs Conseils
Engineering Solutions

22nd January 2024

TO: MBD INSAAT

Attn. Mehmet Balsak

Contractor's Representative

Our Ref.: POTI 01-LOT 2- 115/OUT -VH

Contract: USIIP/T4/CW/2022/L2/POTI-01

Subject: Construction of Poti Sewerage Systems – Non-Compliance Note- 16.01.24

Dear Sir,

Please find attached the Non-Compliance Notice regarding Construction of Poti Sewerage System – LOT 02.

You are notified to take immediate measures for remedial of the situation and assure normal working conditions on site.

For the Engineer

Victor Hruska
Team Leader

SAFEGE-with Engineering Solutions LLC as sub-consultant – ADD ADDRESS
SAFEGE Europe & Africa – Gulledelle 92, 1200 Brussels, BELGIUM – Tel: +32 2 739 46 90 – Fax: +32 2 742 38 91
VAT N° (BE) 0467 395 488 RPM Brussels – Bank: KBC – IBAN: BE 49 4731 0518 8171 – BIC: KREDBEBB
SAFEGE Headquarters – 15/27 rue du Port, Parc de l'Ile, 92000 Nanterre, FRANCE
Tel: +33 1 46 14 71 00 – Fax: +33 1 47 24 72 02 – Web: www.safege.com

Non-Compliance Notice

Project: Construction Supervision (under USIIP, Tranche 4 Projects), UWSCG/USIIP/QCBS/02-2014	**Non-compliance Notice Poti 01**
Contract No: P43405-ICB-POT-01	
Contractor: MBD	
Reference:	

This notice is to advice 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 POTI 01

WWTP Poti 01 LOT2

- Open pit without warning signs and barriers
- Worker without PPE in the trench

Open pit without warning signs and barriers

Worker without PPE in the trench

All these conditions have to be remedied within 10 days by the prime Contractor **MBD.**	
Date of site visit: 16.01.2024	
Shalva Bosikashvili - Environmental specialist - "SAFEGE"	
Ketevan Chomakhidze - Environmental specialist "UWSCG"	

NON-COMPLIANCE NOTICE, POT-01-LOT-02, 15 FEBRUARY 2024

Non-Compliance Notice

Project: Construction Supervision (under USIIP, Tranche 4 Projects), UWSCG/USIIP/QCBS/02-2014	**Non-compliance Notice Poti 01**
Contract No: P43405-ICB-POT-01	
Contractor: MBD	
Reference:	

This notice is to advice 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 POTI 01

WWTP Poti 01 LOT2

- Open pit without warning signs and barriers
- Worker without PPE in the trench
- Construction waste

Open pit without warning signs and barriers

Worker without PPE in the trench

Construction waste

All these conditions have to be remedied within 10 days by the prime Contractor **MBD.**

Date of site visit: 15.02.2024	
Shalva Bosikashvili - Environmental specialist - "SAFEGE"	
Ketevan Chomakhidze - Environmental specialist "UWSCG"	

NON-COMPLIANCE NOTICE, POT-01-LOT-03, 14 FEBRUARY 2024

SAFEGE
Ingénieurs Conseils
Engineering Solutions

21st February 2024

TO: China Nuclear Industry
23 Construction CO., LTD
Attn. DU XIAODU
Project Manager

Our Ref.: POTI 01-LOT 3- 225/OUT -VH

Contract: USIIP/T4/CW/2022/L3/POT-01

Subject: Construction of Poti Sewerage Systems – Non-Compliance Notice -14/02/2024

Dear Sir,

Please find attached the Non-Compliance Notice regarding Construction of Poti Sewerage System – LOT 03.

You are notified to take immediate measures for remedial of the situation and assure normal working conditions on site.

For the Engineer

Victor Hruska
Team Leader

Urban Services Improvement Investment Program (Project 4) ADB

SAFEGE-with Engineering Solutions LLC as sub-consultant – ADD ADDRESS
SAFEGE Europe & Africa – Gulledelle 92, 1200 Brussels, BELGIUM – Tel: +32 2 739 46 90 – Fax: +32 2 742 38 91
VAT N° (BE) 0467 395 488 RPM Brussels – Bank: KBC – IBAN: BE 49 4731 0518 8171 – BIC: KREDBEBB
SAFEGE Headquarters – 15/27 rue du Port, Parc de l'Île, 92000 Nanterre, FRANCE
Tel: +33 1 46 14 71 00 – Fax: +33 1 47 24 72 02 – Web: www.safege.com

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Non-Compliance Notice

Project: Construction Supervision (under USIIP, Tranche 4 Projects), UWSCG/USIIP/QCBS/02-2014	**Non-compliance Notice Poti 01**
Contract No: P43405-ICB-POT-01	
Contractor: CNI23	
Reference:	

This notice is to advice 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 POTI 01

WWTP Poti 01 LOT3

- Workers without PPE in the pit
- Fuel jerry cans without drip tray

Unacceptable housekeeping

Fuel jerry cans without drip tray

All these conditions have to be remedied within 10 days by the prime Contractor **CNI23**	
Date of site visit: 14.02.2024	
Shalva Bosikashvili - Environmental specialist - "SAFEGE"	
Ketevan Chomakhidze - Environmental specialist "UWSCG"	

NON-COMPLIANCE NOTICE, POT-01-LOT-03, 17 MAY 2024

SAFEGE
Ingénieurs Conseils
Engineering Solutions

17th May 2024

TO: China Nuclear Industry
23 Construction CO., LTD

Attn. DU XIAODU
Project Manager

Our Ref.: POTI 01-LOT 3- 241/OUT -VH

Contract: USHP/T4/CW/2022/L3/POT-01

Subject: Construction of Poti Sewerage Systems – Non-Compliance Notice -15.05.2024

Dear Sir,

Please find attached the Non-Compliance Notice regarding Construction of Poti Sewerage System – LOT 03.

You are notified to take immediate measures for remedial of the situation and assure normal working conditions on site.

For the Engineer

Victor Hruska
Team Leader

SAFEGE-with Engineering Solutions LLC as sub-consultant - ADD ADDRESS
SAFEGE Europe & Africa – Guldedelle 92, 1200 Brussels, BELGIUM – Tel.: +32 2 739 46 80 – Fax: +32 2 742 38 91
VAT N° (BE) 0467 395 488 RPM Brussels – Bank: KBC – IBAN: BE 49 4731 0518 8171 – BIC: KREDBEBB
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Tel.: +33 1 46 14 71 00 – Fax: +33 1 47 24 72 62 – Web: www.safege.com

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Non-Compliance Notice

Project: Construction Supervision (under USIIP, Tranche 4 Projects), UWSCO/USIIP/QCBS/02-2014	**Non-compliance Notice Poti 01**
Contract No: P43405-ICB-POT-01	
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. Refueling 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 POTI 01

WWTP Poti 01 LOT3

- Concrete spill and unacceptable housekeeping PS12

Concrete spill and unacceptable housekeeping PS12

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: 15.05.2023	
Shalva Basikashvili - Environmental specialist - "SAFEGE"	
Kakevan Chomakhidze - Environmental specialist "UWSCO"	

NON-COMPLIANCE NOTICE, POT-01-LOT-03, 17 MAY 2024

SAFEGE
Ingénieurs Conseils
Engineering Solutions

17th May 2024

TO: ECETAŞ A.Ş.
Attn. Cenk TOKGOZ

Our Ref.: POTI 01-LOT 1- 109/OUT -VH

Contract: USIIP/T4/CW/2022/L1/POT-01

Subject: Construction of Poti Sewerage Systems – Non-Compliance Notice – 13.05.2024

Dear Sir,

Please find attached Non-Compliance Notice.

For the Engineer

Victor Hruska
Team Leader

SAFEGE-with Engineering Solutions LLC as sub-consultant – ADD ADDRESS
SAFEGE Europe & Africa – Gulledelle 92, 1200 Brussels, BELGIUM – Tel: +32 2 739 46 90 – Fax: +32 2 742 38 91
VAT N° (BE) 0467 395 488 RPM Brussels – Bank: KBC – IBAN: BE 49 4731 0518 8171 – BIC: KREDBEBB
SAFEGE Headquarters – 15/27 rue du Port, Parc de l'Île, 92000 Nanterre, FRANCE
Tel: +33 1 46 14 71 00 – Fax: +33 1 47 24 72 02 – Web: www.safege.com

Non-Compliance Notice

Project: Construction Supervision (under USIIP, Tranche 4 Projects), UWSCG/USIIP/QCBS/02-2014	**Non-compliance Notice Poti 01**
Contract No: P43405-ICB-POT-01	
Contractor: ECETAS	
Reference:	

This notice is to advice 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 POTI 01

WWTP Poti 01 LOT1

- Trench without proper hard barrier and warning sign, deformed shoring, worker without helmet
- Worker without PPE in the trench

Trench without proper hard barrier and warning sign, deformed shoring, worker without helmet

Worker without PPE in the trench

All these conditions have to be remedied within 10 days by the prime Contractor **ECETAS**

Date of site visit: 13.05.2024	
Shalva Bosikashvili - Environmental specialist - "SAFEGE"	
Ketevan Chomakhidze - Environmental specialist "UWSCG"	

NON-COMPLIANCE NOTICE, POT-01-LOT-03, 17 MAY 2024

SAFEGE
Ingénieurs Conseils
Engineering Solutions

17th May 2024

TO: MBD INSAAT

Attn. Mehmet Balsak

Contractor's Representative

Our Ref.: POTI 01-LOT 2- 129/OUT -VH

Contract: USIIP/T4/CW/2022/L2/POTI-01

Subject: Construction of Poti Sewerage Systems – Non-Compliance Note- 14.05.2024

Dear Sir,

Please find attached the Non-Compliance Notice regarding Construction of Poti Sewerage System – LOT 02.

You are notified to take immediate measures for remedial of the situation and assure normal working conditions on site.

For the Engineer

Victor Hruska
Team Leader

SAFEGE-with Engineering Solutions LLC as sub-consultant – ADD ADDRESS
SAFEGE Europe & Africa – Gulledelle 92, 1200 Brussels, BELGIUM – Tel: +32 2 739 46 90 – Fax: +32 2 742 38 91
VAT N° (BE) 0467 395 488 RPM Brussels – Bank: KBC – IBAN: BE 49 4731 0518 8171 – BIC: KREDBE
SAFEGE Headquarters – 15/27 rue du Port, Parc de l'Île, 92000 Nanterre, FRANCE
Tel: +33 1 46 14 71 00 – Fax: +33 1 47 24 72 02 – Web: www.safege.com

Non-Compliance Notice

Project: Construction Supervision (under USIIP, Tranche 4 Projects), UWSCG/USIIP/QCBS/02-2014	**Non-compliance Notice Poti 01**
Contract No: P43405-ICB-POT-01	
Contractor: MBD	
Reference:	

This notice is to advice 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 POTI 01

WWTP Poti 01 LOT2

- Worker without PPE in the trench

Worker without PPE in the trench

SAFEGE-with Engineering Solutions LLC as sub-consultant – ADD ADDRESS
SAFEGE Europe & Africa – Gulledelle 92, 1200 Brussels, BELGIUM – Tel: +32 2 739 46 90 – Fax: +32 2 742 38 91
VAT N° (BE) 0467 395 488 RPM Brussels – Bank: KBC – IBAN: BE 49 4731 0518 8171 – BIC: KREDBE
SAFEGE Headquarters – 15/27 rue du Port, Parc de l'Île, 92000 Nanterre, FRANCE
Tel: +33 1 46 14 71 00 – Fax: +33 1 47 24 72 02 – Web: www.safege.com

All these conditions have to be remedied within 10 days by the prime Contractor **MBD**	
Date of site visit: 14.05.2024	
Shalva Bosikashvili - Environmental specialist - "SAFEGE"	
Ketevan Chomakhidze - Environmental specialist "UWSCG"	

NON-COMPLIANCE NOTICE, POT-01-LOT-03, 30 MAY 2024, GUD-02 CITY RESERVOIR

SAFEGE
Ingénieurs Conseils
Engineering Solutions

5th June 2024

TO: China Nuclear Industry
23 Construction CO., LTD

Attn. Luo Ke
Project Manager

Our Ref.: GUD 02 - 542/OUT -VH

Contract: UWSCG-ICB-GUD-02-2018

Subject: Supervision of Construction of Sewage Collection and Water Supply Systems in Gudauri – Non-Compliance Note for Gudauri - 04.06.2024

Dear Sir,

Please find attached the Non-Compliance Notice regarding construction of Sewage Collection and Water Supply Systems in Gudauri.

You are notified to take immediate measures for remedial of the situation and assure normal working conditions on site.

For the Engineer

Victor Hruska
Team Leader

SAFEGE with Engineering Solutions LLC as sub consultant ADD ADDRESS
SAFEGE Europe & Africa Gulledelle 92, 1200 Brussels, BELGIUM Tel: +32 2 739 46 99 Fax: +32 2 742 38 01
VAT N° (BE) 0467 295 466 RPM Brussels – Bank: KBC – IBAN BE 49 4731 0516 0171 – BIC: KREDBEBB
SAFEGE Headquarters – 15/27 rue du Port, Parc de l'Ile, 92000 Nanterre, FRANCE
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Non-ComplianceNotice

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 advice 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

- Oil spills at the Reservoir area
- Pipes should be removed and disposed accordingly
- Waste scattered on the reservoir are should be removed and disposed accordingly

Oil spills at the Reservoir area

SAFEGE-with Engineering Solutions LLC as sub-consultant – ADD ADDRESS
SAFEGE Europe & Africa - Guledelle 92, 1200 Brussels, BELGIUM – Tel: +32 2 739 46 90 – Fax: +32 2 742 38 91
VAT N° (BE) 0467 395 488 RPM Brussels – Bank: KBC – IBAN: BE 49 4731 0518 8171 – BIC: KREDBEBB
SAFEGE Headquarters – 15/27 rue du Port, Parc de l'Ile, 92000 Nanterre, FRANCE
Tel: +33 1 46 14 71 00 – Fax: +33 1 47 24 72 02 – Web: www.safege.com

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Pipes should be removed and disposed accordingly

Waste scattered on the reservoir are should be removed and disposed accordingly

SAFEGE-with Engineering Solutions LLC as sub-consultant – ADD ADDRESS
SAFEGE Europe & Africa – Guldedelle 92, 1200 Brussels, BELGIUM – Tel: +32 2 739 46 00 – Fax: +32 2 742 28 01
VAT N° (BE) 0467 395 488 RPR Brussels – Bank: KBC – IBAN: BE 49 4731 0518 8171 – BIC: KREDBEBB
SAFEGE Headquarters – 15/27 rue du Port, Parc de l'Ile, 92000 Nanterre, FRANCE
Tel: +33 1 46 14 71 00 – Fax: +33 1 47 24 72 02 – Web: www.safege.com

SAFEGE
Ingénieur Conseil

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: 04.06.2024	
ShalvaBoukashvili - Environmental specialist - "SAFEGE"	
KelevanChomakhidze - Environmental specialist "UWSCO"	

SAFEGE-with Engineering Solutions LLC as sub-consultant – ADD ADDRESS
SAFEGE Europe & Africa – Guilledelle 92, 1200 Brussels, BELGIUM – Tel: +32 2 739 46 00 – Fax: +32 2 742 38 91
VAT N° (BE) 0467 395 488 RPM Brussels – Bank: KBC – IBAN: BE 49 4731 0518 8171 – BIC: KREDBEBB
SAFEGE Headquarters – 15/27 rue du Port, Parc de l'Ile, 92000 Nanterre, FRANCE
Tel: +33 1 46 14 71 00 – Fax: +33 1 47 24 72 02 – Web: www.safege.com

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ANNEX E: POST CONSTRUCTION AUDIT REPORT UNDER ZUG-01 SUB-PROJECT: CONSTRUCTION OF WATER SUPPLY SYSTEM IN ZUGDIDI

UWSCG/USIIP/QCBS/02-2014
Contract No:P43405-ICB-ZUG-01
Financed by: The Asian Development Bank

Project: Improvement of Zugdidi Water Supply System (USIIP/T4/ZUG-01)

Post - Construction Environmental Audit Report

October 2023

ABBREVIATIONS

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

Table of Contents

I. INTRODUCTION

This report represents the Post Construction Environmental Audit Report for ADB Loan 3238 -GEO: Urban Services Improvement Investment Program Tranche 4 - Improvement of Zugdidi and Jvari Water Supply Systems

1. This Post Construction Audit Report is being prepared to comply with the 2009 ADB's SPS and Georgian legislation, including safeguards requirement and aims to identify past and present concerns from the production and business activities of Project Company that related to impacts on environment. The specific objectives of the audit can be summarized as follows:

- Determine and verify whether all environmental requirements, criteria and constraints, prescribed in IEE and SSEMPs have been adhered to during the construction phase;
- Determine and verify whether the mitigation actions and rehabilitation requirements contained in the SSEMPs have been appropriate and successful to prevent or control environmental pollution and/or damage;
- Ensure that an appropriate environmental monitoring and control program exists to follow up on mitigation and rehabilitation works completed during the construction phase;
- To identify any shortcomings in the SSEMP and EMS system implemented during the construction phase and to recommend alterations to the EMS applicable to the operational phase.

II. PROJECT DESCRIPTION

2.1 Brief Description of the Project

2. Zugdidi, situated 258 km west of Tbilisi, the capital of Georgia and 30 km of Black sea coast, is the administrative centre of the Samegrelo-Zeda Svaneti Region. UWSCG's Zugdidi Service Centre operates the water supply system in Zugdidi City and a number of outlying small towns and villages. Traditionally the water abstraction for the City of Zugdidi was from Rechko headworks located in Abkhazia. With the 1992-93 Civil War, this source was no longer available. At present, water supply is provided to only 7% of the population from local boreholes.

3. The contract ZUG-01 was signed on October 26, 2015 with AS Inshaat–N, LLC (Azerbaijan), and Contract completion date is 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, July-December 2023.

4. This Zugdidi water supply improvement (ZUG-01) sub-project was therefore designed for a complete revival of the system to meet the present and the projected demand of 2040. This achieved by: 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.

5. The project implemented according to the requirements of Georgian National and the same as of Asian Development Bank's Environmental Legislative Framework (SPS 2009).

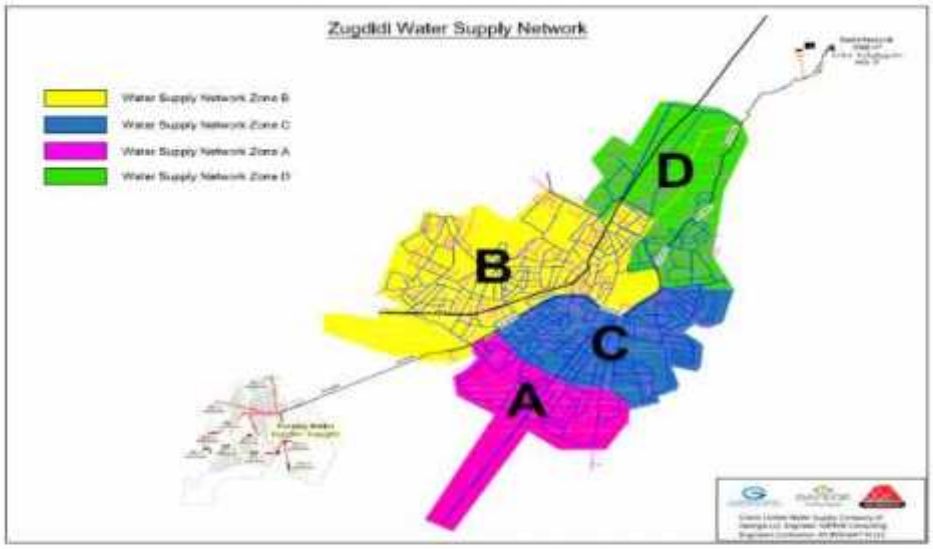
6. The new well field comprise 9 wells in Inghiri, located south of Zugdidi. The well field will serve a new pumping station constructed between the well field and Zugdidi. The pumping station includes a receiver tank with a volume of 768 m³.

7. Bashi reservoir is located north of Zugdidi at an elevation that allows the supply from this reservoir by gravity. It serves as balancing reservoir. The storage volume is 5 x 3,500 m³. The old reservoir demolished and a new reservoir constructed at the same site. The condition of the old reservoir was investigated and its rehabilitation was ruled as not feasible.

8. The distribution net is divided into three pressure zones. The total length of the network is approximately 230 km. The network covers the Municipality of Zugdidi plus small, settled zones right outside the municipal border.

9. Ecologically-sensitive receptors are not located in the vicinity of the project territory. The nearest protected area - Kolkheti National Park, is located 40 km away from the project zone. Fig.1 below shows the water supply improvement map of Zugdidi.

Figure 1: Zugdidi Water Supply Improvement Subproject Map



2.2 Main Stakeholders of the Project

10. The main institutions that are involved in implementation of the EMP are: executing agency (EA) - United Water Supply Company of Georgia (UWSCG), Supervision Consultant (SC) - Consortium of Consulting Firm led by Eptisa Servicios de Ingeniria S.L. (Spain) in association with SAFEGE (Belgium) and JSC Georgian Water Project (Georgia), the Construction Contractor – Azinsaat-N (Azerbaijan) and to a lesser extent the Ministry of Environmental Protection and Agriculture (MoEPA). Donors Financed Projects Management Department (IPMO) established within UWSCG is responsible for the day-to-day management of the project including implementation of the EMP. The IPMO has an Environmental Specialist – Ms. Ketevan Chomakhidze who is responsible for management of the environmental aspects of USIIP, Tranches 1-6.

11. The SC includes a full time Environmental Specialist, Mr. Shalva Bosikashvili to assist the IPMO supervise and monitor implementation of the EMP during construction. Department of Permits Environmental Protection and Social Affairs of UWSCG work together with IPMO on addressing the Environmental Safeguard issues of USIIP.

12. Environmental issues arising from the construction activities were immediately brought to the attention of the construction supervision team to coordinate efforts in order to immediately mitigate impacts, protect the environment, and safeguard the health and welfare of the local communities. All these are to be conducted within the framework of the overall construction management and supervision.

13. Main organizations involved in the project during the project implementation and related to environmental safeguards are presented in the Table 1 below:

Table 1: 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	Head Office, Environmental Specialist, Portfolio, Results, Safeguards and Gender Unit (PSG), CWRD.	Nurlan Djenchuraev E-mail: ndjenchuraev@adb.org
		Associate Safeguards Officer Georgia Resident Mission Asian Development Bank	Nino Nadashvili Tel: +995 595 070442 nnadashvili@adb.org
		ADB RETA International-Environmental Consultant	Keti Dgebuadze Tel: +995 577232937 ketdgeb@yahoo.com
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. Ana Onashvili Tel: +995 599 692090 E-mail: ana.onashvili@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	TAHAL Group BV	Environmental H&S Specialist	Mr.Revaz Kalandadze Tel: +995 599 346 821 E-mail: r.kalandadze@yahoo.com

14. In 2016-2022, in the construction phase of Zugdidi water supply system, the environmental monitoring was conducted by several organizations, namely - ADB, Supervision Consultant (CSC), Construction Contractor (CC) and UWSCG. A total of 94 non-compliances were identified in the environmental monitoring phase in 2016-2022 (see Annex 1).

15. The identified non-compliances can be divided into the following main areas: absence or improperly installed warning and prohibition signs18 (19.14%), improper management and disposal of waste or hazardous construction materials 31(32.97%); violation of the requirements for wearing safety uniforms (PPE) or safety standards 24(25,53%); Incorrect management of topsoil 4(4.25%); oil spills 14(14.89%); violation of IEE/SSEMP requirements in the phase of rehabilitation works 3 (3,19%).

16. In 2016-2022, corrective actions were developed and realized for all of the above-listed non-compliances. According to semi-annual environmental reports (SAEMRs), all non-compliances have been eliminated.

IV. SUMMARY OF OBSERVATIONS OF SITE VISITS

4.1 Introduction

17. The reservoir, water supply system (pipeline), pump station and 9 water wells were constructed within the scope of the given Tranche 4.

4.2 Site Visit -- Audit results

18. Construction of Zugdidi Water supply systems (ZUG 01) financed from Tranches 4 of USIIP.

19. The Contractor had to construct new reservoir (Bashi), wellfield and pump station (Ingiri) and pipeline network (Zugdidi) to serve the projected population. Contract was signed with Azinsaat-N on 26 October 2015. Contract completion date was May 21, 2020.

20. The final (closing) environmental audit of Zugdidi Water supply system was conducted by the environmental audit team on 19 September of 2023.

21. The audit team visited the following facilities: (i) The reservoir (Bashi); (ii) The PS (Ingiri), (iii) well field (Ingiri) and (iv) water supply pipeline (Zugdidi) for the locations of the mentioned facilities. Besides, the part of the access roads to the mentioned facilities are restored.

22. Reservoir (Bashi), PS (Ingiri) and water wells (Ingiri) were fenced and it was impossible for strangers as well as domestic animals to enter the site (see Figure 3, 4, 5, 6, 7, 8).

Figures 3 and 4: Bashi Reservoir

Figures 5 and 6: Ingiri PS

Figures 7 and 8: Ingiri Water Wells

23. The territories were restored in a timely manner; the removed topsoil was used for the rehabilitation works. The local roads of all objects are improved.
24. Soil piles with already planted grass was laid on the territory of the Bashi reservoir and PS Ingiri. Small sections of the ground access roads to the facilities were also restored.
25. Both, the hazardous and household waste was totally disposed from the project zone. Besides, the construction techniques and construction materials were removed as well, and lighting poles were installed all over the area.

4.3 Non-compliances and Corrective Actions

26. During the final HSE audit no Non-compliances were identified.

V. CONCLUSIONS AND RECOMMENDATIONS

27. The construction of the Zugdidi water supply system (Bashi reservoir, Ingiri PS and well field and Zugdidi water pipeline network) is complete and the object is put to exploitation. The Bashi reservoir, PS Ingiri and water wells territories are fenced. Bashi reservoir and Ingiri PS have a gate and guardroom. The territories are cleaned and there is a drainage system provided around the territories of the reservoir and PS.

28. In 2016-2022, in the construction phase of Zugdidi water supply system, the environmental monitoring was conducted by several organizations, namely - ADB, Supervision Consultant, Construction Contractor and UWSCG and its USIIP Environmental consultant. A total of 94 non-compliances were identified in the environmental monitoring phase in 2016-2022.

29. The identified non-compliances can be divided into the following main areas: absence or improperly installed warning and prohibition signs18 (19.14%), improper management and disposal of waste or hazardous construction materials 31(32.97%); violation of the requirements for wearing safety uniforms (PPE) or safety standards 24(25,53%); Incorrect management of topsoil 4(4.25%); oil spills 14(14.89%); violation of IEE/SSEMP requirements in the phase of rehabilitation works 3 (3,19%).

30. In 2016-2022, corrective actions were developed and realized for all of the above-listed non-compliances. According to semi-annual environmental reports (SAEMRs), all non-compliances have been eliminated.

ANNEXES:

Annex 1: Non-compliances observed during the Environmental Audits conducted during the 2016-2022 reporting period

Date	Ref Number	Subject	Status
January – June 2016			
16 May		• Open trenches are remain for the night. • No drip trays are available on site. • No fire extinguishers on site at the moment. • Construction materials lay down area is not enclosed and signed. • No Spill Response Equipment on site • No fire action board	All Completed
July - December 2017			
30 October		• Overfilled domestic waste container outside the shelter and garbage around – Rukhi Camp • Housekeeping issues • Oily sheen on the rain puddle because of spilled hydrocarbons • No Spill Response Equipment on site • open drainage cesspit at the rear of Rukhi Office • No proper vehicle washing facility	All Completed
January – June 2018			
17 January		• Clean existing Oil spills and prevent spillages in future • Clean all kind of waste daily and store properly under shelters of in the buildings • Spill/Contamination prevention and Vehicle/Heavy equipment inspection refreshment trainings should be carried out for the relevant contractor's staff ASAP • Special training should be provided to the staff regarding Housekeeping at the construction sites and include this issue in	All Completed

		daily Toolbox talks. • Drip treys should be provided and used at the vehicle and heavy equipment maintenance area/ Re-fuelling points • Spill Response Equipment should be placed on site; Spill kits should be placed at the vehicle and heavy equipment maintenance area, fuel and lubricant storage and refueling points • All vehicles and heavy equipment should be inspected on daily basis (use relevant checklists), in case of leakage finding, prohibit usage of the damaged Vehicles/Heavy equipment. • Arrange proper vehicle washing facility with polluted water containment, collector and separator. • Observe H&S relevant standards (Open power box and unsafe wiring)	
July - December 2018			
05 September		• Construction site (open trenches) should be properly fenced from all sides and equipped with proper warning signs • Construction territory should be lighted adequately during the night time • Proper information signs and protection equipment should be arranged at the entrance and perimeter of the site • used tires scattered everywhere • Unacceptable housekeeping	All Completed
January – June 2019			
20 May		• Significant deterioration of housekeeping in Zugdidi; Construction waste, hand tools, construction materials are scattered unorganized; • Overfilled domestic waste container – Zugdidi camp • Damaged dirty waste containers, some of them without relevant label- Zugdidi • Spill/Contamination prevention and Vehicle/Heavy equipment	All Completed

		inspection refreshment trainings should be carried out for the relevant contractor's staff ASAP. • Special training should be provided to the staff regarding Housekeeping at the construction sites and include this issue in daily Toolbox talks. • Drip treys should be provided and used at the vehicle and heavy equipment maintenance area/ Re-fuelling points • No Spill Response Equipment on site; Spill kits should be placed at the vehicle and heavy equipment maintenance area, fuel and lubricant storage and refueling points. • Waste storage and disposal should be improved. • All vehicles and heavy equipment should be inspected on daily basis (use relevant checklists), in case of leakage finding, prohibit usage of the damaged Vehicles/Heavy equipment. • Fuel/lubricant multiple spills	
July - December 2019			
27 June		• Gas cylinders should be with proper capping, in special cage, without rust - Zugdidi camp • Damaged, dirty and unlabeled waste containers – Zugdidi camp • Oil drum stored outdoor – Zugdidi camp • Unacceptable housekeeping – Bashi reservoir • Unacceptable housekeeping – Ingiri pump station	All Completed
January – June 2020			
18 March		• All waste containers should be labeled - Zugdidi camp • Used tires should be stored at one location and disposed accordingly (re-use, recycling preferable) – Zugdidi camp • Housekeeping should be improved –Zugdidi camp • Worsening of housekeeping in Zugdidi identified; Construction waste, hand tools, construction	All Completed

		materials are scattered unorganized; • Damaged waste containers should be replaced • Feeding of stray animals on the sites should be forbidden. • Gas cylinders should be used an kept according applicable safety standards • Many leakages observed from the vehicles and Heavy equipment at Zugdidi/Rukhi camp. • Special training should be provided to the staff regarding Housekeeping at the construction sites and include this issue in daily Toolbox talks. • No Spill Response Equipment on site; Spill kits should be placed at the vehicle and heavy equipment maintenance area, fuel and lubricant storage and refueling points. • Waste storage and disposal should be improved. • All vehicles and heavy equipment should be inspected on daily basis (use relevant checklists), in case of leakage finding, prohibit usage of the damaged Vehicles/Heavy equipment. • Fuel/lubricant multiple spills	

Annex 2. Zugdidi Water Supply Post-Construction Environmental Audit Checklist

Requiredmitigationmeasure sofenviromentalimpact	Measuresimplemented				Comment
	yes	partially	no	N/A	
Site territory (Bashi reservoir, PS Ingiri, Water wells Ingiri fenced fully	x				All project zones were fenced.
Topsoil placed at original location	x				The rehabilitation works were carried out in all project zones, where the removed topsoil in the project zone was used.
Vegetation cover reinstated	x				The grass has been self-restored on the territory.
Trees replanted as needed				x	No trees were planted in the project zone.
Construction waste and surplus/waste soil removed completely and disposed properly	x				All the construction equipment and construction materials were removed from the project zones.
Hazardous waste removed and disposed properly.	x				No facts of uncontrolled disposal of hazardous waste were fixed in the project area.
Fuels and lubricants spills eliminated	x				No traces of leakage were identified in the project area.
Contractor equipment and machinery removed	X				All the construction equipment was removed from the project zones.
All temporary facilities removed and cleaned up	x				Thetemporary auxiliary buildings are fully removed from the site.
Streets with installed network reinstated to pre-construction or better conditions	x				The access roads to the project zone are reinstated. Their physical state is satisfactory.
Post-Construction territory reinstated to pre-construction or better conditions	x				The project zone is reinstated in line with the requirements.

ANNEX F: POST CONSTRUCTION AUDIT REPORT UNDER JVARI-01 SUB-PROJECT: CONSTRUCTION OF WATER SUPPLY SYSTEM IN JVARI

UWSCG/USIIP/QCBS/02-2014
Contract No: P43405-DC-JVA-01
Financed by: The Asian Development Bank

Project: Improvement of Jvari Water Supply System

Post - Construction Environmental Audit Report

First Draft prepared in February 2024
Updated in June 2024

ABBREVIATIONS

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

Table of Contents

I. INTRODUCTION

This report represents the Post Construction Environmental Audit Report for ADB Loan No. 3238-GEO: Urban Services Improvement Investment Program Tranche 4 - Improvement of Jvari Water Supply System (JVARI-01 sub-project). The First draft of the report was prepared in February 2024 and further updated in June 2024. The report was prepared by the supervision consultant SAFEGE.

This Post Construction Audit Report is being prepared to comply with the 2009 ADB's SPS and Georgian legislation, including safeguards requirement and aims to identify past and present concerns from the production and business activities of Project Company that related to impacts on environment. The specific objectives of the audit can be summarized as follows:

- Determine and verify whether all environmental requirements, criteria and constraints, prescribed in IEE and SSEMPs have been adhered to during the construction phase.
- Determine and verify whether the mitigation actions and rehabilitation requirements contained in the SSEMPs have been appropriate and successful to prevent or control environmental pollution and/or damage.
- Ensure that an appropriate environmental monitoring and control program exists to follow up on mitigation and rehabilitation works completed during the construction phase.
- To identify any shortcomings in the SSEMP and EMS system implemented during the construction phase and to recommend alterations to the EMS applicable to the operational phase.

II. PROJECT DESCRIPTION

2.1 Brief Description of the Project

The contract for implementation of JVARI-01 sub-project: Construction of Water Supply System in Jvari was signed on January 17, 2017 with AS Inshaat–N, LLC(Azerbaijan). Contract completion date is February 2024.

The major works implemented for rehabilitation and improvement of Jvari water supply system are following: construction of 8 wells on the well field near the village Lia; installation of more than 4 km (4,558m) long transmission pipeline (DN300); replacement of distribution pipes (43,500m of DN90-200 pipes) in the town; rehabilitation of existing pumping station of 120m3 and the reservoir with the storage volume of 2000 m³ and installation of 150 hydrants and 2500 meters.

Jvari, situated 350 km west of Tbilisi, the capital of Georgia and 60 km of Black sea coast, is the administrative centre of the Samegrelo-Zeda Svaneti Region. UWSCG's Jvari Service Centre operates the water supply system in Jvari City and a number of outlying small towns and villages. Traditionally the water abstraction for the City of Jvari was from Rechko headworks located in Abkhazia. With the 1992-93 Civil War, this source was no longer available. Before starting the Jvari water supply sub-project, water supply is provided to only 7% of the population from local sores. This water supply improvement sub-project is therefore designed for a complete revival of the system to meet the present and the projected demand of 2040. This achieved by: (i) construction of wells on the well field near the village Lia; (ii) installation of about 4 km long transmission pipeline; (iii) replacement of distribution pipes in the town and (iv) construction of Reservoirs.

The project implemented according to the requirements of Georgian National and the same as of Asian Development Bank's Environmental Legislative Framework (SPS 2009).

From Reservoirs water is distributed to the network by gravity. In order to ensure rational consumption, individual metering of customers was carried out, including, in the apartment blocks.

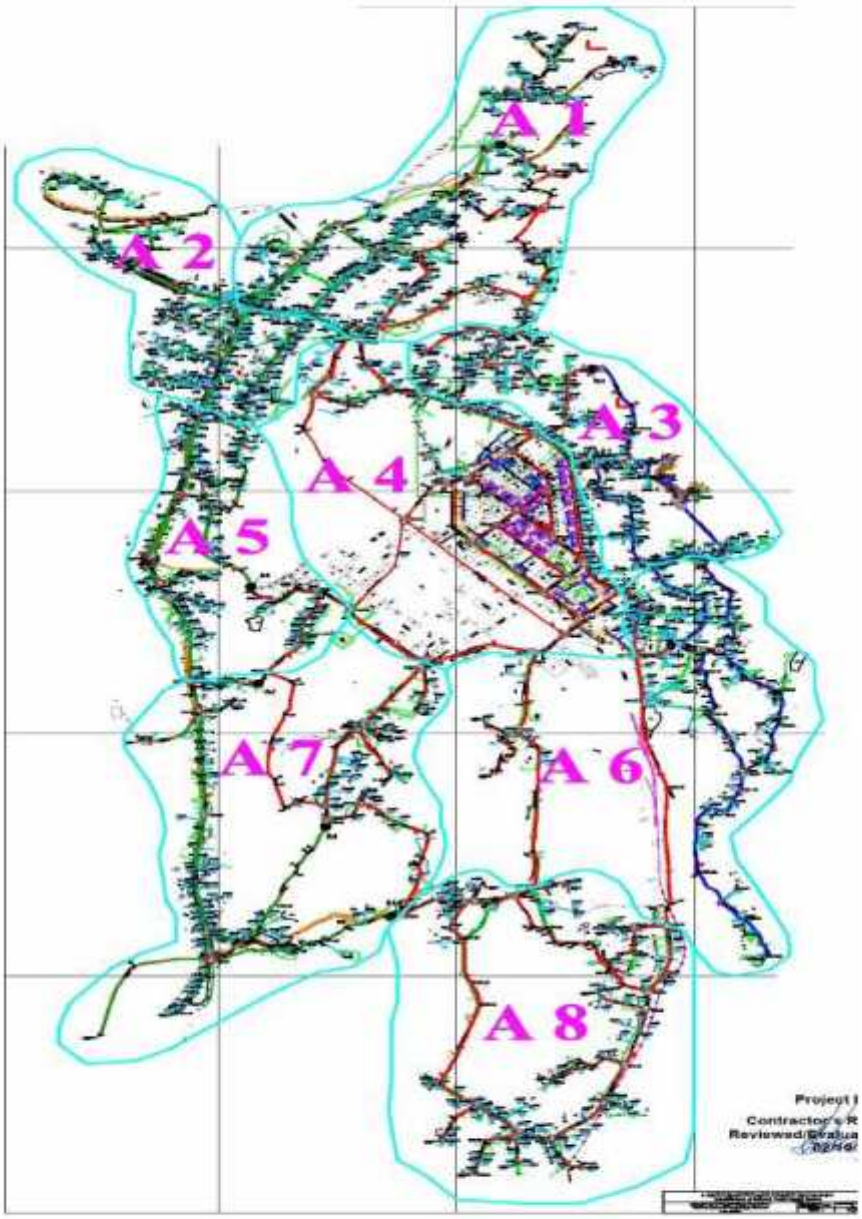
The well field serves a new pumping station constructed between the well field area and the city of Jvari. The pumping station include a receiver tank with a volume of 120 m³. The pumping station is equipped with two pumps (1 + 1 in stand-by) with a Qmax of 1,692 m³/h and a total head of 140 m.

Reservoirs are located north of Jvari at an elevation that allows the supply from this Reservoirs by gravity. It serves as balancing Reservoirs. The storage volume is 2 x 1000 m³.

The distribution net is divided into three pressure zones. The total length of the network is 43,500m. The network covers the Municipality of Jvari plus small, settled zones right outside the municipal border.

Ecologically-sensitive receptors are not located in the vicinity of the project territory.

Figure 1: Jvari Water Supply Improvement Subproject Map



2.2 Main Stakeholders of the Project

The main institutions that are involved in implementation of the EMP are: executing agency (EA) - United Water Supply Company of Georgia (UWSCG), Supervision Consultant (SC) - SAFEGE (Belgium) and JSC Georgian Water Project (Georgia), the Construction Contractor – Azinsaat-N (Azerbaijan) and to a lesser extent the Ministry of Environmental Protection and Agriculture (MoEPA). Investment Program Management Office (IPMO) established within UWSCG is responsible for the day-to-day management of the project including implementation of the EMP. The IPMO has an Environmental Specialist – Ketevan Chomakhidze who is responsible for management of the environmental aspects of USIIP, Tranches 1- 6.

The SC includes a full time Environmental Specialist Mr. Shalva Kokochashvili to assist the IPMO supervise and monitor implementation of the EMP during construction. Department of Permits, Environmental Protection and Social Affairs of UWSCG work together with IPMO on addressing the Environmental Safeguard issues of USIIP.

Environmental issues arising from the construction activities were immediately brought to the attention of the construction supervision team to coordinate efforts in order to immediately mitigate impacts, protect the environment, and safeguard the health and welfare of the local communities. All these were conducted within the framework of the overall construction management and supervision.

Main organizations involved in the project and related to environmental safeguards are presented in the **Table 1** below:

Table 1. List of contracts under the Project

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

Type of project participant	Name of Agency/Company	Environmental Staff	Name and contact details
Borrower	UWSCG	UWSCG, Department of Permits, Environmental Protection and Social Affairs, Head	Ms. Maka Goderdzishvili Tel: +995 599 229925 E-mail: m.goderdzishvili@water.gov.ge
		UWSCG/IPMO Acting Head, Management of Projects Financed by the Donors Organizations	Ms. Davit Akhvlediani Tel: 599 348 090 E-mail: d.akhvlediani@water.gov.ge
Borrower	UWSCG/USIIP/T4	Environmental Specialist	Ms. Ketevan Chomakhidze Tel:+995 577 380309 E-mail: Chomakhidzek@yahoo.com
Supervision Consultant	SAFEGE (France) with Engineering Solution LLC (Georgia)	Environmental Specialist:	Mr. Shalva Bosikashvili Tel:+995 595116041 E-mail: sbosikashvili@yahoo.com
Contract JVA-01	AS Inshaat–N, LLC(Azerbaijan)	Environmental H&S Specialist	Mr.Gia Khulordava Tel: + 995 577 345049

III. SUMMARY OF PREVIOUS ENVIRONMENTAL AUDITS

In 2016-2023, in the construction phase of Jvari water supply system, the environmental monitoring was conducted by several organizations, namely - ADB, Supervision Consultant (CSC), Construction Contractor (CC) and UWSCG. Non-compliances identified during the project implementation in 2017-2024 are presented in Annex 1 to the report **(see Annex 1).**

The identified non-compliances can be divided into the following main areas: absence or improperly installed warning and prohibition signs18 (19.14%), improper management and disposal of waste or hazardous construction materials 31(32.97%); violation of the requirements for wearing safety uniforms (PPE) or safety standards 24(25,53%); Incorrect management of topsoil 4(4.25%); oil spills 14(14.89%); violation of IEE/SSEMP requirements in the phase of rehabilitation works 3 (3,19%).

In 2016-2022, corrective actions were developed and realized for all of the above-listed non-compliances. According to semi-annual environmental reports (SAEMRs), all non-compliances have been eliminated.

IV. SUMMARY OF OBSERVATIONS OF SITE VISITS

4.1 Introduction

Construction of Water Supply System in Jvari (JVA-01). The major works 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.

4.2 Site Visit - Audit results

Construction of Jvari Water Supply Systems Sub-project is financed from Tranches 4 of USIIP.

The Contractor had to construct new Reservoirs, welfield and pump station (Lia) and pipeline network (Jvari) to serve the projected population. Contract was signed with Azinsaat-N on 17th January 2017 and commencement date is 05 April 2017. Contractual date finished in December 2019 and Contractor was continuing works under Delay Damages, until the Contract completion date February 2024.

The final (closing) environmental audit of Jvari Water supply system was conducted by the environmental audit team of the Supervision consultant and its Environmental Specialist Mr.Shalva Bosikashvili on 19 January of 2023.

The audit team visited the following facilities: (i) The Reservoir; (ii) The Pumping Station, (iii) the Lia well fields (Lia) and (iv) water supply pipeline (Jvari).

Reservoirss, PS and water wells (Lia) were fenced and it was impossible for strangers as well as domestic animals to enter the site **(See Figure 2,3,4,5).** The access roads to the mentioned facilities are restored **(See Figure 3)**.

Figure 2: Reservoirs

Figure 3: PS

Figure 4: Lia Water Wells

Figure 5: Transformers

The territories of all construction sites were restored in a timely manner; the removed topsoil was used for the rehabilitation works. The local roads of all objects are improved.

Soil piles with already planted grass was laid on the territory of the Bashi Reservoirs and PS Lia. Small sections of the ground access roads to the facilities were also restored.

Both, the hazardous and household waste was totally disposed from the project zone. Besides, the construction techniques and construction materials were removed as well, and lighting poles were installed all over the area.

V. CONCLUSIONS AND RECOMMENDATIONS

The construction of the Jvari water system (Reservoirss, PS and well field and Jvari water pipeline network) is complete and the object is put to exploitation. The Lia Pumping Station and well field territory are properly fenced the gates are installed. The access road is fully rehabilitated. The PS have a gate and guardroom. The territories are cleaned and there is a drainage system provided around the territories of the Reservoirs and PS.

Summary of non-compliances identified during the site visit within the Post-construction Environmental Audit, Corrective Actions to be Implemented, relevant photographs and responsible units are presented in the table below.

Table 2: Summary Information of Post-construction Environmental Audit under Jvari-01 Sub-project

#	Non-compliance	Corrective action	Construction Site	Terms of accomplishment	Responsibility	Status
			Jvari Reservoir			
1	Prevent access of public to the reservoir site - The fence of the reservoir should be completed and equipped with Signs, information and warnings	Reservoirs sites should be equipped with proper fence		**End of June 2024**	**UWSCG**	**Completed in June 2024**  

#	Non-compliance	Corrective action	Construction Site	Terms of accomplishment	Responsibility	Status
		Reservoirs sites should be equipped with proper warning and information signs		**End of June 2024**	**UWSCG**	**Not yet Completed will be implemented in July 2024**
	Waste management at the reservoir site: Remains of construction waste are not removed and not properly disposed	Construction waste should be removed completely and disposed properly		**End of June 2024**	**UWSCG**	**Completed end of May 2024** Construction waste removed completely and disposed properly