

TECHNICAL DOCUMENTATION FRONT SHEET



LAKHAMI HYDRO POWER PLANT

TECHNICAL  
DOCUMENT

**Community Health and Safety Management Plan**

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Revision	Autor	Director	Approved	signature
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## 1. Scope

This Community Health and Safety Plan outlines the requirements for Community Health and Safety for the Lakhami 1&2 HPP during the operation phase.

Lakhami HPP (“the Project”) is located in Samegrelo-Zemo Svaneti region, on the Lakhami river, the right tributary of the Nenskra river. The Project consists of two diversion type, upper and lower run-of-river hydropower plants. The Project is located adjacent to two of the largest HPP projects in Georgia - Khudoni and Nenskra. Nenskra (280MW) is currently in construction stage, whereas Khudoni (700MW) has yet to be implemented.

A high-pressure diversion scheme has been selected for the Project. For the upper HPP a 3,770m long pipe of about 1.1-1.2m diameter is set along the existing local road in the Lakhami river gorge. As for the lower HPP, a 4,500m long pipe of about 1.3-1.4m diameter is envisioned. The pipes will be made of glass-fiber reinforced plastic (“GRP”) and steel pipes. The pipeline route crosses the Lakhami riverbed twice for the upper HPP and four times for the lower HPP.

Additional small Tyrolean intake on the left tributary close to the lower headwork’s diverts water from a small creek. A 315m long pipe of about 0.4m diameter diverts the water flow from the small tributary intake to the lower headwork’s. Projected annual generation of 87GWh does not take into account this additional intake.

Both powerhouses are designed as surface structures. Five identical vertical Pelton turbines are installed - two units for the upper HPP and three units for the lower HPP. The water flow will be conveyed back to the Lakhami river.

### Connection to the Grid

35 kV (35 kV side of double circuit 110/35 kV) overhead transmission line connects the Lakhami HPP-2 to the national grid of Georgia through Sagergila substation. Lakhami HPP-1 connected to Lakhami HPP-2, through double circuit 10 kV underground cable and further to national grid.

The Plan covers community health and safety management procedures for Road Safety in Communities, Right of Way Safety and Communities, Community Health, Raising Safety Awareness in Communities.

The scope in relation to community health, safety and security is to ensure that:

- The Project’s operation phase is managed in a way that community safety is maintained.
- The effects of security arrangements respect local community interests.
- Adequate preparations are made for emergencies to avoid risks to human health

## **2. Roles and Responsibilities of management**

### **2.1 HPP director**

The HPP Director shall hold primary responsibility for the implementation and oversight of safety measures during the operational phase. In this capacity, the HPP Director shall:

1. Ensure that operational activities are managed in a manner that minimizes, as far as reasonably practicable, adverse impacts on the local community and surrounding environment.
2. Establish and maintain effective communication and management control to ensure the proper implementation of this Plan.
3. Ensure that all third-party contractors and their representatives are informed of, and comply with, the requirements of this Plan.
4. Implement and adhere to the recommendations and guidance provided by the H&S and ESG Managers to mitigate risks and reduce potential impacts

### **2.2 Health & Safety Manager:**

The H&S Manager is responsible for providing technical advice on the development and implementation of community health and safety plan:

- Identify hazards related to local community and prepare effective risk mitigation measures.
- Prepare and represent top management effective ways of solving different HS issues.
- According to state technical regulation permanently inspect worksite environmental conditions: dust, noise, vibration.
- Provide mandatory HS training to raise safety awareness within staff and local communities.
- Provide sufficient good quality PPE.
- If temporary construction sites will be close to local population HS manager should arrange proper protection: fencing warning signs, noise control, etc.
- Define access roads based on reduced community risks (avoiding schools, kindergartens etc.);
- Raise control and permanently inspect technical condition of heavy equipment especially those who will cross populated areas.
- Provide all possible and sufficient measures to control unauthorized access of third-party people, especially children at HPP controlled areas.
- Control health condition of employees to restrict any possibility of spreading any daisies or illness.
- Conduct road conditions and evaluation of its related infrastructure;
- Carry out traffic control restrictions by the information which will be provided from H&S and Environment managers.

Defining speed limits and other activities which will emerge in the process of HPP operation.

## **2.3 ESG manager:**

The ESG manager is responsible for the implementation of the Community Safety Management Plan and monitoring the implementation of the community safety aspects of the Traffic Management Plan. The ESG manager is responsible for:

- The implementation of the community safety measures.
- Ensuring that Communities are kept informed about construction activities and the potential hazards / risks associated with these.
- Generating safety and health awareness in locals.

### **3. Mechanisms for informing communities.**

Communities will be informed about health and safety issues of relevance to them through:

- Community meetings in advance of any temporary construction activities which can be raised during operational period.
- At sensitive locations, identified during beginning period where HPP related traffic will be using local roads, and particularly where schools, markets and local community houses are close to the road, regular and repeated awareness of safety issues will be raised through village meetings.
- Warning safety signs will be provided where necessary.
- Ongoing consultation with contractor's and company's ESG managers, as well as contractor's and company's by HPP's H&S manager

### **4. Drug and Alcohol Control**

There is a zero tolerance to drunkenness on site and during duty hours. Drug and Alcohol testing will be carried out permanently and random at HPP facilities

For alcohol testing HPP HS manager is responsible for providing permanent tests for staff.

### **5. Transport**

Transport of Heavy-duty vehicles and large loads shall be scheduled where possible to minimize transit of large vehicles and convoys through villages during 'rush' hours and school opening and closing times.

Communities are informed of major transport activities, such as large convoys, prior to those activities taking place.

- Where traffic is diverted around crossings, traffic control or careful selection of the exit from the working areas will be provided with the aim of ensuring that Vehicles join the road in a safe manner.
- Use only identified and agreed access routes for transport of construction related material and equipment. ESG manager will advise workforce and routes that will be used and explain that extra care will be needed when walking along or crossing these routes.
- The maps will indicate access roads will be agreed with local authorities and communicated through community meetings and discussions and local workforce.
- All roads that will be used by HPP vehicles should be under high control.
- Consider community safety issues as a key criterion in the selection of access routes for HPP
- Dedicated Project speed limit of 20 km/hr for project vehicles along the RoW.
- Record the existing condition of all roads to be used as key access routes to main facilities, including a survey of potential safety concerns along the route.

- At sensitive locations where HPP traffic will be using local roads, and particularly where schools and markets are close to the road, awareness of safety issues will be raised through village meetings and classroom lessons.
- Implement temporary traffic control (e.g. flagmen) and Temporary traffic control measures at road crossings and junctions (flagmen, temporary traffic lights) where a safety risk assessment has identified traffic control measures. Flagman will be used during oversize load cross as well.
- Ensure that all HPP drivers having drugs and alcohol tests permanently.
- install traffic warning signs on the road where it's necessary, potential landslide area and e.c.t
- HPP drivers will follow dedicated speed limits.
- Driver trainings and toolbox talks on community safety will be provided to all drivers to raise their safety awareness.

## **6. Security and Access to Facilities**

During HPP operational phase there is hazard that local communities and unauthorized persons can get inside of operation facilities area without permission. To avoid related problems and minimize risk:

- Restrict access to HPP sites. access only for authorized persons.
- HPP personnel, visitors and vehicles are strictly prohibited from entering worksites outside office hours for reasons not associated with the work process.
- HPP facilities have warning signs which restricts unauthorized persons to get inside of operational area.

## **7. Safety and protection of local communities**

The temporary work areas which can be started during operational period such as (excavation areas, slopes, pipeline trench) are potential hazardous places which needs to be protected from local communities. HPP will give high importance to protect such type of areas from unauthorized access of locals and their health injury. All mandatory safety protection actions will be implemented to minimize risk.

- Open excavation areas will be barricaded by hard barrier.
- The safety warning signs will be published at all necessary places.
- If rainwater will be accumulated inside of trench it will be pumped out.
- High degree slopes hazardous edges will be barricaded and warning signs will be installed as well.
- At those areas, access road sections where is hazard of rock fall slopes will be covered by protection net. Warning signs will warn personal to avoid this place.

## **8. Noise and vibration and dust Control**

From Lakhmi HPP facilities only powerhouse 2 locates in village area. A noise and vibration level will be inspected permanently by HS team. If noise level does not meet Georgian state regulations and IFC standards, HPP HS team will provide sufficient protection measures. For noise control:

- Conducting follow up noise monitoring during operational period to verify environmental Standards for noise are being met.
- Permanently monitor noise at HPP sites.
- Inspect equipment technical condition and record defects.
- Transfer information to technical department to fix problem on different tools or equipment, to

minimize noise an manufacture level.

- Use only authorized, manufactured tool and equipment for work which have operation noise level within standard 40-80 DB

### 9. Community related health and safety hazards and risk mitigation

Possible identified hazards	Risk mitigation measures
Traffic incident between HPP belong vehicle and local community member.	Drivers are trained. Speed limit is dedicated. If Project's Heavy equipment cross village road sections, safe process occurs only with convoy and flagman.
Human fall inside of trench or excavated area, body injury	Trench and other excavated area will be inside of construction territory where access for unauthorized persons are restricted. All these areas will be barricaded by hard barrier. It will have warning signs on Georgian language. Everyone can read that there is hazard. Workers who are working at this area are trained. Medical doctor is in place
(MMI) Man Machine Interface at site	HPP area is closed for unauthorized visitors. Operators and drivers are trained. Every excavator has watchman who is controlling safe movement with heavy equipment.
Health injury by different tool or equipment	HPP area is closed for unauthorized visitors. Only authorized persons have right to work with different tools and equipment. They have PPE. If they observe unknown person at site they will directly inform security service about this. Security will arrive in place and remove that person from workplace.
Children and different peoples unauthorized access at site.	HPP area have one official access which will be controlled by security service. There is warning sign as well. If someone will access at site from forest and he/she will be observed by any employer security service will be informed about this and they will remove person or child from construction area. During informational meeting HS manager will mention about importance of this issue as well
Spreading of disease, illness or epidemy from HPP to local community	HPP has its own HS statement according to which all new employees should provide medical report until they join the project. Project have medical doctor who controls employers' health condition. Living camp which will be at site will meet hygiene and sanitary requirements. All employers get mandatory HS training which contains information about personal hygiene. There are different scenarios in ERP by which

	project health management will be implemented.
Noise and vibration at power house facilities	HPP Provides permanent monitoring of vibration and noise As Inside of facilitate also close to local community houses and yard. HPP technical crew permanently controls technical equipment and sensors to meet sufficient noise and vibration level to avoid impact.

## 10. Monitoring and Reporting

### Monitoring

It is important to monitor community safety to ensure that effective initiatives and programs are in place and being implemented such that the project does not result in any community safety issues.

The following key mechanisms/tools will be used to conduct monitoring:

- Review of Community Safety and Community Liaison documentation
- Records of Monthly Complaints Registry;
- Meeting discussions (from the ESG manager);
- Observations/site inspections (by the ESG manager);
- Photo documentations;
- Others, as identified.

### Reporting

There are two type of reporting which are relevant to this Plan and described in the table below:

1. In case of HS incident occurred inside of the operational period (work related) incident report will be arranged according to HS management plan – HS manager will report to the management, Fond and then to the related authorities.
2. Other activities or issues which can be classified as “social issue” and there are no injured person or equipment and its related to social part it can be reported by project ESG Manager to the Fund and related authorities.