

GEORGIA URBAN ENERGY LTD



PARAVANI HYDROPOWER PROJECT

**ENVIRONMENT AND SOCIAL IMPACT ASSESSMENT REPORT
STAKEHOLDER ENGAGEMENT PLAN**

Prepared by SRF Gamma

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TITLE PAGE

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Contents

	Page
Glossary	1
1 Introduction	1
2 Project Description	1
3 Potential Environmental and Social Issues	6
4 Purpose of the Stakeholder Engagement Plan	8
5 Stakeholder Engagement - National and International Regulations and Requirements	9
5.1. Stakeholder Engagement - National Requirements for Public Participation	9
5.2. Stakeholder Engagement - EBRD Policy/IFC Performance Standard 1	10
5.3. International Conventions for Public Participation	11
6 Project Stakeholders	11
7 Summary of Previous Stakeholder Engagement Activities	13
8 Future Consultation Activities	16
9 Disclosure of documentation	17
10 Public notification	18
11 Resources and Responsibilities	18
12 Grievance Mechanism	19
13 Monitoring and Reporting	21
14 Contact Details for the Public	21
ANNEX 1. LIST OF STAKEHOLDERS (HPP and Transmission Line components)	22
ANNEX 2. PUBLIC GRIEVANCE LEAFLET	24
ANNEX 3. SCHEDULE OF STAKEHOLDER CONSULTATIONS	27
ANNEX 4. PARAVANI HPP _MINUTES OF MEETINGS	28
ANNEX 5. PARAVANI HPP _AKHALTSIKHE TRANSMISSION LINE _MINUTES OF MEETINGS	32
ANNEX 6. LEAFLET _TRANSMISSION LINE SAFETY	36

Glossary

EBRD	European Bank for Reconstruction and Development
IFC	International Finance Corporation
EIA	Environmental Impact Assessment
ESIA	Environmental and Social Impact Assessment
ESAP	Environmental and Social Action Plan
HSSE	Health, Safety, Security and Environment
MoE	Ministry of Environment Protection and Natural Resources
GUE	Georgia Urban Energy
SEP	Stakeholder Engagement Plan
NTS	Non Technical Summary
NGO	Non-governmental organization

1 Introduction

Georgia Urban Energy Ltd (GUE) plans construction of hydropower plant and transmission line connecting the latter to the national grid. The project will be implemented in Aspindza, Akhaltsikhe and Akhalkalaki municipalities of the Samtskhe-Javakheti region (Figure 1.1.).



Figure 1.1. Location of the project

Under Georgian legislation the project can be implemented only after assessment of its impact on the biophysical and socio-economical environment is carried out and authorisation from the Ministry of Environment Protection and Natural Resources is obtained. The document must comply with national environmental legislation. In addition, as the company has approached the European Bank for Reconstruction and Development (EBRD) and the International Finance Corporation (IFC) for financing, the report must meet lender requirements.

Both EBRD and IFC have classified this as a Category A project, requiring an Environmental and Social Impact Assessment (ESIA) and a Stakeholder Engagement Plan (SEP). This SEP details GUE's consultation activities to date and its future plans for the Project disclosure and stakeholder consultation in respect of the new development. The full ESIA includes three parts:

- An EIA for only the hydropower plant – at the time, the transmission line route had not been selected [the EIA was submitted to the MoE in October 2009, environmental permit received in November 2009)
- A second EIA for the transmission line (the EIA was submitted to the MoE in January 2011)
- A cumulative impact annex that was prepared as a technical memorandum and will be disclosed along with this SEP and NTS .

2 Project Description

Georgia Urban Energy Ltd has been assigned as the privileged investor for construction of the Paravani HPP and related transmission infrastructure in the framework of an agreement signed between the Georgian Government and the company. The project will be carried out stepwise:

Stage 1 – Hydropower Plant (HPP) component

The 87 MW hydropower plant with an annual power output of approximately 410 GWh will be built on the Paravani River about 56 km downstream from Lake Paravani. The main facilities will include a 5 m high, diversion weir near the Korkhistskali River confluence (about 150m downstream from Korkhistskali bridge), a 13.8 km power tunnel; a 1 km long penstock; a power plant building, tail water channel and sub-station.

Five access roads (total length 3.5km) will be arranged / repaired for the HPP. Of these two: a 1.250 km long section at the intake and a 0.25km long road at the power plant site will be new. Three sections: a 0.75km access road to tunnel portal 1; a 0.25km access road to tunnel portal 2; and a 1km access road to the surge tank will be upgraded. All roads will be earthen.

The project is being implemented in two municipalities - Akhalkalaki (intake facilities) and Aspindza (hydropower station and sub-station) in the Samtskhe-Javakheti region of Georgia. The nearest settlements are:

Facility	Settlement	Distance, m	Population
Intake facilities	Korkhi Village	0.5	923
	Diliska Village	3.0	2890
	Akhalkalaki Town	5.0	60975
Tunnel adit 1	Ptena Village	0.7	310
Tunnel adit 2	Churchkha Village	0.5	359
Power station	Khertvisi Village	0.7	203

Note: the villages Korkhi and Diliska are several hundred metres higher in elevation than the intake and inaccessible from there

The function of the weir will be diversion rather than accumulation of water. After construction of the weir a 0.5 ha impoundment will form, sufficient to hold around five minutes' worth of average river flow (4000 m³). Water diverted through the power tunnel will generate power in the power house and finally be discharged into the Mtkvari river approximately 1.55 km upstream of the Paravani–Mtkvari confluence.

Construction of the tunnel will require blasting and will generate an estimated 300,000 m³ of spoil material. The spoil will be stored in a specially allocated area near the Churchkha camp. The stockpile will be protected from slumping. Waste water generated while tunnelling will be drained via trenches to a settling unit.

The power house and sub-station will be located 1.5 km from the Paravani–Mtkvari confluence, about 700m from the edge of Khertvisi Village. An underground reservoir for collection of emergency spilled transformer oil will be provided. The site will be fenced and guarded. The area selected is located next to the road to Vardzia.

Construction will take up to 4 years to complete.

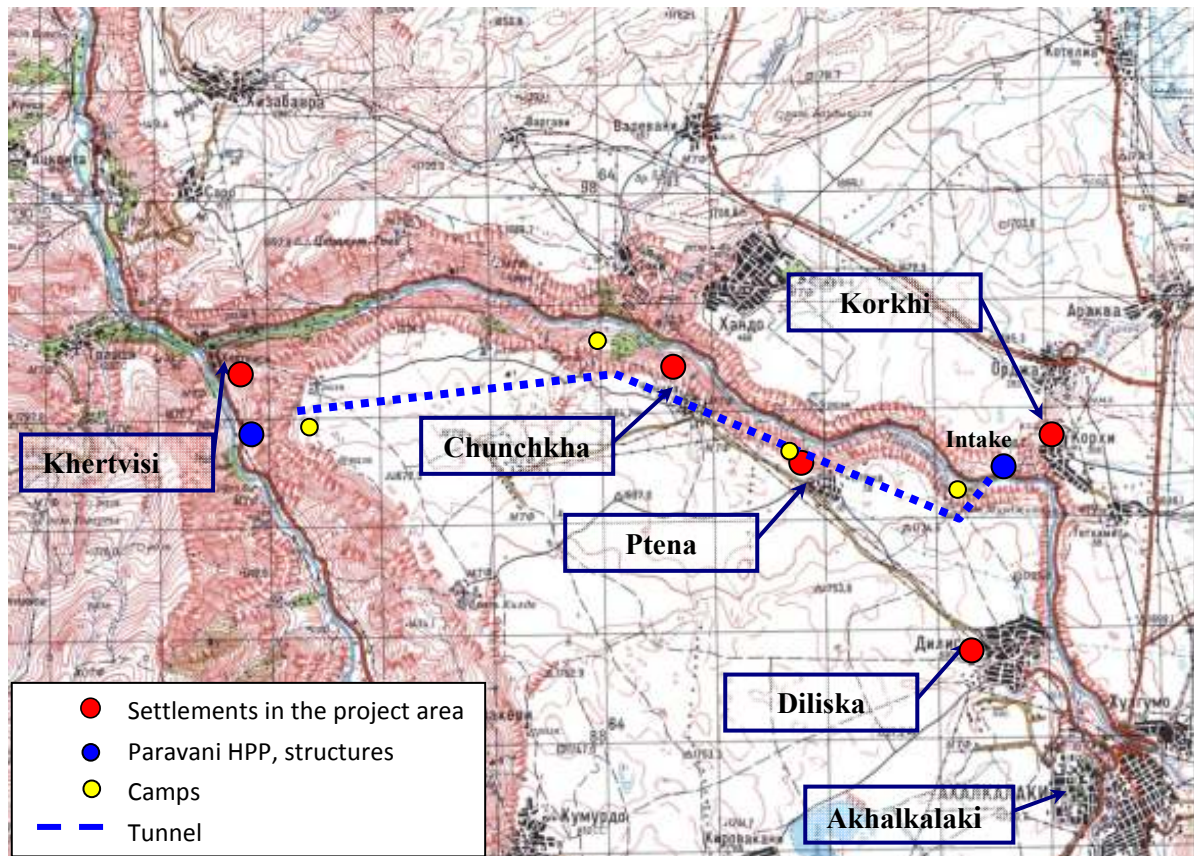


Figure 2.1. Location of the Paravani weir/intake and powerhouse (HPP), nearby settlements, camps and tunnel route

Stage 2 - Transmission line component

Construction of a 35 km long transmission line connecting the HPP to the national grid. This part of the project is being implemented in two municipalities – Aspindza (HPP site/substation, start of the transmission line) and Akhaltiskhe (end of transmission line), both in the Samtskhe-Javakheti region of Georgia.

The line will start from the power house/switchyard, will go up the ridge dividing the Paravani and Mtkvari gorges, run along the left slope of the Paravani, cross the Paravani River, go up the right slope of Paravani gorge, run between Saro, Khizabavra villages, parallel to existing line Vardzia-110 up to Aspindza. From there, up to Agara Village it will run parallel to an existing 500 kV line. Near Agara, the line will turn and connect to Akhaltiskhe substation. A total of 147 towers, including 109 intermediate and 38 corner towers, will be installed, with an average distance between the towers of 240m. Location of the design transmission line is given in Figure 2.2.

In addition, a total of 28.8 km of temporary roads will be needed for construction of the transmission line, about 200m for each of the 147 towers. To the extent possible, existing roads will be used. All roads will be earthen.

The transmission line route will run parallel to existing high voltage lines for much of its length. The line will connect to a sub-station being built as part of another project (the Black Sea Energy Transmission Project).

The nearest settlements along the proposed transmission line route:

Settlement	Distance, m	Population
Aspindza municipality		
Aspindza	0	3243
Damala Village	1080	1984
Idumala Village	0	386
Oshora Village	370	637
Saro Village	310	237
Khrtvisi Village	470	203
Gelsunda Village	940	81
Khizabavra Village	390	850
Chikhoreshi Village (seasonal, several families)	0	-
Indusa Village (seasonal, several families)	1220	
Akhaltzikhe municipality		
vil. Sakuneti	310	593
vil. Tkemlana	2500	364
vil. Agara	0	393
vil. Zikilia	690	421
vil. Tsinubani	1050	-

Transmission line component timetable - construction of the transmission line will take up to 12 months to construct.

Camps: During construction of the HPP, there will be four construction camps: the main near the tunnel adit 2, next to the vil. Chunchkha with a cement mixing area, and an explosives magazine and three smaller ones near the intake, next to the village Ptena (tunnel adit 1) and in about 1.5 km uphill the HPP site. The main camps will also accommodate and provide services to transmission line crews.

Power will be provided from the local grid. The fly camps will use low-power generators. Spring or bottled water will be used for drinking. Car washing and concrete production will be done on the main camp site equipped with wastewater treatment facility. The fly camps will use bio-toilets.

During operations wastewater generated at the HPP site will be discharged into the Mtkvari River after biological treatment. For wastewater management at the weir holding ponds will be arranged and periodically emptied, with the contents pumped out and delivered to the treatment facility at the HPP site for treatment and discharge. Quarterly monitoring of water quality at the point of discharge will be performed.

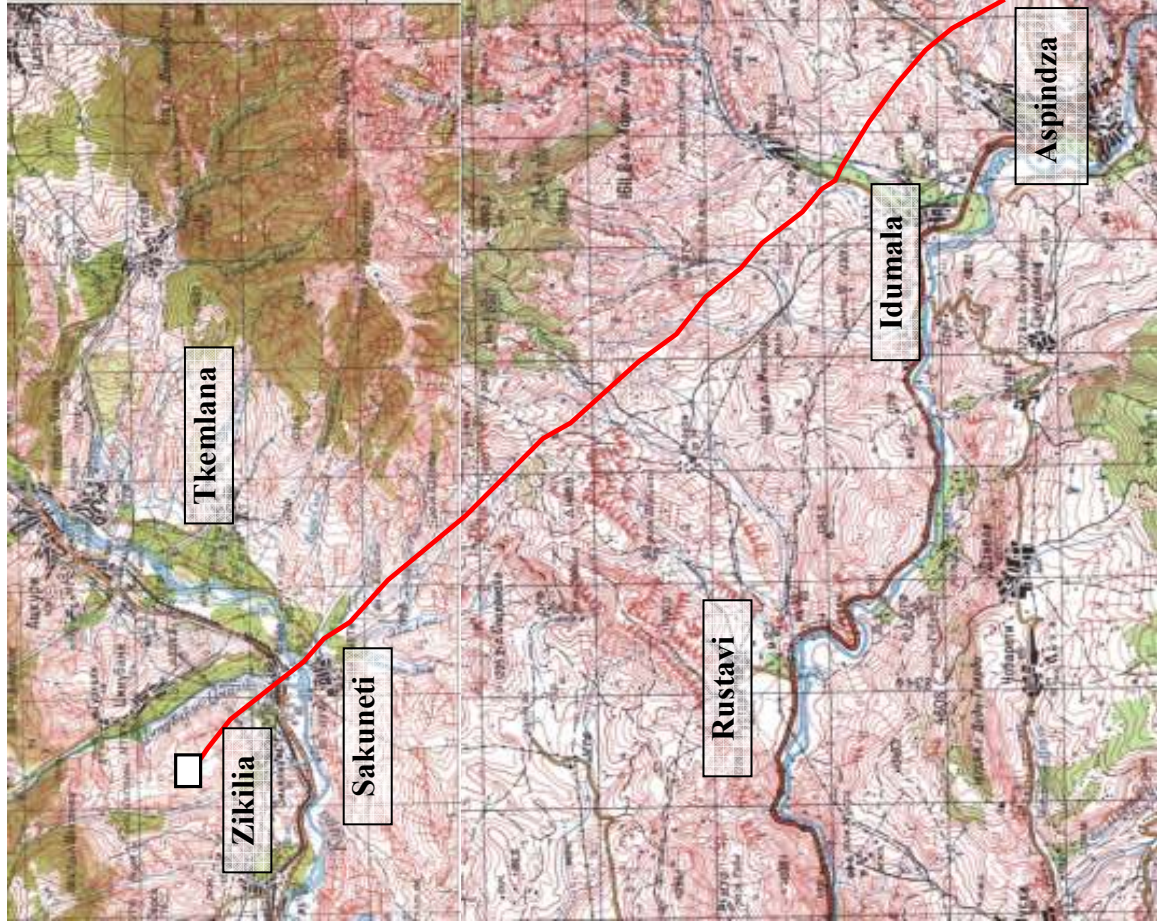
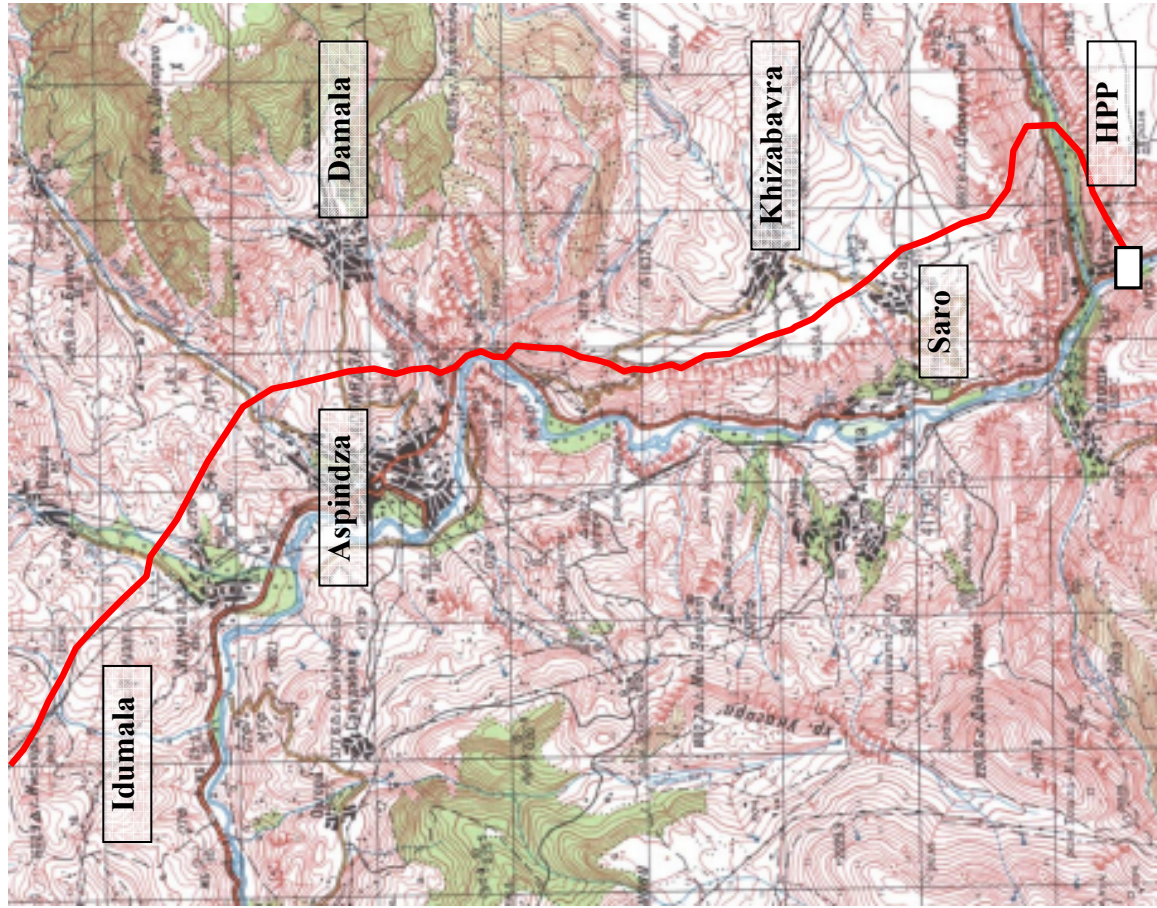


Figure 2.2. Location of the design transmission line

Staff

A total of 200 staff will be employed during construction. During operations, 20 staff will be employed plus an additional 10 security staff. The local labour force is expected to account for up to 50% of the total number of employees.

3 Potential Environmental and Social Issues

Two separate ESIA's were developed for the Project, one each for the HPP and transmission line components. A number of sensitivities and potential environmental and social impacts were identified that could be caused by the Project. These are summarized in the table below.

Table 3.1. Summary of Potential Environmental Impacts (HPP and transmission line components)

Activity	Receptor	Source of impact	Description of potential impacts
Mobilization <ul style="list-style-type: none"> Arrangement of camps, Mobilization of machinery and materials 	<ul style="list-style-type: none"> Air Soil Water Biodiversity Infrastructure 	<ul style="list-style-type: none"> Vehicles People Waste 	<ul style="list-style-type: none"> Dust and combustion emissions Noise and vibration Soil pollution (spilled oil/lubricants, waste) Soil and vegetation compaction by vehicles Water pollution (spilled oil/lubricants, waste) Disturbance of fauna due to presence of people and machinery in the area. Impact on infrastructure Possible disturbance of existing land use during land-crossing by vehicles (no constructed roads).
Construction phase	Air	<ul style="list-style-type: none"> Traffic; haulage/ importation of construction materials and other consumables Removal of waste Building machinery 	<ul style="list-style-type: none"> Dust and combustion emissions Welding aerosols (in case welding used)
	Soil	<ul style="list-style-type: none"> Vehicles/building machinery Earthworks Waste 	<ul style="list-style-type: none"> Soil compaction by vehicles Soil pollution (spilled oil/lubricants, waste incl. waste water) Impact on soil stability/erosion Impact on topsoil
	Water	<ul style="list-style-type: none"> Vehicles/building machinery Earthworks, other construction activities Material storage areas, in case near surface water body Surplus/waste materials storage, in case near surface water body 	<ul style="list-style-type: none"> Water pollution (spilled oil/lubricants, waste incl. waste water) Stream blockage - violation of hydrological regime (less probable)
	Biological environment	<ul style="list-style-type: none"> Vehicles/building machinery People 	<ul style="list-style-type: none"> Tree cutting Vegetation compaction by vehicles (direct impact) Impact on habitats Noise and vibration Emission – indirect impact on terrestrial flora and fauna Increased water turbidity during construction which may affect fish species downstream the building ground
Operation (HPP)	Soil	<ul style="list-style-type: none"> Waste 	<ul style="list-style-type: none"> Soil pollution (spilled oil/lubricants, waste) in case of improperly managed machinery

	Water	<ul style="list-style-type: none"> • Waste 	<ul style="list-style-type: none"> • Water pollution (spilled oil/lubricants, waste) in case of improperly managed machinery • Reduced flow downstream the intake
	Biological environment	<ul style="list-style-type: none"> • Weir/intake facilities 	<ul style="list-style-type: none"> • Impact on fish movement • Impact on terrestrial vegetation in case of high water (flooding of the area)
	Fauna	<ul style="list-style-type: none"> • Power generating equipment • Substation • Weir 	<ul style="list-style-type: none"> • Noise and vibration • EMF • Reduced flow downstream the weir may affect fish species.
Operation (Transmission line)	Biological environment	<ul style="list-style-type: none"> • Transmission line 	<ul style="list-style-type: none"> • Vegetation management within the RoW • Noise impact on birds/bats • Collision with transmission line • Electromagnetic field

Potential socioeconomic impacts

Activity	Source of impact	Description of potential impacts
Construction	Traffic	<ul style="list-style-type: none"> • Noise and vibration • Extra traffic flows – impact on road cover • Impact on infrastructure • Hindrance of free movement of people - temporarily limited access • Health, safety and security risks • Occupational safety risks • Altered visual character of local landscape • Partial change of land use pattern (in particular for transmission line component) • Risk of property damage by heavy vehicles • Temporary employment possibilities • Possible income of local residents provided services (nutrition, vehicle maintenance, medical services. etc) • Possibility of conflicts between the local residents and ‘quest’ staff
Operation	HPP	<ul style="list-style-type: none"> • Steady power supply • Possibility of employment (HPP and related facilities) – minor positive impact • Assuming this project provides a reliable source of power, it may be able to supplement existing energy sources and this in turn could enable industry to operate on more predictable schedules and increase overall output and employment. • Reliable power supply could also reduce local use of wood resources.
	Transmission line	<ul style="list-style-type: none"> • Impact of electromagnetic field • Impact of reduced flow downstream on fish viability • Safety aspects • Possibility of employment • Occupational health and safety risks

Along with identification and assessment of impact on different stages of the planned development the issues to be addressed in assessment (Table 3.1) have been specified by the project team through consultations with various stakeholders.

Two rounds of public disclosure meetings were organised:

HPP component ESIA: meetings were held in Aspindza and Akhalkalaki on October 26, 2009 (venue Aspindza and Akhalkalaki municipality government offices).

Transmission line component ESIA: meetings were held in Aspindza and Akhaltikhe on 18 January 2011.

The main issues discussed at the meetings were possibility of employment, impact on fish migration, amount of sanitary flow left in the river after diversion and the adequacy of this sanitary flow for the viability of downstream flow ecosystems and usage. A question about the possible risk of stronger

flooding of the land plots in the Mtkvari – Paravani confluence after discharge of the water diverted from the Paravani into the Mtkari River was also brought up. Issues such as potential impact on ground water have been put forward. Among other questions was and issued of tariff rate and possibility of its reduction for the local population. Along with the topic considered at the meeting comments of the Ministry of Environment and Natural Resources were received. (The Q&A are given in Annex 4).

Similarly to the questions voiced at the first stage of the project the main subjects discussed were related to possibility of employment, social programs and electricity tariffs. Besides, the risks related to transmission line, safety rules and the list of activities allowed within the limits of the RoW and next to it were dealt with. Land acquisition and compensation issues were also communicated. Leaflets describing land acquisition procedures and safety for community living adjacent to the transmission line were distributed (see Annex 6). Other points out forward were impact on forest, potential damage of property and compensation. (The Q&A and comments from the Ministry of Environment Protection and Natural Resources are given in Annex 5.)

These and other questions/comments were replied and taken into account. Detailed assessment of impacts and relevant mitigation measures is covered in the ESIA reports.

It was estimated that physical displacement of households is not anticipated. Land acquisition issues will be settled prior to construction of transmission line and will meet the requirements of Georgian law and EBRD/IFC. (A Land Acquisition plan is under preparation and no land acquisition will occur until fair compensation has been paid).

4 Purpose of the Stakeholder Engagement Plan

This SEP is designed to ensure that GUE identifies all stakeholders with an interest in the Project, and can engage these stakeholders during the development and life of the Project. This SEP therefore outlines the GUE's previous consultation activities and future plans to engage with stakeholders during pre-construction, construction and operational phases of the Project.

Stakeholder engagement includes:

1. The provision of relevant, timely and accessible information to stakeholders in a culturally appropriate and understandable format; and
2. Consultation with stakeholders on their opinions, concerns, preferences and perceived gains and risks with respect to the Project planning and implementation, including the design and proposed management and mitigation measures to reduce potential impacts and to enhance possible benefits.
3. A grievance mechanism to guide GUE's response and resolution process for stakeholder concerns or grievances.

This SEP therefore describes the:

- National and good international practice requirements for public consultation and disclosure that the GUE will conform to;
- Project stakeholders that have been identified;
- Strategy, format and timetable for consultation and information disclosure;
- GUE's resources and management structure for developing and implementing the SEP;
- Grievance mechanism(s) for stakeholders, and:
- Means of reporting on consultation and disclosure activities.

Timely and meaningful consultation throughout the life of the Project is our objective requirement (see Section 5.2).

5 Stakeholder Engagement - National and International Regulations and Requirements

In compliance with best international practice, public consultation was invited at the scoping stage and during the ESIA public disclosure period. GUE will provide information throughout the project life.

At the scoping stage:

- on the Project itself and potential alternatives
- on the proposed scope for the ESIA
- the proposed stakeholder engagement plan and programme

Once a draft ESIA is available:

- on the impact assessment
- on proposed environmental and social management measures.

Georgian requirements related to public consultation for a project of this nature mandate that public hearings be conducted once the draft ESIA is available.

Public consultation activities that have been identified in this document and will be undertaken to support the planned development will conform to:

- Georgian regulations;
- Guidelines established by International Financial Institutions, specifically the European Bank for Reconstruction and Development (EBRD) policy and IFC Performance Standard 1 requirements; and
- International Conventions for Public Participation, in particular the Aarhus Convention.

Further details of Georgian regulations and specific EBRD/IFC requirements are given in the following sections.

5.1. Stakeholder Engagement - National Requirements for Public Participation

Georgian legislation provides a general legal framework governing the public disclosure of information on environmental issues but it lacks any specific requirements related to the design and organisation of the stakeholder consultation and engagement process.

The Constitution of Georgia guarantees public access to information and states the right of an individual to obtain full, unbiased and timely information regarding his/her working and living environment.

Public participation in project development is regulated under the **Law on Environmental Impact Permit**. This Law also provides a list of activities subject to the ESIA procedure. According to paragraphs 6 and 7 of the Law, project owner prepares ESIA report and is responsible for public engagement, which includes announcing public disclosure of the document in the central and local printed media. The law states that public participation and provision of access to information are obligatory procedures of the environmental permitting process. This is conducted in the form of a public discussion of the proposed activity with participation by the investor, the Ministry of Environment Protection and Natural Resources and local administrative authorities.

The permit application/issuance procedure, including ESIA coordination and establishment of the timeframes for information disclosure and discussion under Georgian Law, includes the following steps:

1. Publication of information about the planned development in national and regional newspapers: the advertisement must contain information related to the title of the project, venue, date and time of public disclosure meeting(s), addresses of the offices where information about the project is available. The deadline for the feedback.
2. Within one week from publishing the information in the newspaper, the developer must submit an ESIA report (both as a paper copy and in electronic format) to the administrative bodies. Within 45 days after publishing the information, the developer has to review comments obtained from the public. Not earlier than within 50 days and not later than 60 days after publishing the information, the developer must organize the public consultation process. At least one meeting must be conducted in the administrative centre of the area where the activity is planned. The developer is required to provide minutes signed by the relevant authorities present at the meeting within five days.
3. All comments received are to be reviewed and where possible considered in the final version of the ESIA report. Where it is not possible to address comments within the Final ESIA, the developer must explain the reasons for that in writing to the author(s) of the comments. These letters, together with the minutes of the meeting and the final ESIA report, are then submitted to the Ministry of Environment Protection and Natural Resources (MoE) (or in case when a Construction Permit is required, to the relevant competent authority) for consideration. The documents must include a location map, the volume and types of any expected emissions, a technical summary with the description of the planned development and a statement on the confidentiality of the project (if appropriate).

No public participation procedure is required during the construction and operation phases. Public consultation occurs once a draft of the ESIA has been prepared. There are no additional requirements for disseminating information, e.g. by means of leaflets, posters and other visual displays, radio/television etc. Neither are there requirements/practices for identifying possible stakeholders (including vulnerable groups) and ensuring their participation.

5.2. Stakeholder Engagement - EBRD Policy/IFC Performance Standard

The Project will comply with IFC and EBRD's requirements for stakeholder engagement as outlined in EBRD's Environmental and Social Policy, 2008, Performance Requirement 10 (PR10): Information Disclosure and Stakeholder Engagement and IFC Performance Standard 1 (PS1). The major requirements of both lenders relate to involvement of potentially affected communities in the ESIA process at the earliest stage possible.

The Stakeholder Engagement Plan has been developed in order to meet lenders' requirements. The main objective of the plan is to identify people or communities that are or could be affected by the project and other interested parties as well as ensure their engagement on environmental and social issues during development and life of the project. Engagement is to be achieved through a process of information disclosure and consultation. In particular, EBRD and IFC require that the ESIA must be made publicly available for comment in a format which is accessible to the majority of people potentially affected by the Project. EBRD further requires that the ESIA and a Non-Technical Summary shall remain in the public domain for the life of the project, or at least until project completion. For this project a 60 day consultation period is required before a financing decision is made.

The SEP is living document and will be periodically amended.

5.3. International Conventions for Public Participation

Similar requirements for access to information and public involvement in decision making are also specified within the following international conventions:

- **Aarhus Convention.** The UN Economic Commission for Europe (UNECE) Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (the Aarhus Convention) guarantees the rights of access to information, public participation in decision-making, and access to justice in environmental matters, in order to protect people's rights to a healthy environment. Georgia has ratified the Aarhus Convention, and therefore it is also a legal requirement of the Government of Georgia.
- **Agenda 21.** (UN, 1992b) Article 27(9) states that the UN system should "provide access for non-governmental organizations to accurate and timely data and information to promote the effectiveness of their programs and activities and their roles in support of sustainable development".
- **Rio Declaration on Environment and Development (1992).** Annex 1 Principle 10 - "Each individual shall have appropriate access to information on hazardous materials and activities in their communities [...] States shall facilitate and encourage public awareness and participation by making information widely available".
- **UN General Assembly Resolution A/RES/S-19/2 (1997).** Paragraph 108 - "Access to information and broad public participation in decision-making are fundamental to sustainable development".
- **Dublin Declaration on Access to Environmental Information (2000)** - UNEP Infoterra
- **Directive 2003/4/EC (repeals Directive 90/313) on Public Access to Environmental Information.** It incorporates the provisions and requirements of the Aarhus Convention on public access to environmental information.

6 Project Stakeholders

Project stakeholders are individuals or groups who:

- are affected or likely to be affected directly or indirectly by the project (affected parties) or;
- may have an interest in the project (interested parties). They include individuals or groups that may be affected by the project (or themselves affect the project) or perceive themselves to be affected by the Project;
- have the potential to influence project outcomes or company operations.

In addition, 'legitimate stakeholder representatives' may be identified for some of the stakeholder groups. Legitimate stakeholder representatives can include, for example '...elected officials, non-elected community leaders, leaders of informal or traditional community institutions, and elders within the affected community'.

Taking into consideration the location and scope of activities to be implemented under the planned development, a list of the stakeholders has been compiled. When identifying these potential stakeholders the Project's geographic sphere of influence was taken into account.

A broad list of the major stakeholders includes the following parties that are potentially affected, directly or indirectly:

- Local community within the Project's Area of influence – population of the residential area adjacent to the project sites and residential areas along the transmission line. Vulnerable groups within the affected communities will be specifically identified and consulted through dedicated means, as appropriate;

- NGOs and any other public initiative groups;
- Municipal government;
- Ministries and departments;
- Businesses and commercial sector;
- Contractor (when identified); and
- Other government institutions.

(A full list with further details is given in Annex 1.)

Table 6.1 below details the processes for stakeholder engagement at different stages of the Paravani project.

Table 6.1. Proposed stakeholder engagement plan

Stage	Stakeholder	Engagement procedure/method	Format and information disclosed	Note
Pre-project stage 2007-2009	o Decision makers, regional governmental authorities, community	o Information	o Information on TV, internet	
Scoping stage (HPP component) August – September 2009	o Stakeholders (see Annex 1)	o Meetings during site visit, dissemination of information	o Planned development, location of the project sites, employment requirements, objectives of the ESIA	
Scoping stage (Transmission line component) – October, November 2010	o Stakeholders (see Annex 1)	o Meetings during site visit, dissemination of information	o Planned development, location of the project sites, employment requirements, objectives of the ESIA	
August –November 2009 (HPP component); October-January 2011 (Transmission line component)	o Governmental officials including local/regional officials, and environmental protection authorities	o Interviews o Meeting o Participatory process	o Non-technical documents o Project summary o Leaflets	Hard copies of the full ESIA available on the addresses indicated above, electronic copy – on the GUE's website
	o Environmental and other NGOs and initiative groups	o e mail o Phone	o Leaflets o Non-technical documents o Project summary	
	o Businesses	o Interviews o Public meeting o e mail o Phone	o Leaflets o Non-technical documents o Project summary	
	o Affected communities, i.e. residents of the settlements along the transmission line route	o Interviews and focus group discussions o Surveys o Public meeting	o Leaflets o Non-technical documents o Project summary	
	o Local community including	o Interviews o Surveys o Public meeting	o Leaflets o Non-technical documents o Project summary	
	o All stakeholders invited	o Public meeting as required by Georgian legislation once the draft ESIA is submitted		
During construction and operation	o Governmental officials including environmental protection authorities and environmental NGOs	o Grievance mechanisms	o Feedback format depending on complaint	available electronically on the GUE's website throughout the
	o NGOs, businesses,	o Open houses		

	local community	<ul style="list-style-type: none"> ○ Project updates ○ Grievance mechanisms 		
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7 Summary of Previous Stakeholder Engagement Activities

Interaction with local authorities and the state permitting and regulating bodies has been carried out through a series of meetings and discussions.

On 29 May 2007, at the Chancellery of the Government a memorandum was signed between the government of Georgia and the Georgia Urban Energy Company on the subject of construction of the Paravani HPP in Samtskhe-Javakheti region. The memorandum was signed by the Prime-Minister of Georgia and Ergun Atabay, Chairman of the Board of Supervisors of Georgia Urban Energy Ltd. Later on, a press conference was held in the course of which Zurab Noghaideli, Prime-Minister at that time, explained the details of the memorandum. Information was published to internet and mass media.

Information about the project was announced by municipality of Akhalkalaki in December 5, 2007. Community was invited to express comments and concerns, if any, within 20 days from publication of the note. Public meeting was scheduled for December 25, 2007, venue - municipality of Akhalkalaki. The meeting was attended by representatives of local government Head of the Service of Economy and Infrastructure Development (Sh.Shirinijan), Specialist on Construction (Sh.Raisijan), Specialist on Property and Land use (N.Kazarijan), Chief Specialist on Juridical Issues (S.Ezoijan), General Director Georgia Urban Energy (N.Kutranidze) and other stakeholders. Disclosed was technical information.

On 10th of January 2008 meeting was held in Aspindza municipality. Attending were Deputy Head of Aspindza Self-governance (T.Gigashvili), Head of Economical and Infrastructure Development of Aspindza Municipality (Mamuka Khizadze), Leading Specialist of the Service for Economical and Infrastructure Development of Aspindza Municipality (K.Loladze), Leading Specialist of the Service for Economical and Infrastructure Development of Aspindza Municipality (R.Tsiklauri), Layer of Aspindza Municipality (S.Suaridze), Merab Narimanidze, Mikheil Maisuradze, Giorgi Magradze, David Papashvili and General Director of Georgia Urban Energy (Nodar Kurtanidze) and other stakeholders.

Since the HPP and substation are being built in the boundaries of the Khertvisi-Vardzia historic area the Ministry of Culture, Monuments Protection and Sport of Georgia was consulted. Information about the project, location and potential impact on cultural heritage was discussed. Based on this discussion and results of the walkover by expert-archaeologist, GUE obtained authorisation for operation in the area. Several meetings with National Agency of Cultural Heritage Protection experts were held.

One to one meetings and interviews with local residents were carried out in August 12 – 25, 2009 (HPP phase of the project) and later on in October and November 2010 (transmission line component). During the site visits the list of stakeholders was double checked, contact information revised. Some of the local NGOs were informed and interviewed by phone, e mails with information regarding the planned development sent out.

On September 8, 2009, as requested by Georgian environmental legislation information on the planned development (construction of Paravani HPP), venue and time of public disclosure meetings and locations where the project information and impact assessment documents is accessible for the public was published. Announcement was published in the central ('24 saati') and regional newspapers ('Aspindza' and 'Samkhretis Karibche'). Later on, on December 23, 2010, another announcement at that time informing stakeholders about transmission line component was published in the same newspapers.

Besides, from the early stage series of articles and press releases have been published to internet. The list of web pages, printed media and contacted NGOs, businesses and community members with contact information is given in Annex 1.

Two series of public meetings were organized :

- in Aspindza and Akhalkalaki (HPP component) – 26 October 2009
- in Aspindza and Akhaltsikhe (transmission line component) – 18 January 2011.

Key environmental and social impact assessment documents (a 'disclosure package') has been prepared to provide a basis for informed consultation. In addition to this SEP, the disclosure package includes 2 sets of ESIA document; Environmental and Social Action Plan, and a Non Technical Summary for hydropower plant and transmission line component..

Table 7.1 below summarises the stakeholder engagement activities that have already taken place.

Table 7.1. Summary of previous stakeholder engagement activities

Nature and location of engagement	Individuals, groups, and/or organizations consulted	Key issues discussed / key concerns raised	Company response to issues raised	Type of information disclosed	Format of disclosure (e.g. oral, brochure, reports, posters, radio, etc.)
Series of discussions 4.12.2007; 21.12.2007; 25.12.2007 10.01.2008; 20.01.2008; 30.01.2008; 17.12.2010; 24.12.2010.	Permitting authorities, local municipality representatives.	Planned development	Clarification regarding the planned development	Conceptual layout of the design facilities, plans, time schedules.	Oral, telephone, e-mailing.
Public meeting, venue - municipality of Akhalkalaki, Aspindza (HPP component). 7.09.2009 26.10.2009	Local municipality representatives, community.	Possibility of employment during construction, operation of HPP; potential risk of impact on water availability.	Skills available and application requirements explained. Company's social policy and plans discussed. Reference given to the ESIA.	Technical aspects of the project, expected impact on environment, mitigation measures.	PowerPoint presentation, leaflets, Non-technical summary, maps
Public meeting, venue - municipality of Aspindza, Akhaltsikhe 18.01.2011 26.12.2010	Local municipality representatives, community.	Possibility of employment; impact of transmission line on the land use; mechanisms of damage/loss compensation during construction.	Clarification, reference given to legislation and EBRD requirements. GUEs employment policy unveiled.	Technical aspects of the project, expected impact on environment, mitigation measures.	PowerPoint presentation, leaflets, maps, Non-technical summary. Summary of Land acquisition mechanism
One to one meetings and interviews with local residents were carried out in July 2009 August 2009 September 2009, October 2010 November 2010.	Community	Possibility of employment and eligibility criteria, risk of impact on water; restricted and allowed activities near transmission line	N/A	Planned activities, possible impacts on community. Duration of works.	Oral, interviews

The following information has been disclosed for public so far:

PARAVANI HPP COMPONENT

Type of document/information	Location where the document/information is available	Date
Information about the project	<ul style="list-style-type: none"> • Webpage government of Georgia; • Official webpage of the President of Georgia; • Georgian Business week; • Business new Europe; • NewsTurkey.com; • Prime news; • Caucasus Press, etc. 	2007-2009
Inception report	<ul style="list-style-type: none"> • Georgia Urban Energy, 37d Chavchavadze ave. Tbilisi • SRF Gamma office, 9a Merab Alexidze str, Tbilisi • Anadolu Group, Umut Sok 12, Icerenkoy Istanbul/Turkey • EBRD office, Tbilisi/EBRD office, London 	August – September 2009
Gap Analysis		
Stakeholder Engagement Plan (draft)		
Advertisement regarding the planned development/Brief information regarding the project	<ul style="list-style-type: none"> • Nationwide coverage newspaper '24 hours' • Regional newspaper 'Aspindza' • Regional newspaper 'Samkhretis Karibche' 	September 8, 2009
	<ul style="list-style-type: none"> • Georgia Urban Energy, 37d Chavchavadze ave, Tbilisi • Aspindza Municipality, 3 Tamar Mepe str, Aspindza • Akhalkalaki Municipality, 11 Cherents str, Akhalkalaki 	September 9, 2009
Draft ESIA report	<ul style="list-style-type: none"> • Georgia Urban Energy, 37d Chavchavadze ave, Tbilisi • SRF Gamma office, 9a Merab Alexidze str, Tbilisi • Aspindza Municipality, 3 Tamar Mepe str, Aspindza • Akhalkalaki Municipality, 11 Cherents str, Akhalkalaki • Ministry of Environment Protection and Natural Resources of Georgia, 6 Gulua str, Tbilisi 	September 7, 2009
		October 8, 2009
Non-technical summary	<ul style="list-style-type: none"> • Georgia Urban Energy, 37d Chavchavadze ave, Tbilisi • SRF Gamma office, 9a Merab Alexidze str, Tbilisi • Anadolu Group, Umut Sok 12, Icerenkoy Istanbul/Turkey • web-page Urban Energy Georgia • EBRD office, London 	October 8, 2009
Stakeholders engagement plan		
Environmental and Social Action Plan		
Final ESIA	<ul style="list-style-type: none"> • Georgia Urban Energy, 37d Chavchavadze ave, Tbilisi • SRF Gamma office, 9a Merab Alexidze str, Tbilisi • Ministry of Environment Protection and Natural Resources of Georgia, 6 Gulua str, Tbilisi 	October, 2009
Environmental permit issued by the Ministry of Environment Protection and Natural Resources obtained. (09.11.2009)		

Transmission line component		
Type of document/information	Location where the document/information is available	Date
Advertisement regarding the planned development/Brief information regarding the project	<ul style="list-style-type: none"> Nationwide coverage newspaper '24 hours' Regional newspaper 'Aspindza' Regional newspaper 'Samkhretis Karibche' Georgia Urban Energy, 37d Chavchavadze, Tbilisi Aspindza Municipality, 3 Tamar Mepe str, Aspindza Akhaltikhe Municipality, 18 Merab Kostava str, Akhaltikhe 	23 November 2010
Draft ESIA report	<ul style="list-style-type: none"> Georgia Urban Energy, 37d Chavchavadze str, Tbilisi SRF Gamma office, 9a Merab Alexidze str, Tbilisi Aspindza Municipality, 3 Tamar Mepe str, Aspindza Akhaltikhe Municipality, 18 Merab Kostava str, Akhaltikhe Submitted to the Ministry of Environment Protection and Natural Resources of Georgia 	January, 2011
Non-technical summary	<ul style="list-style-type: none"> Georgia Urban Energy, 37d Chavchavadze str, Tbilisi 	January, 2011
Environmental and Social Action Plan	<ul style="list-style-type: none"> web-page Urban Energy Georgia 	
Stakeholders engagement plan	<ul style="list-style-type: none"> SRF Gamma office, 9a Merab Alexidze str, Tbilisi Anadolu Group, Umut Sok 12, Icerenkoy Istanbul/Turkey EBRD office, London and Tbilisi 	
Draft resettlement action Plan	<ul style="list-style-type: none"> Georgia Urban Energy, 37d Chavchavadze street, Tbilisi SRF Gamma office, 9a Merab Alexidze str, Tbilisi Anadolu Group, Umut Sok 12, Icerenkoy Istanbul/Turkey EBRD office, London and Tbilisi 	January 2011
Final ESIA	<ul style="list-style-type: none"> Georgia Urban Energy, 37d Chavchavadze str, Tbilisi SRF Gamma office, 9a Merab Alexidze str, Tbilisi Anadolu Group, Umut Sok 12, Icerenkoy Istanbul/Turkey Ministry of Environment Protection and Natural Resources of Georgia, 6 Gulua str, Tbilisi 	January 2011

Minutes of the meetings are enclosed (see Annex 4 and Annex 5)

8 Future Consultation Activities

During construction GUE will participate in disclosure and consultation for the planned development. In addition to disclosure and consultations, during construction the company will also:

- Inform affected communities about any preparatory and construction activities that may influence them. Information will be provided at least a week in advance of such activities;
- Update affected communities on the progress of construction;
- Implement a Grievance Procedure (see Section 12 below).

Provision of information to affected communities will include use of the GUE project website. Information to include:

- A description of the construction works with indication of scheduled start and finish dates for each type of the works;
- A drawing indicating the areas affected by the works and including information on:
 - The type and duration of anticipated impacts;
 - Mitigation measures for each type of impact;
 - Studies and documentation related to or affecting residents of adjacent
 - Progress photos of the worksite.

In addition, where access to internet is not available information leaflets are intended to be used.

Meetings with community potentially affected by the project (this mainly refers to transmission line component, as land acquisition and damage/loss compensation may be required) will be organised. In case deemed appropriate press releases in the local newspapers may be published.

Besides, meeting with each mayor at least once 3 months, or more frequently if communities are being directly affected will be held, in order to update officials on progress. They can then pass information along to citizens.

Throughout the life of the project GUE will continue to update stakeholders via the website, local municipalities and other means, as specified above. The grievance procedure described in Section 12 will also remain in place throughout the project's lifespan.

Additional consultation will be carried out, because of EBRD/IFC requirements: meeting with NGOs in Tbilisi and open houses in the affected villages.

9 Disclosure of documentation

This Stakeholder Engagement Plan together with Non-Technical Summary, Environmental and Social Action Plan and ESIA reports will be published on the GUE's project website (<http://www.paravanihpp.com>); EBRD's website (www.ebrd.com) and IFC website (<http://www.ifc.org/disclosure>). This will allow stakeholders with access to internet to view information about the planned development, its progress and to initiate their involvement in the public consultations. The project website also provides mailing address (info@paravanihpp.com), which can be used by stakeholders for submitting any feedback.

Copies of the full ESIA report, Non-Technical Summary, Environmental and Social Action Plan, and Stakeholder Engagement Plan will also be made available for review by the general public at the following locations:

- as a hard copy in Georgia Urban Energy office – 37d Chavchavadze str, Tbilisi, Georgia
- as a hard copy in SRF Gamma's Office – 9 Merab Alexidze str, Tbilisi;
- as a hard copy in Aspindza Municipality government office - 3 Tamar Mepe str, Aspindza
- as a hard copy in Akhaltsikhe Municipality government office - 18 Merab Kostava str, Akhaltsikhe.
- as a hard copy in Akhalkalaki Municipality government office - 11 Cherents str, Akhalkalaki

In addition:

- copies of the Non Technical Summary will also be posted on the EBRD's and IFC's disclosure web sites and
- Non Technical Summary, Environmental and Social Action Plan and Stakeholders Engagement Plan will be posted on the Project web site;
- as a hard copy in EBRD's Tbilisi office - 6 Marjanishvili str, (Green Building, IV - V floor), 0105 Tbilisi. The remainder of the disclosure package will be also available at this office on CD;
- the entire disclosure package will be available on a CD from EBRD's Business Information Centre, One Exchange Square, London, EC2A 2JN.

The public consultation process will be open for review and comment and revised as appropriate throughout the course of the project. This will include making publicly available the findings and analyses of the environmental and social studies as they emerge at critical milestones throughout the ESIA. Non-technical Summary and grievance mechanism will be available in English, Georgian and Russian, while. SEP and ESAP - in English and Georgian languages only.

It is envisaged that electronic copies of the relevant reports (the ESIA, Non-Technical Summary, SEP) will remain in the public domain beyond the 60 day consultation period required by EBRD up to completion of the construction phase. This SEP will remain publicly available on the GUE's project website.

There will be further consultations with NGOs and community stakeholders throughout the project, including after final disclosure of this document. Meeting with NGOs in Tbilisi is scheduled for April, open houses/meetings with community in villages along the line will be carried out.

10 Public notification

The mechanisms for facilitating input from stakeholders may include notifications to local and regional NGOs, press releases in the local and national media, distribution of the ESIA documentation to the local and central offices of the Ministry of Environment Protection and Natural Resources and local municipality offices.

Leaflets can be posted in public places (shops, pharmacies, etc.) to ensure that information is brought to the notice of local residents. Community will be informed about feedback and grievance mechanisms. Leaflets with contact details and response procedure will be handed over. In addition, certain directly affected groups (land owners) will be notified directly about the anticipated impacts, proposed mitigation measures, and planned compensations. For these purposes, leaflets with a description of the land acquisition process will be distributed and a number of one-to-one meetings will be held with the affected groups.

Throughout construction annual updates using the project web site and flyers will be ensured.

Besides, as already mentioned in section 8, meetings with the mayors will be held, in order to update officials on progress.

Local municipality will act as one of the focal points for the feedback from community. GUE representative charged with responsibility to deal with community liaison will be in permanent contact with local authorities and community representatives on the ground.

During operation information about any maintenance (location, type of maintenance required, start date and expected duration) will be communicated through the project web site, local municipality and using flyers. Community along the transmission line corridor will be informed about the RoW management schedule in advance.

11 Resources and Responsibilities

GUE will take overall responsibility for consultation with all stakeholders in relation to the Project and will use available resources to ensure that all consultation activities are conducted to the appropriate standard. During the project implementation phase, the staff responsible for community liaison will be charged with responsibilities, inter alia, to communicate with the local community, handle grievances, and resolve disputes between parties. Stakeholder engagement activities will be coordinated:

Name: Nodar Kurtanidze
Address: 37d Chavchavadze street, 0162 Tbilisi, Georgia
Phone: +995 95 251183
Email: info@paravanihpp.com

The community liaison coordinator will be responsible for the disclosure of Project information; public consultation activities and the management of the Public Grievance Procedure (see Section 12, below). A responsibility diagram throughout the lifecycle of the project is shown below (see Figure 11.1.)

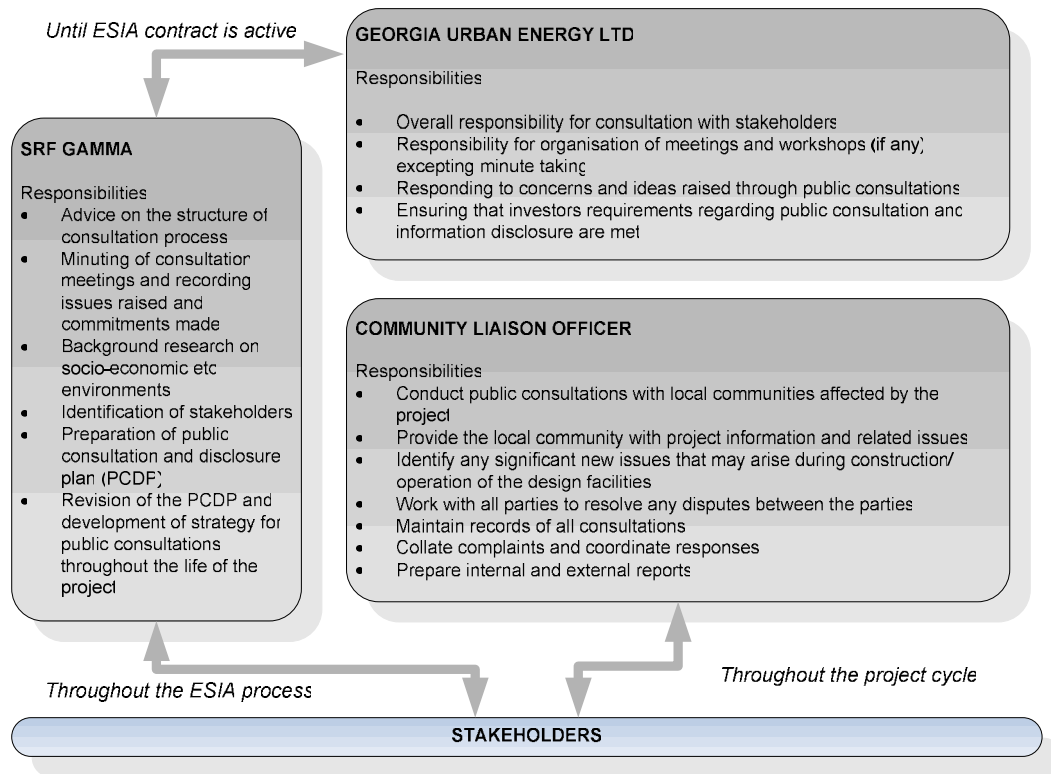


Figure 11.1. Diagram of responsibilities

12 Grievance Mechanism

Georgian Urban Energy has developed several methods for the public to lodge a grievance/request for information:

- The website includes a system that receives and processes comments and complaints from the public;
- A Public Grievance Leaflet with accompanying grievance form can be completed (see Annex 2).

The leaflets will be posted on the GUE project website <http://www.paravanihpp.com/> and will be available at the local government offices, and places where meetings are planned to be held, according to the schedule of stakeholder consultations (see Annex 3).

When any public grievances are received, these will be managed through a series of steps. In summary, requests for information/complaints will be acknowledged within 5-10 days and, where possible, the information requested will be provided within 10-20 days depending on the complexity of information requested/complaints received.

All grievances will be reflected in a grievance log to ensure that each grievance is assigned an individual number and that consistent tracking and corrective actions are carried out. The log will be used to analyse the frequency, as well as for prevailing subjects and any recurrent trend of grievances. The log contains:

- Date when the grievance was received;
- The reference number;
- Content of the grievance;
- Identification of parties responsible for the resolution;
- Dates when the investigation was initiated and completed;
- Findings of the investigation;
- Information on proposed corrective action sent to the person who lodged the grievance (unless it was anonymous) and the date of the response sent; the date when the grievance was closed out;
- Statement of satisfaction of the person who lodged the grievance, or a reason for non-resolution of the grievance.
- Any outstanding actions for non-closed grievances.

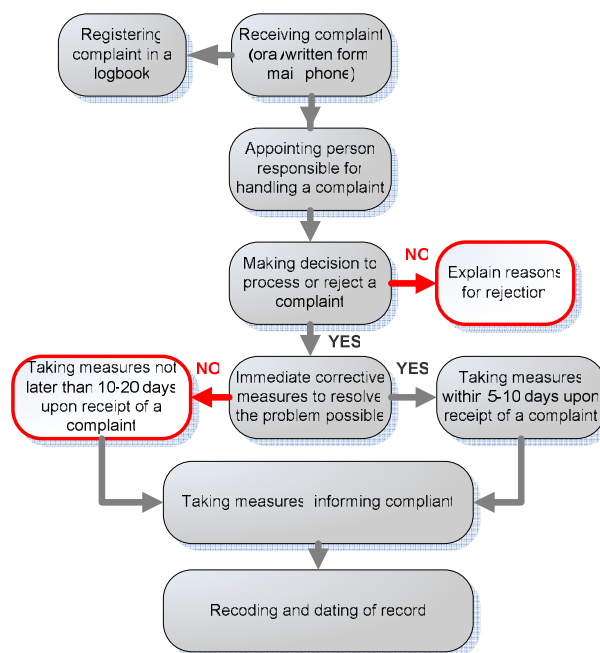


Figure 12.1. Grievance procedure

(The complainant will be informed if it has been decided to extend the complaint investigation period)

All complaint documentation is kept on a file for a period of two years and then archived. Levels and types of complaints will be monitored by GUE. Where a resolution to the grievance cannot be provided within the timescales specified above, GUE informs complainant about that and once investigations have been completed, contacts the person making the grievance to discuss and agree on the resolution. GUE may undertake follow-up monitoring to check that the problem does not recur.

GUE's management and resolution of any grievances will be subject to monitoring by EBRD.

Persons lodging grievances will have an opportunity to maintain their confidentiality (see Annex 2 for details). GUE will ensure that the name and contact details of the person are not disclosed without their consent and only the team directly working on the investigation of the grievance will be aware of them. In cases when an investigation necessitates passing some of the information on to third parties for the purposes of resolving the situation (e.g. when it is ascertained that the grievance resulted from certain actions by a contractor company), the complainant's agreement will be sought

in a due manner. If it is not possible for the team to fully investigate the grievance without revealing the person's identity (for example if they are required to give evidence in court), the investigation team will discuss with the complainant how they wish to proceed. The procedure also allows for anonymous complaints to be lodged. In this case the grievance will still be investigated, although GUE will not be able to provide feedback to a complainant. The procedure is shown graphically in the flow diagram below.

This SEP does not address procedure for work related grievances of contractor, however, GUE bears overall responsibility for the project.

13 Monitoring and Reporting

The Stakeholder Engagement Plan will be periodically revised and updated during construction and operation stages of the project.

Monthly summaries of incidents/grievances and the status of implementation of corrective/preventive actions will be referred to in GUE's annual reports. Reporting to external parties such as regulatory authorities as required will be the responsibility of the GUE's director Mr. Nodar Kurtanidze. Reports will also be submitted to EBRD (the lender) in case agreed. Any record or document will remain available for examination by an authorised person.

14 Contact Details for the Public

Georgia Urban Energy

Contact: Nodar Kurtanidze

Address: 37d Chavchavadze street, Tbilisi 0162, Georgia

Email address:

Tel/Fax: + (99532) 251183

Website address: www.paravanihpp.com

EBRD London (Business Information Centre)

One Exchange Square

London EC2A 2JN, UK

Tel: +44 20 7338 6747

Fax: +44 20 7338 6155

Website address: <http://www.ebrd.com/projects/eias/index.htm>

EBRD Georgia

6 Marjanishvili street, (Green Building, IV - V floor), 0105 Tbilisi.

Tel: + 995 32 44 74 00

Fax: +995 32 92 05 12

Website address: <http://www.ebrd.com/pages/country/georgia.shtml>

ANNEX 1. LIST OF STAKEHOLDERS (HPP and Transmission Line components)

Contact Person	Contact Details
National	
M.Velishvili	Deputy Minister, Ministry of Energy of Georgia Baratashvili 2, 0105 Tbilisi; tel: (+995 32) 35 78 00; fax: (+995 32) 35 78 00/28 e-mail: mail@minenergy.gov.ge
N.Chakhnakia	Service of Licences and Permits, Ministry of Environment Protection and Natural Resources, Address: 6 G. Gulua Str., 0114 Tbilisi, Georgia
N.Vacheishvili	Deputy Minister, Ministry of Culture, Monuments Protection and Sport of Georgia
Regional	
AKHALKALAKI	
Sh.Shirinijan	Head of the Service of Economy and Infrastructure Development, Akhalkalaki municipality
Sh.Raisijan	Specialist on Construction, Akhalkalaki municipality
N.Kazarijan	Specialist on Property and Land use, Akhalkalaki municipality
S.Ezoijan	Chief Specialist on Juridical Issues, Akhalkalaki municipality
N.Iritzian	Head of Sakrebulo, Akhalkalaki municipality
ASPINDZA	
B.Bekauri	Head of Aspindza municipality government
B.Sandodze	Deputy Aspindza heah of municipality government
T.Gigashvili	Deputy Head of Aspindza Self-governance
M.Khizadze	Head of Economical and Infrastructure Development
G.Mazmishvili	Economical and infrastructure service, Aspindza municipality
M.GiorgaZe	Economical and infrastructure service, Aspindza municipality
K.Loladze	Leading Specialist of the Service for Economical and Infrastructure Development of Aspindza Municipality
R.Tsiklauri	Leading Specialist of the Service for Economical and Infrastructure Development of Aspindza Municipality
S.Suaridze	Aspindza Municipality
M.Narimanidze	Aspindza Municipality
M.Maisuradze	Aspindza Municipality
G.Magradze	Aspindza Municipality
D.Papashvili	Aspindza Municipality
AKHALTSIKHE	
Z.Jiniuzashvili	Deputy head of Akhaltsikhe municipality government
R.Karapetian	Deputy head of Akhaltsikhe municipality government
G.Qasrashvili	Road and infrastructure specialist
E.Mgebrishvili	Architecture and construction specialist
D.Chachanidze	Senior specialist, construction and spatial planning.
Other Stakeholders	
G.Jinchvelidze	Executive Director, Rural Consultancy Agency, Regional Advisory Service of Samtskhe-Javakheti, Abastumani Road, Agroshop 'Farmer', Tel: +995 (265) 21 996, +995 (8) 90 461 727; E-mail: office@ras.ge
A.Chelidze	Green Movement, Samtskhe-Javakheti branch, , vil.Ude, Adigeni municipality, tel: 799111
G.Zedgenidze	Green Movement, Aspindza, vil.Chobareti
G.Iandian	Centre for the Support of Reforms and Democratic Development, Nalbandian Street, Akhalkalaki
V.Avakian	Akhalkalaki youth union
M.Matsukatov	Business Center
L.Levanian	Association of Democratic Development of Samtskhe-Javakheti. Cheremts 14. Akhalkalaki
D.Agdgomelashvili	Women for Javakheti Future
N.Demirchian	Women's Union

T.Chaduneli	Customer service specialist, Energo-pro Georgia, Samtskhe Javakheti Branch, Sulkhan Saba st. 2, tel: 895 950 958
N.Tateshvili	Chairman, Akhaltsikhe Center for Social Development in Samtskhe-Javakheti
M.Modebadze	Chair, NGO Society of Democrat Women (Samtskhe-Javakheti Region) tel: 899 548344; marinamodebadze@rambler.ru
A.Grigorian	Community Association of Akhalkalaki, 8a Svobody street, Akhalkalaki, tel: 93 33 35 59, e mail: agris05@mail.ru
L.Kavrelashvili	Georgian Women NGO Coalition, tel. +995 77 42 50 00
K.Kirakosijan	Energo-pro Georgia, Nalbandiani st. 45, Akhalkalaki, Tel:895 950951
B.Melikadze	Energo-pro Georgia, 45 Nalbandiani st., Akhalkalaki, tel:895 951753
M.Iakobijan	Energo-pro Georgia, Nalbandiani st. 45, Akhalkalaki, tel: 895 951753
Merab Beridze	Energo-pro Georgia, 1 King Tamara st., tel: 895951005
Z.Zedginidze	Aspindza Farmers Union, 2 Erekle street, Aspindza
J.Khozrevanidze	Union Aspindza
E.Seturidze	vil.Khervisi
M.Tsintskaladze	vil.Khervisi 899 645853
N.Butkhuzi	vil.Khervisi
G.Andguladze	Union of Democrat Meskhs, 31 Parnavaz Mepe street, Alhaltsikhe, tel.: 826-521223, 899540291
R.Korshia	Mtsvane Jvari, 1 Ioane Nebieridze street, Akhaltsikhe, tel 899142577
G.Janova	Region Union of Greeks, 18 Kostava street, Akhaltsikhe, tel: 899148416
N.Zubashvili	Samtskhe-Javanheti regional development Agency, 25 Rustaveli street, Akhaltsikhe, tel: 895451911
M.Modebadze	Union of Democrat women of Samtskhe-Javakheti, 109 Kostava street, Alhaltsikhe, tel: 826-521385, 899548344
G.Atoshvili	Akhaltsikhe Business Centre, 1 Ketskhoveli street, Akhaltsikhe, tel: 899 1717169
N.Zubashvili	Samkaro, 45 Rustaveli street, Akhaltsikhe, tel: 895 451911
M.Sudadze	Akhaltsikhe Youth Centre, 79 Kostava street, Akhaltsikhe, tel: 899 265263
L.Nikabadze	TV broadcasting company Canal 9, 6 Tamar Mepe street, Akhaltsikhe. tel: 899 296648
K.Janiashvili	Adult Education Centre, 65 Rustaveli street, Akhaltiskhe , tel: 899928907

Information about the project was published to internet

http://www.government.gov.ge	Webpage government of Georgia
http://www.president.gov.ge	Official webpage of the President of Georgia
http://www.georgianurbanenergy.com	Georgia Urban Energy
http://www.gbw.ge	Georgian Business week
http://www.businessneweurope.eu	Business new Europe
http://www.newsturkey.com	NewsTurkey.com
http://eng.primenewsonline.com/	Prime news
Arguments and Facts	43 (372), 2009
Caucasus press	3. Kikodze Street. Tbilisi 380008; Tel: (995 32) 98 35 81; 92 29 19 Fax: (995 32) 98 53 57 E-mail: en-edit@caucasus.net

Information related to ESIA procedure in printed media

24 saati	Maka Jaiani, Fax:202 425; t: 202 424, Tbilisi
Aspindza	Natela Tsiskaridze, 770841, 8264/91441, Aspindza
Samkhretis Karibche	Rima Garibijan

ANNEX 2. PUBLIC GRIEVANCE LEAFLET

The GUE is striving to ensure that the construction and operation of the Paravani HPP and transmission line will not cause any problems for those living near to the project site and for other potentially affected stakeholders. To achieve the mentioned goal and ensure preservation of environment we would like to hear about any concerns or grievances that you have in relation to the Project's activities.

What kind of grievance can I lodge?

Anyone can lodge a grievance if they feel that project activities are negatively affecting them, their community or their local environment. Example of grievances could include, for example:

- Negative impacts to local residents (such as excessive dust, noise, odour, etc.)
- Environmental damage resulting from the project activities
- Practices that endanger the health and safety of employees or residents
- Failure to meet the labour rights of GUE employees working on the project

How can I submit a grievance?

Anyone can submit a grievance to the PSpC in the following ways:

- By phone to + (995 32) 251 183
- By e-mail on info@paravanihpp.com
- Via the website at: www.paravanihpp.com
- In person to Nodar Kurtanidze, 37d Chavchavadze street, 0162 Tbilisi, Georgia
- By completing the attached grievance form and posting it to/dropping it at any of the following addresses:
 - Georgia Urban Energy, 37d Chavchavadze street, 0162 Tbilisi, Georgia;
 - Aspindza Municipality, 3 Tamar Mepe street, Aspindza
 - Akhalkalaki Municipality, 11 Cherents Street, Akhalkalaki
 - Akhaltsikhe Municipality, 18 Merab Kostava street, Akhaltsikhe

How will PSpC deal with my grievance?

GUE will go through the following steps to deal with your grievance:

Step 1: Acknowledgement: GUE will contact you to acknowledge and where possible resolve within the following timescales:

Requests for information/complaints will be acknowledged within 5-10 days and, where possible, the information requested will be provided within 10-20 days depending on the complexity of information requested/complaints received.

This acknowledgment will include your grievance reference number, the person at GUE responsible for tracking your grievance and their contact details, and the expected date for completing the investigation into your grievance (where appropriate).

Step 2: Investigation: GUE will then set up an investigation into your grievance. We may need to contact you during this investigation. GUE will aim to complete the investigation within a further twenty working days.

Step 3 Resolution: When we have investigated the grievance we will contact you with our findings and our proposed response. If our investigations find that the grievance does not relate to the Project's activities, or if GUE is working within the relevant Georgian and International Standards in relation to the grievance we will explain this in writing to you. Otherwise we will propose a response to address the grievance. If you consider our response and its implementation to be satisfactory we will ask you to sign a statement of satisfaction if you are happy to do so. If you are not satisfied with

our response we will have further discussions with you to see if there are other steps which can be taken to resolve the grievance.

Step 4 Follow up: GUE may contact you at a later stage to check that our activities pose no further problems.

Confidentiality: If you wish your grievance to remain confidential, GUE will ensure that your name and contact details are not disclosed without your consent and only the GUE team directly working on the investigation of your grievance will be aware of them. If it is not possible for the team to fully investigate the grievance without revealing your identity (for example if you are required to give evidence in court) the investigation team will discuss with you how you wish to proceed.

Anonymity: If you wish to lodge a grievance anonymously you can do so using the attached form without filling in the name and contact details. The grievance will still be investigated, but it may be more difficult for GUE to conduct the investigation and we will not be able to give you feedback on our investigations.

Public Grievance Form

Grievance Reference Number [(to be filled in by GUE)]:			
Contact Details	Name:		
	Address:		
	Tel:		
	e-mail:		
How would you prefer to be contacted? Please tick box	By post	By phone	By e-mail
Name and the identification information (from identity card). [thought to be mandatory – to be confirmed]			
Details of your grievance. Please describe the problems, who it happened to, when, where and how many times, as relevant			
What is your suggested resolution for the grievance?			
How to submit this form to PSC	By Post to: 37d Chavchavadze street, 0162 Tbilisi, Georgia		
	By hand: 37d Chavchavadze street, Tbilisi, Georgia		
	By e-mail: Please email your grievance, suggested resolution and preferred contact details to: info@paravanihpp.com		
Signature		Date	

ANNEX 3. SCHEDULE OF STAKEHOLDER CONSULTATIONS

	Stakeholder	Date and time	Venue
1	Municipality representatives, all stakeholders	26 October, 2009. 11:00	Municipality building: 3 Tamar street, Aspindza
2	Municipality representatives, all stakeholders	26 October, 2009. 13:00	Municipality building: 3 Cherents street, Akhalkalaki
3	Municipality representatives, all stakeholders	18 January, 2011, 11:00	Municipality building: 3 Tamar street, Aspindza
4	Municipality representatives, all stakeholders	18 January, 2011, 13:00	Municipality building: 18 Kostava street, Akhaltsikhe
5	Landowners along the transmission line route	One to one meetings in the process of transmission line route design	Aspindza, Idumala. Chikhoreshi, Agara, Khizabavra, Saro
6	Meeting with NGOs in Tbilisi	April 2011, exact date tbd	tbd

ANNEX 4. PARAVANI HPP _MINUTES OF MEETINGS**Minutes of public meetings**

Aspindza

26.10. 2009

Information on the planned development and the public meeting for discussion of its impact on the natural and social environments was published the national coverage ('24 hours') and the local newspaper ('Aspindza'). Information related to the project and potential impacts was made available for consideration by stakeholders. The copies of documents (ESIA report and Executive summary) were made available for public at Aspindza government office; Georgia Urban Energy Ltd and SRF Gamma offices in Tbilisi as well as was posted to internet (Georgia Urban Energy webpage).

26 October 2009, 11:00 in municipality building (3 Tamar street) in Aspindza, public discussion of the report on environmental and social impact assessment of the project for construction and operation of Paravani HPP (owner Georgia Urban Energy) was carried out.

Presentations: Nodar Kurtanidze, General Director, Georgia Urban Energy Ltd; Vakhtang Gvakharia, president, Gamma

Questions – Paravani HPP project public meeting in Aspindza

	Name	Question	Answer
1	Iuri Zazadze, vil.Khertvisi	Will it be possible to use the tail water for irrigation of the terraces?	N.Kurtanidze, general director, Georgia Urban Energy: The company plans to launch a range of social programs for the local community. Possibilities to use water for water mills and fish farming are under discussion. As for the possibility to use the tailrace water for irrigation, this possibility will be also considered.
2	Mamuka Khizadze, head of the unit of economy and infrastructure development. Iuri Zazadze, vil.Khertvisi	During the high water events land plots on the right bank of the Mtkvari river, near the Mtkvari and Paravani confluence uses to be flooded. Will there be any risk of intensification of this process due to "discharge" of diverted Paravani water into the Mtkvari upstream the confluence.	V.Gvakharia, president, Gamma: the issued has been studied by hydrologists involved in the impact assesment. They will be asked to look at this issue more attentively. Recommendations will be worked if relevant.
3	Boris Narimanidze, head of economical service	Is possibility of reduced tariff for local community envisaged?	N.Kurtanidze, general director, Georgia Urban Energy: company is not authorised to set any tariffs. Marita Arabidze, chief specialist, Ministry of Energy: the ministry does not set tariffs either. Distribution company is a private entity. Reduced tariffs, if allowed, can be considered as a good will.
4	Tristan Murjikneli, vil Toloshi	Will the local community have possibility to be employed?	N.Kurtanidze, general director, Georgia Urban Energy: the list of required skills and qualifications will be defined. Priority will be given to local community and residents of the nearest villages. The company

			<p>got in touch with Georgian Technical University to identify students from the area. The staff will be trained. Study tours to the companies, producers of equipment are under discussion, etc. Along with the locals 3-4 invited professional will be also employed.</p>
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**Paravani Hydropower Plant – construction and operation ESIA
Minutes of public meetings**

Akhalkalaki

26.10. 2009

Information on the planned development and the public meeting for discussion of its impact on the natural and social environments was published the national coverage ('24 hours') and the local newspaper ('Samkhretis Karibche'). Information related to the project and potential impacts was made available for consideration by stakeholders. The copies of documents (ESIA report and Executive summary) were made available for public at Akhaltsikhe government office; Georgia Urban Energy Ltd and SRF Gamma offices in Tbilisi as well as was posted to internet (Georgia Urban Energy webpage).

26 October 2009, 13:00 in municipality building (3 Cherents street) in Akhalkalaki, public discussion of the report on environmental and social impact assessment of the project for construction and operation of Paravani HPP (owner Georgia Urban Energy) was carried out.

Presentations: Nodar Kurtanidze, General Director, Georgia Urban Energy Ltd; Tengiz Lagidze, E&S expert, Gamma.

Questions – Paravani HPP project public meeting in Akhalkalaki

N	Name	Question	Answer
1	Mikhain Kolikidi, NGO Eco-2007	What impact the project will have on Paravani lake	Tengiz Lagidze: The site is located in 53km downstream the lake. Development can not have any impact.
2	Vitali Torosian, deputy gamgebeli of Akhalkalaki	Will the HPP have impact on fish migration and are there any measures to mitigate the impact envisaged.	Tengiz Lagidze: arrangement of fish passages is recommended.
3	Vitali Torosian, deputy gamgebeli of Akhalkalaki	Is there any risk of impact on ground water during construction of the tunnel.	Tengiz Lagidze: there is no risk of impact on ground water during construction. Low power explosions will be used. The final document will give more information on this issue.
4	Mikhain Kolikidi, NGO Eco-2007	What will be the percentage of the flow diverted from the Paravani.	Nodar Kurtanidze: during operation sanitary flow will be preserved. Vakhtang Gvakharia: monitoring of the flow will be carried out. Water use carefully regulated.
5	Givi Beridze, vil. Ptena representative	Will there be possibility of employment for local community	Tengiz Lagidze: local community will be given priority in this regard.
6	Armen Khachaturian, AKhalkalaki	After completion of construction Are the any recultivation works scheduled for post-construction period	Tengiz Lagidze: after completion of construction works all temporary facilities will be dismantled, waste/surplus material and machinery removed from the sites. Area restored to the status close to that it had prior to development.
7	Vitali Torosian, deputy gamgebeli	How electricity will be sold.	Nodar Kurtanidze: The HPP will connect to the power system of Georgia. Georgia Urban Energy is not responsible for selling generated power.

PARAVANI HPP COMPONENT**Comments of the Ministry of Environment Protection and Natural Resources of Georgia**

N	Comment	Response
1	The ESIA hazardous emissions are calculated, information about sources is presented. For thoroughness of the picture complete technical parameters of mobile machinery, inert material and concrete production units, machinery and vehicles servicing and maintenance facilities, alternative sources of energy must be given.	Taking into account the fact that construction services will be provided by the company identified through tendering procedure complete/precise information on technical characteristics and type of machinery is not available. This information will be specified later when contractor is identified Calculation of emissions was done using methodology accepted by the Ministry of Environment Protection and Natural Resources for the worst possible scenario (simultaneous operation of all sources of emission).
2	The documents must give information about waste water volumes generated on construction and operation stages of the project with indication of the parameters of facilities requiring technical water.	Taking into account the fact that construction services will be provided by the company identified through tendering procedure complete/precise information on technical characteristics and type of machinery is not available. Rough estimate is given. There is no need of technical water during operation.
3	More information about waste water generated on construction and operation stages must be given. Thorough information about water supply and waste water management of camps must be provided, in particular: <ul style="list-style-type: none"> • Drinking and technical water demand; • Waste water discharge points, quality and quality of the waste water; • Waste water treatment methods. Information about waste water from building grounds, volume, composition, availability of treatment facility (oil traps) must be given.	Recommendation is taken into account. Text revised accordingly (see chapter 5.6.1.2 of the report)
4	Section 5.1.4 – it is mentioned that water from the intake gets into the settling reservoirs. Accumulated sediments are flushed into the river. Quantitative information re discharged water and its quality/composition of pollutants must be presented.	Settling units are provided to settle sediments in order to avoid damage of the turbines. The settling reservoirs will be flushed once or twice a year. The gate will open and the sediments flushed down by the river flow. By rough estimate this will require 400-500 m ³ of water. Contamination of the sediments is less likely to be the case as there will not be any sources of pollution on the weir site. The settling reservoirs will accumulate suspended particles with diameter higher than 0.3mm. Flushing will lead to increase of water turbidity. Impact will be short term and last only 2-3 hours.
5	Maximum permissible concentration (MPC) limits of pollutants discharged into the surface water together with effluents must be defined for each source of discharge. The document submitted to the Ministry of Environment Protection and Natural Resources for approval.	The MPC project will be submitted to the Ministry as a part of the package of documents for ecological examination.

ANNEX 5. PARAVANI HPP_AKHALTSIKHE TRANSMISSION LINE_MINUTES OF MEETINGS**Minutes of public meetings**

Aspindza

18.01. 2011

Information on the planned development and the public meeting for discussion of its impact on the natural and social environments was published the national coverage ('24 hours') and the local newspaper ('Aspindza'). Information related to the project and potential impacts was made available for consideration by stakeholders. The copies of documents (ESIA report and Executive summary) were made available for public at Aspindza government office; Georgia Urban Energy Ltd and SRF Gamma offices in Tbilisi as well as was posted to internet (Georgia Urban Energy webpage).

18 October 2011, 11:00 in municipality building (3 Tamar street) in Aspindza, public discussion of the report on environmental and social impact assessment of the project for construction and operation of Paravani HPP-Akhaltshikhe transmission line (owner Georgia Urban Energy) was carried out.

Presentations: Nodar Kurtanidze, General Director, Georgia Urban Energy Ltd; Maia Stamateli, environmental specialist, Gamma

Questions – Paravani HPP project public meeting in Aspindza

N	Name	Question	Answer
1	Mamuka Khizadze – Head of Economical service, Aspindza municipality	What is the distance between the towers. Will the line cross Khertvisi village	147 towers will be installed. Distance between the towers will be about 240m. In river, road/railway crossings the towers will be installed with consideration of relevant safety standards.
2	Iuri Zazadze – vil.Khertvisi community representative	Will the problem of roads solved	Improvement of roads is planned. Local community will benefit from that.
3	Mikheil Maisuradze – economical and infrastructure service, Aspindza Municipality	Is improvement of local power distribution planned	It is advisable to discuss power transmission and distribution issues simultaneously. Discussion with energy distribution company shall be launched.
4	Besik Bekauri – Head of the government of Aspindza municipality	What is allowed and banned in the limits of the right of way	Keeping explosive, flammable materials, arrangement of fuelling stations, spraying irrigation (in case water jet is high) is not allowed. Vegetation height control within the boundaries of the RoW is required. Agricultural activities are allowed.
5	Iuri Zazadze – vil.Khertvisi community representative	How employment issue will be solved	Intention is to hire engineers from Turkey, other staff will be local. At the moment works are in progress at the HPP intake construction site. Construction of intake will take up 3-4 years. After that human resources will be shifted to the power station (Khertvisi) construction site. It is advisable to prepare a list of local resident - job seekers with indication of the skills available. Professional staff will be selected through testing. Number of the staff required for construction of transmission line is less. Priority is given to local residents. Students from Samtskhe-Javakheti who can be employed at the HPP after graduation have been identified.
6	Besik Bekauri – Head of the government of Apindza municipality	In case activities will cause loss of harvest or land, is compensation planned	The issue will be settled in accordance to relevant legislation of Georgia. Land owner and potential loss/damage

			compensation value will be identified. Negotiations with landowners will be carried out. EBRD and IFC requirements – taken into consideration
7	Iuri Zazadze – vil.Khertvisi community representative	What social programs are scheduled? Is road improvement and assistance for Khertvisi residents envisaged. 1) Can the problem with water supply 2) Will irrigation water for terraces be provided?	Water supply and waste water systems will be arranged; treatment facility - built. The system will serve facility and community. Possibility to provide water for irrigation as well as use of tailrace water by community will be discussed.
8	Mamuka Khizadze – Head of Economical service, Aspindza municipality	How waste management issued will be solved – there is no proper landfill available in the region.	Generation of large amount of construction waste is not expected. As for domestic waste, with consideration of the number of the staff large amount will not be accumulated. Standard complaint landfills in Georgia are not widely available. Until proper landfill arranged, waste will be disposed to the nearest dumpsite.

**Paravani HPP – Akhaltsikhe Transmission Line construction and operation ESIA
Minutes of public meetings**

Akhaltsikhe

18.01. 2011

Information on the planned development and the public meeting for discussion of its impact on the natural and social environments was published the national coverage ('24 hours') and the local newspaper ('Aspindza'). Information related to the project and potential impacts was made available for consideration by stakeholders. The copies of documents (ESIA report and Executive summary) were made available for public at Aspindza government office; Georgia Urban Energy Ltd and SRF Gamma offices in Tbilisi as well as was posted to internet (Georgia Urban Energy webpage).

18 October 2011, 13:00 in municipality building (18 Kostava street) in Akhaltsikhe, public discussion of the report on environmental and social impact assessment of the project for construction and operation of Paravani HPP-Akhaltsikhe transmission line (owner Georgia Urban Energy) was carried out.

Presentations: Nodar Kurtanidze, General Director, Georgia Urban Energy Ltd; Maia Stamateli, environmental specialist, Gamma

Questions – Paravani HPP project public meeting in Aspindza

N	Name	Question/Issue raised	Answer
1	Z.Jiniuzashvili – Deputy head of Aspindza municipality	Impact on EMF of population.	Safety measures will be put in place. Kept will be safe distances in railway, road crossings. In case necessary magnetic field will be measured, relevant measures for impact minimisation/mitigation put in place.
2	Z.Jiniuzashvili – Deputy head of Akhaltsikhe municipality	Will forest, vegetation be affected.	The line route runs through the area mostly covered with shrub and grass vegetation. In one section forest is being crossed. Significant tree felling is not planned. In case deemed necessary compensation will be provided.
3	Z.Jiniuzashvili – Deputy head of Akhaltsikhe municipality	Will it be allowed to use the land for cultivation after construction works are finished.	The line will cross a range of cultivated land and homestead plots. Compensation of harvest/land loss or property damage will be provided. Land can be used for cultivation. Some restrictions taken into account.
4	R.Karapetian - Deputy head of Akhaltsikhe municipality	Is there the risk that heavy machinery will damage the village roads and/or property. Is any compensation planned.	Safety measures and measures for protection of property from damage will be considered. In case of confirmed damage, compensation is envisaged.
5	Z.Jiniuzashvili – Deputy head of Akhaltsikhe municipality	Is any impact on architectural heritage expected.	Architectural monuments along the route are identified. They are located at certain distance from the line (no impact expected). Archaeological survey has been carried out. Construction is agreed with the Ministry of Culture and National Agency for Heritage Protection. During construction of transmission line tower location sites will be selected so to bypass sensitive recipients.

PARAVANI HPP – AKHALTSIKHE TRANSMISSION LINE COMPONENT**Comments of the Ministry of Environment Protection and Natural Resources of Georgia**

N	Comment	Response
1	River and stream crossings must be agreed with the National Environmental Agency	The project will be agreed.
2	General requirement for camps is given, no exact technical parameters for machinery servicing areas, expected emissions and reduction measures given. Concrete plant, workshops, vehicle servicing area, fuel storage will generate emissions. The ESIA must give relevant information, parameters, quantitative, qualitative characteristics, etc.	Transmission line construction will use camps arranged for construction of Paravani HPP. Expected emissions are described in the Paravani HPP ESIA. Environmental permit for the HPP was obtained in 2009. There will be no fuels storage on the site. Initial intent to have storage tank onsite changed. Technical maintenance means minimum repair onsite.
3	Expected values of parameters of impact must be calculated and confirmed. Provided information is not exhaustive and needs adjustment.	The ESIA provides information about water use and waste water volumes, estimate of generated waste and emissions.
5	Section dedicated to description of hydrology is based on the reference data. As the region is not notable for hazardous hydrological events it is necessary to provide information about maximum flow of different probability.	The comment is not considered. Construction of transmission line and its exploitation will not have impact on surface water and vice versa, as none of the towers is being built in the riverbed or nest to it. Consideration of different probability flows is not deemed necessary.
6	According to the report installation of 147 towers is planned. The report must include information about engineering geological conditions (including geological hazards). Sensitive locations where complex measures are to be put in place must be indicated. Along with literature/reference data results of field survey must be presented and analysed.	Engineering geological survey is being carried out as a part of development of transmission line design. The project is developed by Turkish company BTE in association with local specialists. Field data are not available so far. The project will include the measures required in sensitive/'hazardous' locations.

ANNEX 6. LEAFLET_TRANSMISSION LINE SAFETY

SAFETY

FELLING OF TREES AND STORAGE OF TIMBER

- Near a transmission line, the trees must not be cut towards the line.
- Always verify the correct felling direction in accordance with the safety instructions for timber harvesting work.

If a tree begins to fall towards a transmission line:

- Interrupt your work immediately.
- Bound so that only one foot touches the ground at a time and proceed to a distance of at least 20m from the tree as fast as possible.
- If a falling tree hits the line or gets caught in the conductors, immediately or call emergency
- Make sure that nobody goes close to the hung tree.



Do not try to loosen a tree which touches phase conductors before:

- The line has been de-energised the line has been provided with work grounding you obtain permission from the owner of the line to loosen the tree.
- For safety reasons, timber must not be stored under transmission line or closer than 10m in horizontal direction from the closest phase conductor.
- Trees near transmission line must be always felled by professional

Open fire and blasting work

- It is forbidden to make an open fire under a transmission line or in its immediate vicinity.
- Grass can be burned within not less than 50m distance.

USE OF MACHINERY

- Caution must be exercised when operating agricultural machinery near the tower structures
- Excavator, crane or other machinery near a transmission line must not move too close to live phase conductors.
- No machinery must be brought into the tower area.
- Never drive machinery closer than 5m from the tower.



Voltage of the line	Min distance to machinery or under phase conductor	Min distance to machinery or load from the phase conductors in horizontal direction
110 kV	3m	5m
220 kV	4m	5m
400 kV	5m	5m

If the vehicle touches the conductors:

- Try to run the machine off the transmission line.
- If the machine catches fire or if its tyres start to smoke, jump out of the machine so that both of your feet touch the ground simultaneously.
- Do not touch the machine and ground simultaneously.
- Bound so that only one foot touches the ground at a time and proceed to a distance of at least 20 ms from the machine as fast as possible.
- Make sure that nobody can access the area.

METAL FENCES

PROBLEM: If the fence runs for a long distance parallel with the transmission line or is not isolated from the ground a harmful voltage may be generated.

SOLUTION: Fence must be grounded.



REFUELLING

Refuelling a vehicle or other machinery within less than 20m from a transmission line must be avoided.



METAL ROOFS

PROBLEM: The electric field of the transmission line may result in a charging voltage. It is harmful, but can be a nuisance.

SOLUTION: Can be removed by grounding the roof to the ground for instance through gutter pipes.

SPRINKLER IRRIGATION

- Artificial irrigation systems can be used near the line just as long as the water jet does not hit the line.
- When setting up, moving and dismantling irrigation systems, make sure that the irrigation equipment does not come dangerously close to the phase conductors.



CLIMBING IN TOWERS

It is very dangerous and absolutely forbidden to climb in transmission line towers. It is also forbidden to attach anything to the towers.

SOIL EXTRACTION AND DISPOSAL, DITCHING

- The digging of ditches is prohibited in a tower area.
- The sides of a ditch must never be closer than three metres from the tower structures.
- If the depth of a ditch to be dug is more than half a metre, the underground grounding electrodes must be taken into account.

If Phase conductor of the line is broken or hanging close to the ground it is highly dangerous to go near.

THUNDER AND LIGHTNING

- As the towers are generally higher than their immediate environment and since they are also grounded, they “attract” strokes of lightning which would strike in any case in the adjacent area.
- The line is so constructed that a stroke of lightning is guided through the overhead earth wire into the ground in a harmless manner.
- In other words, it is not advisable to stay in the immediate vicinity of a transmission line during thunderstorm.



ACTIVITIES CLOSE TO TRANSMISSION LINE

CULTIVATION

- A right-of-way can be used as a vegetable garden
- When planting bushes, a passage in the centre of the line must be left for inspectors and maintenance personnel movement.
- Fruit trees can be cultivated in a right-of-way as long as their height remains within the permitted limits.

STRUCTURES

It is forbidden to construct a building within the building prohibition zone of a transmission line area.

ANIMAL GRAZING AND HEALTH

Domestic animals can graze freely in a transmission line area.