



BI -ANNUAL ENVIRONMENTAL MONITORING REPORT

*Project Number: 43405
July-December 2013*

March 2014

Georgia: Urban Services Improvement Investment Program (Tranche 2)

Financed by the ADB

PREPARED BY "UNITED WATER SUPPLY COMPANY OF GEORGIA", LLC

TBILISI, GEORGIA

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

ABBREVIATIONS

ADB	Asian Development Bank
EA	Executing Agency
EARF	Environmental Assessment and Review Framework
EIA	Environmental Impact Assessment
EIP	Environmental Impact Permit
EMP	Environmental Management Plan
GoG	Government of Georgia
USIIP	Urban Sector Improvement Investment Program
IA	Implementing Agency
IEE	Initial Environmental Examination
MDF	Municipal Development Fund
MFF	Multi-tranche Financing Facility
MoE	Ministry of Environmental Protection
MoRDI	Ministry of Regional Development & Infrastructure
UWSCG	United Water Supply Company of Georgia

Contents

I. INTRODUCTION	4
A. Construction activities and Project Progress during previous 6 months	6
B. Environmental Management Team	6
C. Project Organization	10
II. Environmental Monitoring.....	10
A. Air quality	11
B. Noise	11
C. Loss of top soil.....	11
D. Water quality	11
E. Baseline Data	12
MESTIA Water and Sewerage Networks (Contract MES-02)	12
B. Noise	12
C. Water quality	12
III. Environmental management	14
A. Site Inspections.....	14
B. Reporting.....	14
C. Corrective Action Plans.....	14
IV. Conclusions and Recommendations	14
V. Action Plan for the Next Period.....	15
ANNEX A: MONITORING DATA	16
ANNEX B: CORRECTIVE ACTIONS INSTRUCTED BY SUPERVISION CONSULTANT AND UWSCG.....	23

I. INTRODUCTION

1. The present Bi-annual Environmental Monitoring Report covers the time period from July 2013 till December 2013.
2. 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 will be financed by the ADB through its Multi-tranche Financing Facility. Ministry of Regional Development and Infrastructure is the Executing Agency and United Water Supply Company of Georgia, LLC is the Implementing Agency of the Investment Program. UWSCG is a 100% state-owned company.
3. 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.
4. Tranche 2 of the Investment Program includes the construction of Anaklia and Mestia Water Supply and Sewerage Distribution Networks, and the construction of Anaklia Wastewater Treatment Plant.
5. The following projects are financed under Tranche 2:

ANAKLIA Water and Sewerage Networks (Contract ANA-01). The construction involves 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 are scheduled to be completed on 31st March 2014. The proposed Bi-Annual Environmental Monitoring Report is prepared considering the time period from July 2013 to December 2013.

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 Contract for Construction of Mestia Water Supply and Sewerage Distribution Networks was signed with Joint Venture of New Energy LTD – Georgia and Enguri 2006 LTD – Georgia (From 11 April 2013 the name of Enguri 2006 LTD has been changed into - New Construction LTD) in October 2011. Works are scheduled for completion during Q2-2014.

ANAKLIA Wastewater Treatment Plant (Contract REG-02): The scope of works includes the construction of a Wastewater Treatment Plant (the treated wastewater to be discharged into Enguri River). The bidder is required to bid for the design and construction of the first stage of a modular wastewater treatment plant (WWTP) in Anaklia. The design is to cater for the full flow and pollution loads for the 2040 population equivalent of 25,611PE but the first stage of construction is to provide all treatment processes for only half of the flow and loads calculated for 2040. In addition to the WWTP, the Contractor shall design and build the pressure lines leading from the collector network to the WWTP and from the WWTP to the outlet into the river.

As REG-02 is a two-stage bidding process, the evaluation of technical proposals has been completed and the Evaluation Report has been submitted to ADB for no-objection. After completion of the technical evaluation stage the responsive bidders will be invited for submission of financial bids. Contract award is planned for the third quarter of 2014.

6. The Project's Environmental Impact Monitoring and Mitigation is carried out in accordance with the Environmental Management Plans prepared by the contractor. The construction activities affecting the environment are as follows: (As the contract for REG-02 has not been awarded as of this reporting period, only ANA-01 and MES-02 are reported on in this report)
 - a. Contractor's mobilization and site installation;
 - b. Excavation works;
 - c. Removal of soil;
 - d. Pipe installation;
 - e. Surface water drainage during rains;
 - f. Backfilling and compaction.

7. The following items are monitored during the implementation of the project:
 - a. Air Quality;
 - b. Noise;
 - c. Loss of Top Soil.

8. The only parameters monitored during the construction period were dust control to keep air quality at acceptable level, noise and loss of top soil. Dust and noise control issues are working positively to avoid complains from local residents.

9. The subproject construction sites under both Contracts 1 and 2 are located in Government-owned land. There are no protected areas, wetlands, mangroves, or estuaries. A land Acquisition and Resettlement Plan was prepared and approved during the reporting period for the purchase under contract MES-02 of a small land parcel for the future installation of sewerage pump station #2. Trees,

vegetation (mostly shrubs and grasses), and animals in the subproject sites are those commonly found in built-up areas.

A. Construction activities and Project Progress during previous 6 months

10. **ANAKLIA Water and Sewerage Networks** (Contract ANA-01). Overall physical progress of the work is 88.4%. The detailed activities which were carried out by the Contractor of ANA-01 in the past 6 months (July- December 2013) are as follows:

- Cleaning, flushing and disinfection of water pipes: 57.5 km (100% completed)
- Water quality tests for water system before commissioning
- Installation of water connection/meter: 418 nos. (cumulative 1,180 nos, 100%)
- Water tightness test for gravity sewer pipes: 43.3 km (100 % completed)
- CCTV Inspection for sewer pipes: 43.3 km (100 % completed)
- Installation of inception sewer shafts: 55 nos. (cumulative 919 nos, 100%)
- Installation of sewerage pumping stations: 37 nos. (cumulative 40 nos.)
- Surface reinstatement (water/sewerage): 400 m2 (cumulative 100%)
- Top-soiling and grassing along trenches & manholes: 95 m3 (cumulative 88%)
- Construction of Service Center building: 40% works completed
- Drilling of production tubewell at SC building: started (Dec. 2013)

11. **MESTIA Water and Sewerage Networks** (Contract MES-02). Overall physical progress of the work under is 73%. The activities which were carried out by the Contractor in the past 6 months (July - December 2013) are as follows:

- Installation of water mains: 27.25 km completed (cumulative 34.47 km, 92%)
- Installation of service connections: 210 nos. (cumulative 305 nos, 29 \%)
- Water tightness test for gravity sewer pipes: 7.6 km (cumulative 7.6 km, 21%)
- CCTV Inspection for sewer pipes: 10.1 km (cumulative 10.1 km, 28 %)
- Installation of sewerage manholes: 522 nos. (cumulative 1179 nos, 104%)
- Construction of Service Center building: 30% works completed

B. Environmental Management Team

(A) Agencies Involved in Investment Program Implementation

12. Following agencies are involved in implementing the Investment Program: (i) Ministry of Regional Development and Infrastructure (MoRDI) is the Executing Agency responsible for management, coordination and execution of all activities funded under the loan. MoRDI has overall responsibility for compliance with loan covenants.

13. United Water Supply Company of Georgia (UWSCG) is the project Implementing agency, which is responsible for administration, implementation (design, construction and operation) and all day-to-day activities under the loan. An Investment Program Management Office (IPMO) is established within the UWSCG for all Investment Program related functions. The IPMO, which is the Project Management and International Relations Department at UWSCG will coordinate

implementation of subprojects across all towns, and ensure consistency of approach and performance.

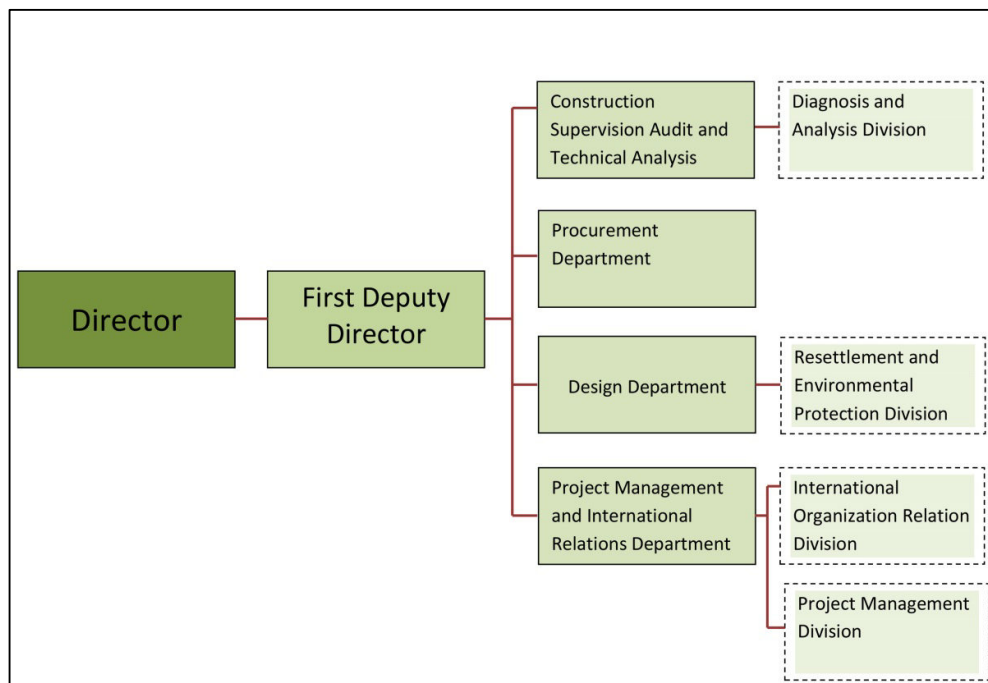
14. The UWSCG created a Division of Resettlement and Environmental Protection under the Design Department. Mr. Beso Nibladze is Head of the Division. UWSCG/DREP employs Mr. Badri Tsatava on the position of senior environmental specialist. UWSCG/DREP is responsible for monitoring of EMPs under the each subproject and implementation of mitigation measures in compliance with environmental safeguards requirements.
15. An environmental specialist (ES) Ms. Ketevan Chomakhidze is hired by UWSCG to support DREP in USIIP programs implementation in compliance with the, ADB Safeguard Policy Statement, 2009 and National Legislation.
16. The tasks of ES other responsibilities include: Providing day-to-day guidance and advice on environment safeguard compliance issues for the DREP; Screening for the presence of rare, threatened, or endangered species, and other ecologically-sensitive habitats and related issues; Identifying socio-cultural and economical characteristics, including identification of possible cultural heritage and archaeological sites, and management of associated impacts; Undertaking consultations with affected people and stakeholders in the project area during the environmental assessment study to explore their perceptions, suggestions and acceptance of the project, and the preparation of a record of the public consultations; preparing of Bi-annual Environment Monitoring Reports for all projects under the Investment Program.
17. UWSCG contracted Design Consultant – Kocks to assist the Implementing Agency in conducting all activities (planning, design and contracting), in compliance with the EARF, ADB Safeguard Policy Statement, 2009 and National Legislation. In particular, undertake the IEE/EIA study to assess the direct and indirect environmental impacts of the project; prepare the IEE/EIA report in accordance with ADB's Safeguard Policy Statement (2009); prepare Environmental Management Plans; conduct formal public consultations with affected people; integrate construction related measures including EMP into contract documents.
18. UWSCG as responsible IA for the project recruited a Supervision Consultant (SC) - Eptisa. The national and international team of SC assists UWSCG in conducting all activities during the construction of infrastructure, in compliance with the EARF, ADB Safeguard Policy Statement, 2009 and National Legislation, including: monitoring of implementation of EMPs and mitigation measures by contractor; identifying remedial actions for unanticipated impact; preparing reports on implementation of EMP and its effectiveness. SC employs an experienced Environmental Management Specialist (EMS) Mr. Irakli Legashvili. The main task of EMS is to conduct routine observations and surveys of subproject's sites, and prepare information on the quarterly bases that is part of SC quarterly progress reports.
19. The SC also provides capacity building training to contractor staff for management and operation of the investment program.

20. UWSCG selects contractors for construction activities. Contractor is responsible to implement all mitigation measures during construction that will be monitored by the Supervision Consultant and UWSCG/DREP.
21. The Contractor to fulfill its obligations employs an Environmental consultant responsible for developing and implementing the construction phase EMPs and for provision of corresponding information to UWSCG and SC; Contractor's environmental specialist prepares site specific EMPs (SEMPs). SEMP is endorsed by SC and approved by UWSCG.
22. Environmental management organization is shown in Figure 1 and Figure 2.

(B) Organizational structure of the Project's Environmental Management System

Figure 1.

Structure Diagram of the Environmental Management Unit of UWSCG



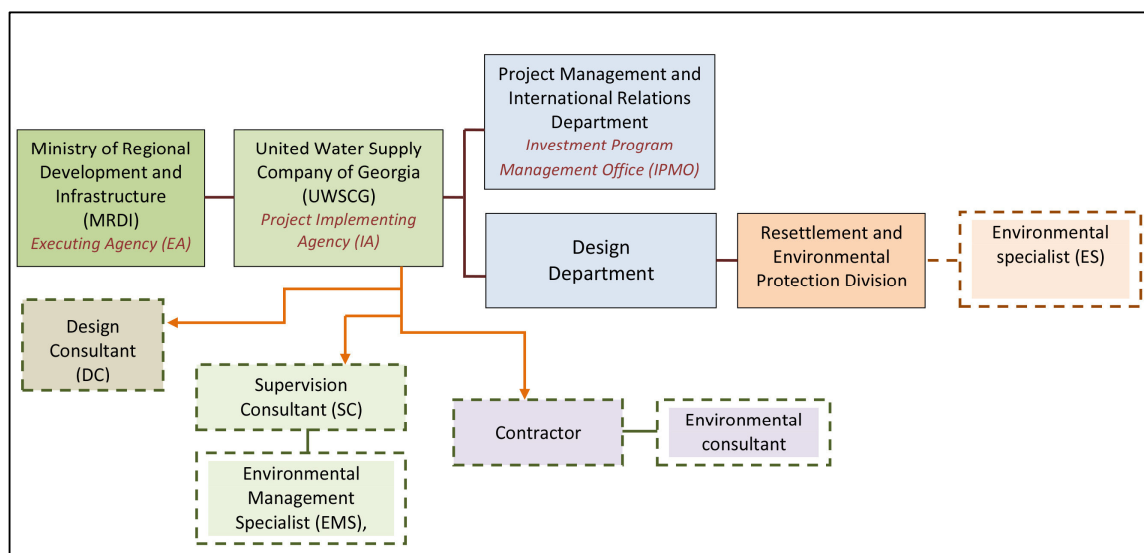


Figure 2. Structure Diagram of the Agencies Involved in Investment Program Implementation

(C) Awareness and trainings

23. Environmental safeguards Training Course was conducted by Ltd “Eco-Spectri” on “Improving of Environmental Safeguards in Central and West Asia” on July 1-2, 2013 in Tbilisi. Training was financed by ADB. Training objectives include: ability to incorporate environmental management requirements into tender and contract documents and ability to prepare and assess site-specific environmental management plans (SEMP). UWSCG/DREP and Eptisa environmental team, representatives of contractors’ environmental personal from New Construction LTD and Cobra attended the training.
24. In addition, three environmental trainings were conducted by Eptisa, in close collaboration with UWSCG/environmental specialist during the reporting period in mid August and early November. Trainings were attended by staff of contractors, including site engineers, environmental specialists as well as representatives of UWSCG/DREP. Before starting training presentations and handouts have been prepared. The purposes of these trainings were to introduce new rules in environmental safeguards (developed by ADB), in particular, prepare Site-Specific Environmental Management Plans and environmental monitoring plans.
25. An intensive awareness campaign was carried by UWSCG from September to December 2013 based on a Public Awareness Strategy developed by the awareness specialist of Eptisa and Customer Relation Division of UWSCG. The campaign included door-to-door visits by awareness specialists and an awareness NGO recruited by UWSCG, distribution of leaflets, community consultations, public meetings and media campaigning with several TV and radio broadcasting activities. Preparation of Public Awareness Strategy and

consolation with prospective NGOs to launch a campaign in Spring 2014 under contract MES-02 was also made by Eptisa and UWSCG.

Grievance redresses mechanism (GRM)

- 26. Implementation of grievance redress mechanism is clearly defined in approved IEEs under USIIP. The grievance redress mechanism implementation includes the following main steps: structure of GRM implementation of operation; Administrative and functional distribution of responsibilities; clear steps on information (complaints) treatment and flow within UWSCG and ADB.
- 28. UWSCG on its part, is responsible to provide a direct channel to the affected and concerned citizens for approaching project authorities and have their grievance recorded and redressed in an appropriate time frame.
- 29. The DREP at the head office of UWSCG is available for the local complaint cells for establishing direct links to relevant environmental authorities.
- 30. No complaints by local population were received during the reporting period.

C. Project Organization

- 31. Project organization for the awarded contracts listed above is given in the table below

Contract #	Employer	Contractor
Contract-1 (UWSC/ICB/CW/2012/ANA-01)	UWSCG	Joint Venture of Peri Ltd and Modern Business Group LLC
Contract -2 (UWSCG/ICB/CW/2011/MES-02)	UWSCG	Joint Venture of New Energy LTD – Georgia and Enguri 2006 LTD (From 11 April 2013 the name of Enguri 2006 LTD has been changed into - New Construction LTD)

II. ENVIRONMENTAL MONITORING

- 32. During the last six months no environmental issues or complaints were received from the local residents.
- 33. The Contractor kept records of environmental safety, environmental considerations at the construction sites, air quality, noise and loss of top soil. Within the reporting period, no adverse environmental impacts related to the works were noted or observed.
- 34. Within the reporting period, contractor monitored and addressed the issue of air quality, noise and loss of top soil.

35. During the reporting period several joint site visits have been carried out by the members of UWSCG/DREP, together with the representatives of local service centers and responsible persons for the environmental management from contractor's side.
36. Independent supervision and on-site monitoring of the Environmental Management Plan has been undertaken by Eptisa's environmental specialist, Mr. Irakli Legashvili, who regularly visited the sites.
37. The monitoring of EMP had been carried out by the environmental specialist of UWSCG on a regular basis as well.

ANAKLIA Water and Sewerage Networks (Contract ANA-01).

A. Air quality

38. Material (aggregate, sand and top-soil) was brought to the site when required. Speedy completion of work and proper site clearance after completion are ensured. Wheels and undercarriage of haul trucks were washed prior to leaving construction site.
39. In order to limit soil disturbance, the access to the site was limited to construction workers and the site was fenced.

B. Noise

40. The Contractors employed practical means to minimize noise resulting from construction work. The plan of transportation routes were agreed with Municipality and Police.
41. Drivers were informed to limit speed to 20-25 KPH to avoid use of horn in the town. Local population was informed about project works. No nighttime activities took place.

C. Loss of top soil

42. Topsoil and reinstatement works were carried out along road trenches and around service manholes, both in public and private domains of contract ANA-01.

D. Water quality

43. Bacteriological ater sampling and analyses was carried out at the commissioning stage of ANA-01. As a result of minor contamination of the raw water from the 2 production wells the disinfection and flushing of the wells and distribution network were carried out through super-chlorination of the facilities to ensure the safety of distributed water. A second round of sampling after chlorination indicated an acceptable level of residual chlorinate in all part of the network.. Water quality is now in compliance with Georgian and European water quality regulations and the system is now commissioned..

E. Baseline Data

44. No baseline data is provided in IEE of Anaklia WWS project for air and noise. As the main construction works are finalized project has modest impact on environment that may be easily mitigated, therefore monitoring was limited to inspections to verify compliance with mitigation requirements.

MESTIA Water and Sewerage Networks (Contract MES-02)

A. Air Quality:

45. Material (aggregate and sand) was brought to the site when required. Some sections of the pipeline works and reservoir works were not completed as per agreed schedule by Contractor.
46. Site clearance and reinstatement after backfilling trenches remained partially completed.
47. Dust was controlled through watering the roads where driving could easily generate dust. Tarpaulins were used to cover loose materials that were transported to and from the site by trucks.

B. Noise

48. Drivers were informed to limit speed 20-25 KPH to avoid use of horn in the town.
49. No nighttime activities took place.

C. Water quality

50. No water sampling and analyses program was carried out during the reporting period; however, it is suggested that a program of sampling and analysis should be established at Lanchavil reservoir site by measuring residual chlorine level once the final section of transmission pipeline is completed in Spring 2014. If commissioning of the network system occurs during the next period, a sampling and analysis of residual chlorine shall also be made during the pre-commissioning tests (before the customers are connected) to ensure there will be no public risks for consumers.
51. At the initial stage of USIIP inception, construction of WWTP in Mestia was envisaged. UWSCG developed EIA of Treatment Plant and MoE issued Environmental Permit for the Construction in 2011. Then previous government agreed with ADB exclusion of the component from the investment program. As the result, if not immediate actions waste water in Mestia will be directly

discharged in Mestiachala river until construction of the WWTP. Based on above mentioned UWSCG instructs EPTISA to conduct a full feasibility study for wastewater treatment at the foreseen location. The study will explore the various options for treatment process, equipment suitability and cost (e.g. bioreactor plant type similar to BIOTAL or a small activated sludge plant) and the land requirements for each option.

D. Note on Air and Noise Quality Monitoring

52. No baseline data is provided in IEE of Contract MES-02 project for air and noise. Project has modest impact on environment that may be easily mitigated, therefore monitoring was limited to inspections to verify compliance with mitigation requirements.

Mobilization of Contractor

53. In order to complete construction works before the onset of winter time (and thus speed up disbursement for MES-02), maximum mobilization of human and technical resources was undertaken by the Contractor. 115 workers were mobilized during the reporting period for both Mes-01 (MESTIA Water Supply Headworks) and Mes-02 projects. Both projects are implemented by New Construction LTD. Workers were distributed among the various project sites, such as: headworks, reservoirs, water and sewerage networks, etc. Despite the fact that Mestia is a small town construction sites are quite a way from each other, thus mobilization of such number of workers was reasonable in terms of environmental impact. Furthermore the 115 workers were spread among various teams: (i) workshops: 2 workshops were set up, one 19 km south of Mestia near the batch plant for production of sewerage manholes and valve chambers (staffed by 20-25 staff in permanence) and another workshop for mechanical and piping works located at the central storage near Zarghasi site (staffed by 12-15 people with the storekeepers); (ii) operational teams (60-70 teams on average) which constitute the bulk of the workers incl. excavation crews, pipe laying and welding crews, pipe testing crew; CCTV operators, pipeline mechanics for the installation of valves and appurtenances; house connections and metering crews; etc; incl. (iii) machine operators/mechanics (average 18-20 drivers of JSB, front loaders, etc); (iv) design team (4 members) dealing with the as-build drawings and (v) management team incl. the project manager, 3 site managers and 1 superintendent engineer in charge of logistics and administration
54. It should be mentioned that, despite the fact that maximum amount of workers have been mobilized during the reporting period, environmental team of contractor, supervision consultant and the UWSCG did their maximum to minimize the negative impact on the environment and to strictly follow requirements of the EMPs.
55. A comprehensive environmental trainings have been carried out by Eptisa in close collaboration with UWSCG/environmental specialist in mid August and

early November, for the Contractor's staff. Before starting the trainings training manual and handouts have been prepared. The purpose of the training was to introduce new rules in environmental safeguards developed by ADB, in particular, preparation of Site-Specific Environmental Management Plans and environmental monitoring plans. List of attendance and the agenda of the trainings are attached to the proposed report.

56. Mr. Giorgi Bichiashvili and Mr.Gaga Tkemaladze attended also training course on "Improving of Environmental Safeguards in Central and West Asia " financed by ADB and carried out by Ltd "Eco-Spectri" (Georgia) together with the environmental team of UWSCG and Eptisa.

III. ENVIRONMENTAL MANAGEMENT

A. Site Inspections

57. UWSCG and Eptisa visited the project sites regularly and instruct and guide contractor on Environmental Safeguard issues. Contractor's environmental specialist performed daily site inspections and monitor implementation of mitigation measures per EMPs.

B. Reporting

58. Eptisa develops quarterly progress reports, including environmental monitoring and submits to UWSCG. The UWSCG/environmental specialist prepares bi-annual and annual environmental monitoring reports based on the information submitted by the Contractor and Supervision Consultant and the regular monitoring of the sites.

C. Corrective Action Plans

59. Several corrective actions were recommended during the reporting period of July 2013 – December 2013 by the environmental specialist of Eptisa and UWSCG/environmental team. The actions are summarized in the list of inspection notes (See Annex C).
60. Annex A provides information about the assessment of the implementation of mitigation measures against EMP. Inconsistency of the implementation of EMPs were corrected by the Contractor on the basis of corrective actions recommended by Eptisa and UWSCG.

IV. CONCLUSIONS AND RECOMMENDATIONS


61. As presented in this report, tranche-2 of this Investment Program is being implemented in compliance with the ADB Safeguard Policy Statement, 2009, National Legislation and overall EARF.


62. Necessary instructions have been given to the Contractor by UWSCG and SC to follow the Environmental Management Plan for Ana-01 and Mes-02 projects.



V. ACTION PLAN FOR THE NEXT PERIOD

63. Conduct public awareness campaign in Spring 2014 under contract MES-02 by Eptisa and UWSCG.
64. Conduct a full feasibility study for wastewater treatment in Mestia.
65. Update IEE for Mestia Waste Water component based on the feasibility study.
66. Carry out post construction audit by the independent environmental audit for Ana-01 project and audit results reflect in the next EMRs.

ANNEX A: MONITORING DATA

No	Impacts	Required actions	Corrective actions	Status
Anaklia Site				
Construction				
1	Impacts caused by excavation and generation of waste soil	Utilize surplus/waste soil for other construction activities or to raise the ground-level of low level sites	Main excavation/refilling works are accomplished, hence there is no surplus/waste soil available	Corrected
2	Loss of top soil	Top soil of about 1 ft depth (0.3 m) shall be removed and stored separately during excavation work, and after pipeline construction the same soil shall be replaced on the top	In spite of the fact that main construction activities are finalized still there remain some reinstatement activities to be done Filled trenches are mostly covered with local vegetation	Corrected partially. 
3	Impact on air quality due to dust generation	Ensure speedy completion of work and proper site clearance after completion; Restricted access to the work area except workers to limit soil disturbance and prevent access by fencing the site	The main construction works are finalized, hence there is no excavation/refilling, transportation of inert materials, movement of heavy trucks, that brings the risk of dust generation to the minimum level It should be mentioned that some other construction companies also are operating near to the same territory that sometimes cause dust generation	Corrected.
4	Removal of vegetation/trees for	In unavoidable cases, plant two trees of same species for each tree	No tree, bush or vegetation cover was removed in the reporting	Corrected partially.

No	Impacts	Required actions	Corrective actions	Status
	construction and impacts due to presence of open trenches	that is cut for construction; Bushes and grasses shall be cleared only in actual construction area all other preparatory works (material storage) shall be conducted on barren lands where there is no vegetation;	period except in the private properties of customers to allow installation of water and sewerage manholes.	
5	Disturbance/nuisance/noise due to construction activity including haulage of material/waste	Plan transportation routes in consultation with Municipality and Police; Schedule transportation activities in a way to avoid peak traffic periods; No nighttime construction activities including material/waste haulage;	Since main construction activities are finalized there is minimum noise generation	Corrected.
6	Safety risk for local residents and workers	Ensure that all workers are provided with and use safety - helmets, hand gloves, boots, masks, safety belts (while working at heights etc);	Contractor's safety advisor controlled the sites. All workers were equipped with relevant PPE. Safety belts were not required as there were no works performed on heights. No accident was reported;	Corrected 

No	Impacts	Required actions	Corrective actions	Status
Mestia Site (MES-02)				
Construction				
1	Impacts caused by excavation and generation of waste soil	Utilize surplus/waste soil for other construction activities or to raise the ground-level of low level sites	Surplus/waste soil is used for other construction activities, like repairing of roads and low level sites rising It should be noted that works are not always coordinated with relevant services of Municipality	Corrected partially. 
2	Loss of top soil	Top soil of about 1 ft depth (0.3 m) shall be removed and stored separately during excavation work, and after pipeline construction the same soil shall be replaced on the top	Reinstatement of top soil partly implemented with recommendations given by Eptisa and UWSCG/Environmental Specialist, however there are sites remained with additional reinstatement needs	Corrected partially. 
3	Erosion due to excavation/refilling	No trees to be removed on the slopes; clearing of shrub, bushes and grass to be limited to actual construction area only; no clearance is allowed for activities such as material/waste storage, concrete mixing, etc.; Proper compaction of	Some compaction works are done, but there is no practices of planting local grass on the refilled tranches	Corrected partially.

No	Impacts	Required actions	Corrective actions	Status
Mestia Site (MES-02)				
Construction				
		refilled soil: the material shall be refilled in layers and compacted properly layer by layer; In the steep slopes, local grass species shall be planted on the refilled trenches		
4	Impact on surface water bodies due to construction under rain	Complete pipe laying work in excavated stretches and refill before monsoon; Protect open trenches from entry of rain water by raising earthen bunds with excavated soil; Confine construction area including the material storage (sand and aggregate) so that runoff from upland areas doesn't enter the site; Ensure that drains are not blocked with excavated soil.	In most of cases during raining period excavation works are interrupted according to relevant instructions At the construction sites some trenches were observed to be left open for several days for the reason to undertake gravity and pressure tests of pipeline Because of some delays of filling tranches there were cases of over-flooding during rain time	Corrected partially.
5	Impact on air quality due to dust generation	Bring the material (aggregate and sand) as and when required; Ensure speedy completion of work and proper site clearance after completion; Use tarpaulins to cover loose material that is transported to and from the site by truck; Clean wheels and undercarriage of haul trucks prior to leaving	Since dry season is over dust generation becomes less intensive and does not require very frequent mitigation measures In some cases tarpaulins are used to cover loose material that is transported by truck No truck wheels cleaning is	Corrected partially.

No	Impacts	Required actions	Corrective actions	Status
Mestia Site (MES-02)				
Construction				
		<p>construction site; Restricted access to the work area except for workers to limit soil disturbance, and prevent access by fencing the site.</p>	<p>observed at the construction site, Mostly transport speed limit are considered for minimizing of dust generation</p>	
6	<p>Removal of vegetation/trees for construction and impacts due to presence of open trenches</p>	<p>Avoid tree cutting by small change of layout plan/alignment; Bushes and grasses shall be cleared only in actual construction area; all other preparatory works (material storage) shall be conducted on barren lands where there is no vegetation;</p>	<p>No tree, bush or vegetation cover was removed in the reporting period, except in the customer's private properties (removal of vegetation for installation of water and sewerage chambers or connections).</p>	Corrected.
7	<p>Disturbance to business, people, activities and socio-cultural resources due to construction work</p>	<p>Inform all residents and businesses about the nature and duration of any work well in advance so that they can make necessary preparations; Provide wooden walkways/planks across trenches for pedestrians and metal sheets where vehicle access is required; Increasing workforce to complete the work in minimum time in the town.</p>	<p>Verbal communication practices are established with local residents before commencement of any construction activities however no official communication done with residents and local organizations In most of cases crossing trenches by vehicle and people the metal or wooden temporary sheets are used at the applicable places</p>	Corrected partially.
8	Disturbance/nuisance	Earmark parking place for	Mainly informing public (local	Corrected

No	Impacts	Required actions	Corrective actions	Status
Mestia Site (MES-02)				
Construction				
	/noise due to construction activity including haulage of material/waste	construction equipment and vehicles when idling; no parking shall be allowed on the roads which may disturb the traffic movement; Provide prior information on works to local people; No nighttime construction activities including material/waste haulage.	residents) is undertaken verbally before works start The parking of vehicles is provided at the storage area that avoids disturbing traffic movement Night time construction activities are not observed	
9	Socio-economic benefits from employing local people in construction work	To the extent possible labor force must be drawn from the local community; Contractor should source at least 50% of unskilled labor force from local communities.	Due to the fact that local people are not interested to be involved in construction works averagely about 20-25% of the local population is employed in the works	Corrected partially.
10	Safety risk for local residents and workers	Follow standards and safe procedures for all activities – such as provision of shoring in deep trenches (>2 m); Exclude public from the site – enclose construction area, provide warning and sign boards, security personnel; Provide adequate lighting to avoid accidents; Ensure that all workers are provided with and use safety paraphernalia – helmets, hand gloves, boots, masks, safety belts (while working at heights, etc.);	At some construction sites no proper restriction access measures including signs are followed limited existence of safety signs around to open tranches poses some risk to local residents and cattle Despite of fact that labors have PPE in some cases workers do not wear it Within reporting period no	Corrected partially.

No	Impacts	Required actions	Corrective actions	Status
Mestia Site (MES-02)				
Construction				
			accident was reported Storage area is fenced and has security	

ANNEX B: CORRECTIVE ACTIONS INSTRUCTED BY SUPERVISION CONSULTANT AND UWSCG**ANAKLIA Water and Sewerage Networks** (Contract ANA-01).

Date	Reference of Inspection Note
08.08.2013	Environmental, Health & Safety Note
12.10.2013	Site supervision note
17.10.2013	Site instruction 021AN
28.10.2013	Site instruction 023AN

MESTIA Water and Sewerage Networks (Contract MES-02)

Date	Reference of Inspection Note
13.10.2013	Environment, Health & Safety Plan Monitoring 019
23.10.2013	Environment, Health & Safety Plan Monitoring 021
23.10.2013	Environment, Health & Safety Plan Monitoring 022
04.11.2013	Environment, Health & Safety Plan Monitoring 024
18.11.2013	Environment, Health & Safety Plan Monitoring 026
01.12.2013	Environment, Health & Safety Plan Monitoring 028