

SEMI-ANNUAL ENVIRONMENTAL MONITORING REPORT

Project Number: 43405-023

Reporting Period: January-June 2019

GEORGIA: URBAN SERVICES IMPROVEMENT INVESTMENT PROGRAM (TRANCHE 2) (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

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July 2019

ABBREVIATIONS

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

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I. INTRODUCTION

1.1 Preamble

1. This report represents the Semi-Annual Environmental Monitoring Review (SAEMR) for “Urban Services Improvement Investment Program” (USIIP), Tranche 2 and describes the period of January-June 2019.
2. This report is the 11th Semi-Annual EMR for the T2 of “Urban Services Improvement Investment Program”.

1.2 Headline Information

3. Based on the changes to the project design, in particular, construction of Aqueduct Natanebi River Crossing and Gabion Wall Protection as part of the Ureki Water Supply Project (URE-01), IEE was updated and approved by ADB in January 2019. The initial IEE for URE-01 sub-project was prepared and approved in July 2013.

II. 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. 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 will improve infrastructure through the development, design and implementation of a series of subprojects, each providing improvements in a particular sector (water supply and/or sewerage) in one town. Subprojects will rehabilitate existing infrastructure and/or create new and expanded infrastructure to meet the present and future demand. Water supply improvements will include source augmentation and head works, pumping systems, treatment facilities, transmission and distribution network; and, sewerage improvement works will include sewer network, pumping stations, main collectors and waste water treatment plants.
6. Tranche 2 of the Investment Program includes:
 - Construction of Anaklia Water and Sewerage Network (ANA-01);
 - Construction of Mestia Water and Sewerage Network (MES-02),
 - Construction of Anaklia Waste Water Treatment Plant (REG-02),
 - Construction of Water Supply and Wastewater Network in Ureki/Phase II (URE-01).

Status of the projects financed under Tranche 2:

- MES-02, Rehabilitation of Water Supply and Sewerage System in Mestia

- (completed)
 - ANA-01, Construction of Water Supply System and Sewerage Networks in Anaklia (completed)
 - REG-02 Anaklia Lot, Construction of Wastewater Treatment Plant in Anaklia (completed)
 - URE-01, Construction of Water Supply and Wastewater Network in Ureki (on-going)
7. **Anaklia Water and Sewerage Network (Contract ANA-01).** The construction involved the supply and installation of approximately 69 kilometers of water supply and 70 kilometers of sewerage networks and service connections to all residents and hotels defined for the year 2040 for Anaklia and Ganmukhuri villages (total projected population of about 25,600 people). The construction works under Contract ANA-01 started on 16th of January 2012 and was completed in May 2014.
 8. **Mestia Water and Sewerage Networks (Contract MES-02).** The Construction rehabilitation of approximately 30 kilometers of water supply and 46 kilometers of sewerage network will cover the whole town of Mestia including the historic center and the future touristic zones covering all residents and hotels defined for the year 2040 thus benefiting total projected population of about 25,300 people. The construction works under MES-02 project started in October 2011 and was completed in the mid of August, 2015.
 9. **Conduction of Waste Water Treatment Plant in Anaklia (Contract REG-02)** The scope of works includes Construction of Waste Water Treatment Plant in Anaklia (the treated wastewater to be discharged into Enguri River).
 10. Contract was signed with JV Ludwig Pfeiffer Hock und Tiefbau GmbH & Co. KG and Protecno Srl on 22 September 2014 and Notice-to-Proceed given on 08 December 2014. Contract completion date is May 2018.
 11. **Construction of Water Supply and Wastewater Network in Ureki/Phase I (URE-01).** The project is simultaneously financed from Tranches I, II and III and therefore might be some overlap of T1-T3 Semi-Annual EMRs. The main works under Tranche II will comprise laying of sewerage network with the total length of 70 km.
 12. The Contract is signed with JV of Peri Ltd (Georgia) Leading Partner and Slon LLC (Azerbaijan) on October 28, 2014. Commencement date was November 24, 2014. Completion date of URE-01 project was scheduled on November 22, 2018 but due to changes in the design of project, which include the construction of an Aqueduct across the Natanebi River, the construction of Gabion wall to protect well fields from flooding and erosion, and the construction of an additional deep well No. 8 along the banks of the Natanebi River, completion date was extended to June 2019. The project is foreseen to serve 35,000 tourists and 5,400 local inhabitants by year 2040.

Post Construction Audit

13. Mes-02 project Post Construction Environmental Audit was carried out in November 2015. The main findings revealed during the post construction audit are presented in Bi-annual report of July-December 2015.
14. Ana-01 project Post Construction Environmental Audit report was prepared in September 2014. The main findings revealed during the post construction audit are presented in EMR of July-December 2014.

15. Post Construction Environmental Audit under REG-02/Anaklia WWTP sub-project was conducted by the independent consultant in December 2018. The main findings revealed during the post construction audit are presented in EMR of July-December 2018.

2.2 Project Contracts and Management

16. The following agencies are involved in implementing the Investment program: Ministry of Regional Development and Infrastructure (MoRDI) is the Executing Agency (EA) responsible for management, coordination and execution of all activities funded under the loan. MoRDI has overall responsibility for compliance with loan covenants.
17. Ministry of Environmental Protection and Agriculture of Georgia (MEPA). MEPA has the overall responsibility for protection of environment in Georgia. The Department of Permits of MEPA is responsible for reviewing EIAs and for issuance of the Environmental Permits. MEPA is the main state body pursuing state policy in the sphere of environment. Their functions for regulating economic or development activities with regard to environmental protection include:
- Issuing permits for project development (Environmental Decision)
 - Setting emission limits and issuing surface water intake and discharge consents
 - Responding to incidents and complaint
18. United Water Supply Company of Georgia (UWSCG) is the implementing agency (IA), which is responsible for administration, implementation (design, construction and operation) and all day-to-day activities under the loan. Since September 2018, the Investment Program Management Office (IPMO) under UWSCG is Project Management Department, the Head of Department is Mr. Giorgi Archaia. Environmental issues are followed by the Department of Environmental Protection and Permits of UWSCG. The head of the department is Ms. Maka Goderdzishvili. Ms. Ketevan Chomakhidze is the Environmental Specialist of USIIP under the Department of Environmental Protection and Permits.
19. UWSCG as responsible IA for the project recruited a Supervision Consultant (SC) – EPTISA. The national and international team of consultants assists UWSCG in the supervision of the construction of subprojects under the USIIP. The SC also provides capacity building training to contractor staff in the management and operation and maintenance of the subprojects. The SC assists UWSCG in ensuring that the subprojects are implemented according to the specified standards. SC assignment also includes the supervising of the implementation of the environmental management plans.
20. All mitigation measures during construction are implemented respectively by the contractor company: Peri. Contractor has Environmental and H&S officers responsible for HSE issues during construction process. Construction companies are monitored by the supervision consultant (EPTISA) environmental specialist – Irakli Legashvili and Environmental Specialist of UWSCG/USIIP Ms. Ketevan Chomakhidze. Environmental Specialists of SC and UWSCG/USIIP conduct routine observations and surveys of project sites, issues non-compliance notes. ES of EPTISA prepares quarterly environmental reports and submits to UWSCG.
21. The Contractor, prior to the onset of the construction, is obliged to conduct a number of studies and develop environmental plans, including “Site Environment Management Plan” (SEMP). Such plans can be further subdivided into Topic Specific or Site Specific EMP’s. The number of such plans will depend upon the type of project, complexity and sensitivity of the receiving environment.

22. Topic Specific EMPs are developed on a topic by topic basis. For example:
 - Waste Management Plans;
 - Traffic Management Plans;
 - Protected Species Management Plans;
 - Water Management Plans.

23. These plans are detailed and set out how the project will address potential issues identified in the impact assessment process and ensure that specific mitigation and monitoring measures are fully implemented. A topic specific environmental management plan will cover all of the project.

24. The environmental specialist of UWSCG/USIIP assists and advise the Department of Environmental Protection and Permits of UWSCG for implementation of USIIP in compliance with the ADB Safeguard Policy Statement 2009 and National Legislation, and oversee the work of DCs and SCs in safeguards compliance. ES supports DEPP in EARF implementation, in particular, reviewing IEE/EIA Reports, overseeing implementation of EMPs, Reviewing and approving SEMP and carrying out training and capacity-building activities in cooperation with Supervision Company. The ES prepares Semi-annual and annual environmental monitoring reports and submits to ADB.

25. Department of Environmental Protection and Permits of UWSCG is responsible for the implementation of mitigation and monitoring measures during construction and operation of subprojects under USIIP. Currently DEPP is staffed with a Head of Department and 4 specialists, those are responsible for environmental safeguard and construction permission issues.

26. ADB is the donor financing the Investment Program. Environmental management organization is shown in Figure 1 and Figure 2.

Figure 1: Structure Diagram of the Environmental Management Unit of UWSCG

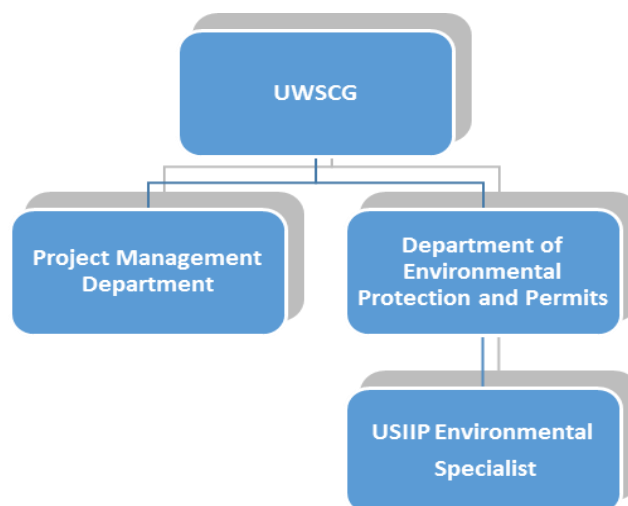
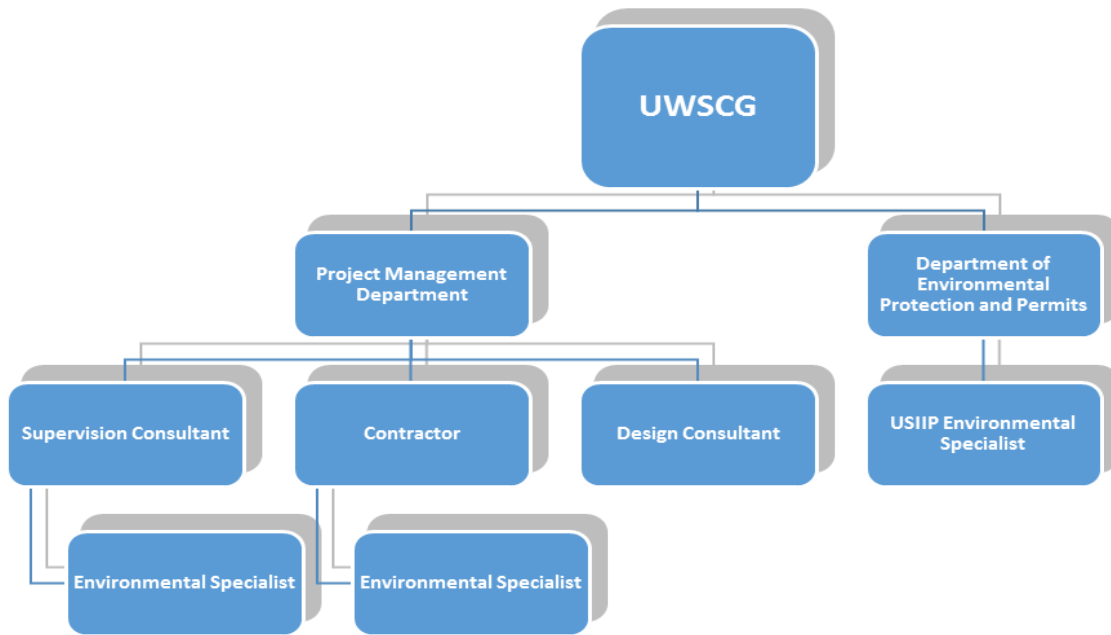


Figure 2: Structure Diagram of the Agencies Involved in Investment Program Implementation



27. Main organizations involved in the project and related to environmental safeguard are presented in the table 2 below:

Table 1: List of Main Organizations under USIIP/T2

| 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. | Duncan Lang dlang@adb.org |
| | | ADB RETA International Environmental Consultant | Keti Dgebuadze +995 577232937 ketdgeb@yahoo.com |
| | | Associate Safeguards Officer, Georgia Resident Mission Asian Development Bank | Nino Nadashvili +995 595 070442 nnadashvili@adb.org |
| Borrower | UWSCG | UWSCG, Department of Environmental Protection and Permits, Head | Ms. Maka Goderdzishvili Tel: +995 599 229925 E-mail: m.goderdzishvili@water.gov.ge |

| Type of project participant | Name of Agency/Company | Environmental Staff | Name and contact details |
|-----------------------------|--|---|--|
| | | UWSCG/IPMO Department of Projects Management, Head | Mr. Giorgi Archaia E-mail: G.Archaia@water.gov.ge Tel: +995 577 380213 |
| Borrower | UWSCG | UWSCG, Department of Environmental Protection and Permits, Head | Ms. Maka Goderdzishvili Tel: +995 599 229925 E-mail: m.goderdzishvili@water.gov.ge |
| Borrower | UWSCG | UWSCG/IPMO Department of Projects Management, Head | Mr. Giorgi Archaia Tel: +995 577 380213 E-mail: G.Archaia@water.gov.ge |
| Borrower | UWSCG/USIIP/T3 | Environmental Specialist | Ms. Ketevan Chomakhidze Tel: +995 577 380309 E-mail: Chomakhidzek@yahoo.com |
| Supervision Consultant | A Consortium of Consulting Firm led by Eptisa Servicios de Ingenieria S.L. (Spain) in association with SAFEGE (Belgium) and JSC Georgian Water Project (Georgia) | Environmental Specialist: | Mr. Irakli Legashvili Tel: +995 577 177016 E-mail: chem_ira@yahoo.com |
| Contractor URE-01 | JV of Peri Ltd (Georgia) Leading Partner and Slon LLC (Azerbaijan) | Environmental H&S Specialist | Mr. Levan Asabashvili Tel: +995 599 962 693 Email: levani.asabashvili@mail.ru |
| Contractor KUT-01 | SMK Ulusal Insaat Ve Ticaret A.S. (Turkey) | Environmental Specialist | Ms. Natia Babukhadia E-mail: natiibab@gmail.com Tel: +995 595 150444 |

| Type of project participant | Name of Agency/Company | Environmental Staff | Name and contact details |
|-----------------------------|------------------------|---------------------|---|
| | | H&S Specialist | Mr. Mamuka Darakhvelidze E-mail: mamuka.darakhvelidze@gmail.com Tel: +995 592 87 0087 |

2.3 Project Activities During Current Reporting Period

28. During the reported period construction activities were implemented only under URE-01, therefore only URE-01 is reported in this Semi-Annual EMR. Contractors have intensified all activities to improve the progress of the works on sites. The Engineers gave processed frequent instructions to the Contractor for the planning and outstanding documents preparation which shall ensure steady improvement of the works progress.

29. The following construction works were implemented during the reporting period under URE-01 sub-project:

Reservoir 1

- Finishing flooring works with ceramic tile in chamber east and chamber west on the level +98.50 and + 105.05; $35.3 + 98.2 = 133.5 \text{ m}^2$
- Completed Electrical works, installed lightings - 28 pcs
- Installed Distribution Board #1 and #2
- Switch Box Level. Control float
- Cooper Cable $3 \times 2.5 \text{ mm}^2$

Reservoir 3

- Chlorination building - construction works is completed
- Completed Electrical works, installed lightings - 10 pcs
- Installed Distribution Board #1 -1 pc
- Switch Box Level DB.2/S1:00 -1 pc
- Cooper Cable $3 \times 2.5 \text{ mm}^2$

WSPS

- Electrical works - assembled cables
- Installed control panels cabinets.
- Earthing of equipment's,
- Lightning rods - 35 pcs
- Installed Generator

Wellfield

- Drilling new deep bore-well (drilled 240m) water is not appeared
- Stone Gabion on the river bank of Natanebi River
- Constructed - 70m of stone Gabion - Type V Volume - 770 m^3 - 9%

- Backfilled suitable materials behind of gabion on 70m volume - 880m³

Shekvetili new additional sewer and water supply pipelines

- Excavated trench - 417 m - 720m³
- Laid sewer pipeline DN200 L- 402m
- Sewage manhole - 16 pcs
- Water supply pipeline DN110 -L=315 m; DN50- L=93 m

30. The overall progress of the contractor during January-June 2019 for the project URE-01 is presented in table 2 below:

Table 2: URE-01, project progress during the January-June 2019

| Ure-01 | Sites |
|---|---|
| | Construction of Reservoir #1 |
| Works undertaken during January - June 2019 | Mechanical Installation Works – 100% |
| | Electrical Installation Works – 100% |
| | Additional Pipelines |
| Works undertaken during January - June 2019 | Excavated trench - 417 m - 720m ³ |
| | Laid sewer pipeline DN200 L- 402m |
| | Well Field |
| Works undertaken during January - June 2019 | Construction Works – 100% |
| | Finishing Works – 100% |
| | Road Installation Works – 100% |
| | Mechanical-Electrical Installation Works – 100% |
| | Electrical Installation Works – 100% |
| | WS Pumping Station |
| Works undertaken during January - June 2019 | Mechanical Installation Works – 100% |
| | Electrical Installation Works – 100% |
| | Finishing Works – 90% |
| | Sewer PS Pumping Station |
| Works undertaken during January - June 2019 | Installation Works – 100% |
| | Mechanical Installation Works – 100% |
| | Electrical Installation Works – 100% |
| | Construction of Reservoir #3 |
| Works undertaken during January - June 2019 | Excavation Works – 100% |
| | Drainage Installation Works – 90% |
| | Reinforced Concrete Works – 100% |

| Ure-01 | Sites |
|--------|--------------------------------------|
| | Mechanical Installation Works – 100% |
| | Electrical Installation Works – 100% |
| | Finishing Works – 90% |

2.4 Description of Any Changes to Project Design

N/A

2.5 Description of Any Changes to Agreed Construction methods

N/A

III. ENVIRONMENTAL SAFEGUARD ACTIVITIES

2.4 General Description of Environmental Safeguard Activities

31. Individual and joint on-site monitoring activities were conducted by Environmental Monitoring Specialist of SC and Environmental Specialist of USIIP on a regular basis, during the reporting period. Also unscheduled monitoring visits were carried out and non-compliance notes has been issued to the contractor as needed. Mitigation measures in order to reduce major environmental impacts have been instructed to CCs during the monitoring visits as well.
32. The monitoring activities included monitoring of compliance of construction activities to the IEE/EMP and SEMP requirements under URE-01 sub-projects.
33. During the reporting period, Mr. Mamiya Mikiashvili., the environmental E&S specialist of the URE-01 sub-project, was replaced by Mr. Levan Asabashvili. A new environmental specialist of contractor was responsible for the daily monitoring of the project sites, development of monthly monitoring reports for submission to SC/Eptisa.
34. Environmental Monitoring Specialist of EPTISA, Mr. Irakli Legashvili conducted monthly monitoring of project sites under T2 of USIIP 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 submit to UWSCG.
35. 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 monitoring reports and submitted to ADB based on the quarterly reports prepared by SC and monitoring results.
36. In accordance with the requirements of IEEs, Contractor is required to undertake parametric measurements and observations on air quality and noise and socio-cultural resources. The monitoring guidelines were set as shown in the Table 3 below for URE-01 sub-projects.

Table 3: Parametric Measurement Guidelines

| Parameters | Frequency & Location | Remarks |
|------------|----------------------|---------|
| Ure-01 | | |

| Parameters | Frequency & Location | Remarks |
|---|---|---|
| Air Quality | Air Quality Every 6 months UWSCG/Office Construction Site | Watering site during excavation works to avoid dust spreading Conduct measurements of Dusts Mg/m ³ ; CO Mg/m ³ ; NO ₂ Mg/m ³ ; SO ₂ Mg/m ³ |
| Noise | Noise, Every 6 months Mukhnari Reservoir, Networks, Transmission Main | Ensure that all equipment & vehicles used for construction activity are in good condition Limiting working hours to 8 am – 6 pm |
| Incorrect surplus/waste soil management | Monthly during the site Inspection and audit | Utilize surplus/waste soil for beneficial purposes such as in construction or to raise the ground-level of low lying sites. Dispose extra waste soil at special disposal place identified by Municipality |

37. There are no protected areas, wetlands, mangroves, or estuaries. Trees, vegetation (mostly shrubs and grasses), and animals in the subproject sites are those commonly found in built-up areas. The geological structure of the area is stable and no potential land subsidence is foreseen.

2.5 Site Audit

38. Regular inspection and monitoring of construction sites under URE-01 was conducted by ESs of UWSCG/USIIP and EPTISA. The schedule of Joint inspection and audit under Ure-01 project is provided in the Table 4 below.

Table 4. Summary of site audits

| Date of visit | Name of Company Name of Contract | Auditors name, | Purpose of audit | Summary of any significant findings | Cross reference to Audit report |
|--|-------------------------------------|---|------------------------------------|--|--|
| Continuous ly during reporting period (July-December 2018) | Peri URE-01 | Environmental and H&S Specialists of Contractor Mr. Mamia Mikiashvili under URE-01 project | Day-today monitoring of sites | | Environmental Specialists of CC fill out the checklists and develop monthly monitoring reports |
| 12 February, 2019 | | Environmental specialists of USIIP Ms.Ketevan Chomakhidze Environmental monitoring specialists of SC/EPTISA Mr.Irakli Legashvili | Monthly monitoring of sites | Construction site has to be properly organized and cleaned on a regular basis | Verbal instruction is given to contractor to improve minor non-conformances on sites |
| 12-13 March 2019 | | Environmental specialists of USIIP Ms.Ketevan Chomakhidze Environmental monitoring specialists of SC/EPTISA Mr.Irakli Legashvili | Environmental monitoring and Audit | Fuel/oil spill response items (sand, sawdust, special containers) should be available at the site and used as needed | Verbal instruction is given to contractor To improve minor non-conformances on sites |
| 27-28 March | | Environmental monitoring specialists of SC/EPTISA Mr.Irakli Legashvili | Environmental monitoring and Audit | Site internally should be arranged properly and cleaned regularly | Verbal instruction is given to contractor To improve minor non-conformances on sites |
| 11-12 April | | Environmental monitoring specialists of SC/EPTISA Mr.Irakli Legashvili | Environmental monitoring and Audit | Construction area and wooden materials should be freed from big nails to avoid personnel damage. Used nails should be collected regularly to avoid workers damage Fuel/oil spill response | Verbal instruction is given to contractor To improve minor non-conformances |

| Date of visit | Name of Company Name of Contract | Auditors name, | Purpose of audit | Summary of any significant findings | Cross reference to Audit report |
|----------------|-------------------------------------|---|-----------------------------|--|---|
| | | | | items (sand, sawdust, special containers) should be available at the site and used as needed | on sites |
| 23-24 May 2019 | | Environmental monitoring specialists of SC/EPTISA Mr.Irakli Legashvili Environmental specialists of USIIP Ms.Ketevan Chomakhidze | Monthly monitoring of sites | Site internally should be arranged properly and cleaned regularly | Verbal instruction is given to contractor To improve minor non-conformances on sites |

3.3 Issues Tracking (Based on Non-Conformance Notices)

39. The contractor was given several verbal instructions on how to improve the inconsistencies observed during the site visit within the URE-01 subprojects. Notices of non-compliance were not issued during the reporting period. A summary of the identified environmental issues for January-June 2019 is presented in table 5 below.

Table 5: Summary of Issues Tracking Activity for Current Period

Table 5: Summary Table Ure-01

| | |
|--|------------|
| Total Number of Issues for Project | 16 |
| Issues Opened This Reporting Period | 1 |
| Issues Closed This Reporting Period | 15 |
| Percentage Closed | 98% |

A. Trends

40. To identify trends in environmental issues information from previous Semi-Annual EMR (July-December 2018) is used. The summary of the issues is provided in the table 6 below.

Table 6: Summary of identified trends in environmental issues

| Semi-Annual EMR No | Total No of Issues | % issues Closed | % issues closed late |
|-----------------------|--------------------|-----------------|----------------------|
| 1. July-December 2018 | 15 | 97% | 2% |
| 2. January-June 2019 | 16 | 98% | 1% |

41. All major Non-Conformances under USIIP/T2 during the reporting period improved by contractor during the reporting period.

3.4 Unanticipated Environmental Impacts or Risks

N/A

IV. RESULTS OF ENVIRONMENTAL MONITORING

3.5 Overview of Monitoring Conducted during Current Period

42. During the reporting period Environmental measurements of Noise level and ambient air Quality were carried out by contractor under Kut-01 and Ure-01 projects.

43. Noise and air pollution standards defined by IFC/WHO 1999, are presented in the Table 7 and 8 below.

Table 7: Noise Level Guidelines

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

44. Air pollution standards by IFC/WHO 1999, are presented in the Table 9 below

Table 8: Air pollution Guidelines

| Contaminants | IFC/WHO Guideline Value (Limit mg/m ³) |
|--------------|--|
| 1 | 2 |

| Contaminants | IFC/WHO Guideline Value (Limit) (mg/m ³) |
|-------------------------------------|---|
| Inorganic dust | (*IFC does not have a standard for "inorganic dust". Instead IFC applies standards for PM2.5 and PM10). PM10 – 0,02/1 Year 0,05/24 Hour PM2,5-0,01/1 Year 0,025/24 Hour |
| Carbonic monoxide | n/a |
| Nitrogen dioxide (NO ₂) | 0,2/ 1 Hour 0,04/1 Year |
| Aldehyde | n/a |

45. Monitoring measurements under Ure-01 project was conducted by the National Environmental Agency under the MEPA in the nearest sensitive receptors to construction sites in 17 June 2019 (See Table 9 and Annex A). Location and data are included in the table below. The next monitoring measurements will be conducted in September 2019 and results will be reflected in the next July-December EMR 2019.

46. According to data received in June 2019 noise level does not exceed the standards required by National Regulations and World Health Organization (IFC/WHO),1999, and therefore no additional measures are required. IFC/WHO standards for Noise and Air pollution are presented in Tables 7 and 8 above. It should be noted also that measurements carried out at construction sites, were temporary and conducted during the daytime from 12:00pm to 15:00pm and no complaints were received from the local population about the noise during the reporting period.

Table 9: Monitoring Measurements under Ure-01 project

| N | Place of measurement | Samples # | Results | | | | | H ₂ S | Noise dBA Daytime 07:00 - 22:00 |
|---|---|-----------|------------------------|----------------------|-----------------------------------|-----------------------------------|------------------------|------------------|---|
| | | | Dust Mg/m ³ | CO Mg/m ³ | NO ₂ Mg/m ³ | SO ₂ Mg/m ³ | Saturated Hydrocarbons | | |
| | National Environmental Standard (Maximum Permissible Level) | | 0,5 | 5,0 | 0,2 | 0,5 | | | 55 Residential; Institutional; Educational 70 Industrial; commercial <i>Note: Please see IFC/WHO in table 4 above</i> |

| N | Place of measurement | Samples # | Results | | | | | H ₂ S | Noise dBA Daytime 07:00 - 22:00 |
|---|---|-----------|---------------------------|-------------------------|--------------------------------------|--------------------------------------|-------------------------------|------------------|--|
| | | | Dust Mg/m ³ | CO Mg/m ³ | NO ₂ Mg/m ³ | SO ₂ Mg/m ³ | Saturated Hydro carbons | | |
| 1 | The construction of Gabion at the left bank of Natanebi River X 0740449 Y 4646777 | 1 | 0.009 | 0.67 | 0,005 | <0,1 | <0,1 | <0,1 | 50.9 |
| | | 2 | 0.011 | 1.87 | 0,006 | <0,1 | 1 | <0,1 | 53.7 |
| | | 3 | 0.013 | 1.58 | 0,004 | <0,1 | 1 | <0,1 | 52.3 |
| | | 4 | 0.008 | 0.49 | 0,001 | <0,1 | <0,1 | <0,1 | 51.9 |
| 2 | Tsvermaghala The yard of Different purpose X 0730528 Y 4649416 | 1 | 0.012 | 1.96 | 0,006 | <0,1 | <0,1 | <0,1 | 48.4 |
| | | 2 | 0.018 | 1.87 | 0,007 | <0,1 | <0,1 | <0,1 | 49.3 |
| | | 3 | 0.014 | 1.02 | 0,007 | <0,1 | <0,1 | <0,1 | 47.8 |
| | | 4 | 0.009 | 0.67 | 0,003 | <0,1 | <0,1 | <0,1 | 42.4 |
| 3 | Magnititi X 0728774 Y 4652200 | 1 | 0.009 | 0.81 | 0,004 | <0,1 | <0,1 | | 41.3 |
| | | 2 | 0.010 | 0.96 | 0,003 | <0,1 | <0,1 | | 44.5 |
| | | 3 | 0.012 | 1.31 | 0,008 | <0,1 | <0,1 | | 44.7 |
| | | 4 | 0.007 | 0.76 | 0,002 | <0,1 | 0 | | 40.9 |
| 4 | Shekvetili X 0729706 Y 4644930 | 1 | 0.010 | 0.34 | 0,002 | <0,1 | <0,1 | | 41.5 |
| | | 2 | 0.011 | 0.47 | 0,002 | <0,1 | <0,1 | | 42.0 |
| | | 3 | 0.012 | 0.49 | 0,003 | <0,1 | <0,1 | | 41.5 |
| | | 4 | 0.010 | 0.42 | 0,004 | <0,1 | <0,1 | | 41.8 |

3.6 Trends

47. Noise level and Ambient Air Quality in the framework of the URE-01 project meet national and international standards, and no further deterioration is expected.

4.3 Summary of Monitoring outcomes

48. According to data received during the reporting period noise level and ambient air quality do not exceed the standards required by National Regulations and World Health Organization (IFC/WHO),1999, therefore no additional monitoring is needed.

4.4 Material resources Utilization

4.4.1 Current Period

49. The table 10 below provides utilization of water and electricity during the reporting period under URE-01 project only.

Table 10: Material Resources Utilization under URE-01 project

| Water and Electricity meters indication use on the UWSCG's Head Office Construction Site Tbilisi University Street No 006/003 | |
|--|--------------------|
| Water M ³ Indication | 864 M ³ |
| Electricity KV Indication | 130434 kWh |
| | |

4.4.2 Cumulative Resources Utilization

N/A

4.5 Waste Management

4.5.1 Current Period

50. At the construction sites there are mainly produced household, construction (inert, surplus soil) and hazardous waste.
51. Mainly household waste is collected in municipal containers. Amount of generated household waste is 42000kg during the reporting period.
52. The household waste that is allocated at the construction site is removed for its final disposal that is managed by formal agreement with local municipality or Ltd "Solid Waste Management Company". An Acceptance-Delivery Act is existing between CC and Sub-contractor Company.

4.5.2 Cumulative Waste Generation

N/A

4.6 Health and Safety

4.6.1 Community Health and Safety

53. URE-01 HSE Manager Mr. Mamia Mikiashvili is performing every day monitoring, induction and supervision of ongoing works according to HSE standards and by requirements of ADB/UWSCG/EPTISA.
54. Health & safety and environment issues which were covered during the reporting period are as follows:
- PPE;
 - Ground works;

- Manual works;
- Removal waste;
- Induction all visitors
- Toolbox Talk
- Upgrade Safety Hard and Warning Barricade

55. No community incidents have been reported to SC during reporting period

4.6.2 Worker Safety and Health

56. H&S specialist keeps the incident/Accident and Near Misses Log. book at construction sites. No workers incidents have been reported to SC during reporting period. Contractor companies are currently working on compilation of statistics information (incidents, near misses, trainings) during reporting period that will be communicated to SC for the next reporting period.

4.7 Training

57. Routine personnel trainings and toolbox talks happen by the construction companies almost on daily basis. The recording of such toolbox talks are available at the sites. SC also provides routine instructions and verbal trainings for construction company environmental officers. Statistics of routine toolbox talks will be communicated by the construction companies during next reporting period.

V. FUNCTIONING OF THE SEMP

5.1 SEMP Review

58. Location Specific Environmental Management Plan under T2 were prepared only for REG-02/Anaklia WWTP and URE-01 sub-projects. All SEMP's were prepared by Contractor, endorsed by SC, reviewed/commented by the RETA International-Regional Environmental Consultant of ADB under RETA 8663 - Ms. Ketii Dgebuadze and reviewed/ approved by UWSCG.

59. The following SSEMPs were prepared by contractor, within the framework of REG-02/Anaklia WWTP sub-project:

REG-02

- SSEMP Anaklia WWTP (May 2015)

60. The following SSEMPs were prepared by contractor, within the framework of Ure-01, project during the previous reporting periods:

URE-01:

- Ureki Well Fields (June 2016);
- Reservoir#1 (June 2015);
- Water Supply Pumping Station (June 2015);
- Reservoir #3 (May 2018);
- Natanebi River Protection Gabion Construction (November 2018);
- Natanebi River Crossing Aqueduct Construction (November 2018)

VI. GOOD PRACTICE AND OPPORTUNITY FOR IMPROVEMENT

6.1 Good Practice

N/A

6.2 Opportunities for Improvement

N/A

VII. SUMMARY AND RECOMMENDATIONS

7.1 Summary

- 61.** During the reporting period, construction work was carried out only as part of the URE-01 project. Construction work within the framework of the MES-01, MES-02 and REG-02 /Anaklia WWTP projects has already been completed. Post-construction environmental audit reports for MES-01, MES-02, REG-02/Anaklia WWTP were prepared by Independent Consultants and approved by ADB during the previous reporting period.
- 62.** Day-to-day monitoring of the construction sites were carried out by the environmental Specialists of Contractor Mr. Levan Asabashvili, weekly checklists were filled out and monthly monitoring reports were developed and sent to Supervision Consultant.
- 63.** Environmental Monitoring Specialist of EPTISA, Mr. Irakli Legashvili conducted monthly monitoring of project sites under T2 and developed Non-Conformance Notice if required. He also developed quarterly environmental monitoring reports based on the monthly reports submitted by Contractor and environmental site inspections and submit to UWSCG.
- 64.** The monitoring activities included monitoring of compliance of construction activities to the IEE/EMP and SEMP requirements under URE-01 sub-project.
- 65.** 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 EMRs and submitted to ADB based on the quarterly reports prepared by SC and monitoring results.
- 66.** Also unscheduled monitoring visits were carried out and non-compliance notes has been issued to the contractor as needed. Mitigation measures in order to reduce major environmental impacts have been instructed to CCs during the monitoring visits as well.
- 67.** In accordance with the IEE, and the accompanying Environmental Monitoring Plan (EMP), the Contractor is required to undertake parametric measurements and observations on air quality and noise.

7.2 Recommendations

- 68.** During the reporting period, from January to June 2019, the T2 of Investment Program was implemented in accordance with ADB SPS 2009 and the requirements of National Legislation.

69. More detailed recommendations for the implementation of T2 during the next reporting period July-December 2019 are provided in the table 11 below:

Table 11: Recommendations to Address Environmental Issues under Ure-01 project

| Recommendations Ure-01 project | |
|---|---|
| Ure-01 | |
| Site internally should be arranged properly and cleaned regularly | Contractor was given strong instruction to improve the situation within the 2 working days and keep improved Standards on sites |
| | |

70. Conduct monitoring of Ambient Noise and Air quality under Ure-01 project at the nearest sensitive receptors in September 2019.

Table 11: The Specific Plan for Environmental Measurement under Ure-01 Project

| Parameters | Quarterly measurement |
|------------------|-----------------------|
| Dust | September 2019 |
| Vibration | September 2019 |
| Carbon monoxide | September 2019 |
| Nitrogen dioxide | September 2019 |
| Sulfur dioxide | September 2019 |
| Noise | September 2019 |

ANNEX A: MEASUREMENT DATA

**Concentration of harmful substances in atmospheric
Ltd "Feri" 17 June 2019**

| Samplin place coordinates | Sample N | Noise DB | Concentration mg/m ³ | | | | | |
|--|----------|----------|---------------------------------|-----------------|----------------------------------|-------|--------------------------------|-----------------------------------|
| | | | Saturated hydrocarbons | Carbon oxide CO | Nitrogen dioxide NO ₂ | Dust | Sulfur dioxide SO ₂ | Hydrogen sulfide H ₂ S |
| The construction of gabions at the left bank of the river Natanebi X 0740449 Y 4646777 | 1 | 50.9 | <1 | 0.67 | 0,005 | 0,009 | <0,1 | <0,1 |
| | 2 | 53.7 | 1 | 1.87 | 0,006 | 0,011 | <0,1 | <0,1 |
| | 3 | 52.3 | 1 | 1.58 | 0,004 | 0,013 | <0,1 | <0,1 |
| | 4 | 51.9 | <1 | 0.49 | 0,001 | 0,008 | <0,1 | <0,1 |
| Tsvermaghala, the yard of different porpose X0730528 Y4649416 | 1 | 48.4 | <1 | 1.96 | 0,006 | 0,012 | <0,1 | <0,1 |
| | 2 | 49.3 | <1 | 1.87 | 0,007 | 0,018 | <0,1 | <0,1 |
| | 3 | 47.8 | <1 | 1.02 | 0,007 | 0,014 | <0,1 | <0,1 |
| | 4 | 42.4 | <1 | 0.67 | 0.003 | 0.009 | <0,1 | <0,1 |
| Magnetiti, Installation of water meter X0728774 Y4652200 | 1 | 41.3 | <1 | 0.81 | 0,004 | 0,009 | <0,1 | <0,1 |
| | 2 | 44.5 | <1 | 0.96 | 0,003 | 0,010 | <0,1 | <0,1 |
| | 3 | 44.7 | <1 | 1.31 | 0,008 | 0,012 | <0,1 | <0,1 |
| | 4 | 40.9 | 0 | 0.76 | 0,002 | 0,007 | <0,1 | <0,1 |
| Shekvotili, Installation of water meter X 0729706 Y 4644930 | 1 | 41.5 | <1 | 0.34 | 0,002 | 0,010 | <0,1 | <0,1 |
| | 2 | 42.0 | <1 | 0,47 | 0,002 | 0,011 | <0,1 | <0,1 |
| | 3 | 41.5 | <1 | 0.49 | 0,003 | 0,012 | <0,1 | <0,1 |
| | 4 | 41.8 | <1 | 0.42 | 0,004 | 0,010 | <0,1 | <0,1 |

Executors:
Head of Division
Main Specialist

Agreed:
Acting Head of Environmental Pollution
Monitoring Department



Handwritten signature
G. Kargareli
O. Yenia

T. Maghlakelidze

ANNEX B: PROJECT PHOTOS

Photo: Construction of the Water Supply Network in Ureki (Ure-01)

Well Fields - Water Well N4



River Natanebi Gabion Protection Wall





Reservoir N1

