

# **EMERGENCY RESPONSE PLAN**

**“Reconstruction of Tskaltubo – Senaki High Voltage Power Transmission Line and  
Rehabilitation of Menji and Tskaltubo Substations”**

Signatories

Ref.	Date	Executed by	Signed by	Checked by	Signature	Approved	Signature

Examination Table

Examination	Document Examination Chapter	Reason

## **Abbreviations and Acronyms**

CC	Construction contractor/ Contractor
EIA	Environmental impact assessment
EMP	Environment management plan
ERP	Emergency response plan
GoG	Government of Georgia
RoW	Right of way
SC	Supervisors' consultant / engineer

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### **3. Introduction**

#### **3.1 Preface**

This Emergency Response Plan is an integral part of environmental protection and social security management system, which will be implemented on the basis of the project “Reconstruction of Tskaltubo – Senaki High Voltage Power Transmission Line and Rehabilitation of Menji and Tskaltubo Substation” environmental and social requirements.

This plan aims to:

- determine potential incidents requiring emergency response;
- planned responsibilities be establishes and determines by the construction contractor personnel;
- determine the ways of checking the fact on a regular basis;
- determine the location or enquire as to where to find of pollution preventing and cleaning facilitie

The plan reflects the requirements of project environmental impact assessment plan and will be updated regularly, wherever necessary.

#### **3.2 Project Related Information**

The total length of Senaki 1-2 power transmission line is 58,1 km and runs through 4 regions of Georgia (Senaki, Abasha, Khoni and Tskhaltubo). The route of the power transmission line is mainly located in the flat area; however, the last section (near Senaki) of the transmission line is under the complex topographic conditions running through the mountainous relief.

The line has been out of operation since 1994 and was almost completely robbed. There is hardly any standard steel towers left.

At present, the towers near the substations (final at Tskhaltubo 220 substation and two towers including final one at Menji 220 substation) are still available. Two angle towers (No.7 and No.8) near Kutaisi-Tskaltubo railway crossing, two suspension towers (No.70 and No.73) on the territory of Ghaniri psychiatric hospital and along Samtredia-Khoni motorway and two angle towers (No.169 and No.173) on the territory of Senaki are maintained as well.

Suspension of 300 sq. m. section steel-aluminum cable must be provided for Tskaltubo 220kV power transmission line to be rehabilitated.

Tskaltubo 220kV power transmission line – 212 210 kV standard steel towers were used on Menji route, wherefrom IIC220-6/m – 122 units, Y220-2 – 31 units, Y220-2+5 – 24 units, Y220-2+9 – 14 units, Y220-2+14 - 12 units.

In the past the power transmission line Senaki 1, 2 was operated by using IIC220-6 standard towers and parts of remaining foundations can be used during rehabilitation works.

ΠC220-6 standard towers to be used for AC-300÷AC-400 type wires and C-70 cable suspension in 5<sup>th</sup> by wind and 3-4<sup>th</sup> by glaze were checked for specific climatic conditions.

Calculations showed that suspension towers require modification by strengthening a number of elements.

Tower sections have bolts. Binding of sections into towers shall be made by installation bolts at the place of tower installation. To suppress tower robbery in the future, the existing screw-nuts are to be welded up to 5mm.

Reinforced concrete assembly foundations will be used for steel towers according to 7271TM type project.

To generate horizontal forces exceeding those allowable for foundation plates envisaged is arrangement of reinforced concrete grith rails. The grith rails will be fixed by means of special metal clips. Due to large corners and high wind loading on PTL route it was necessary to use ΠB1 model beams. Taking into account the necessity of reliable operation of angle tower, it was deemed appropriate to replace all the damaged foundations by new ones. As for the suspension towers one part of the foundation (foundation of 62 towers) will be subject to restoration proceeding from damage level.

Damaged foundations of the suspension towers will be done by stripping fittings in concrete and arranging special construction fitting frame on them and then concreting.

For high-water bed towers floodplain foundations are used. They are assembled by casing pipe interconnected through reinforced concrete grill. Restoration of damaged prefabricates foundation plates are envisaged under the project by arranging new reinforced concrete grill, which will be connected by fitting and concrete fabric to the old construction. New bolts for arranging foundation will be arranged in new reinforced concrete grill and the concrete fabric beside the reinforced concrete grill will be covered by gunned material.

## **4. Functions and Obligations**

### **4.1 Project Manager**

Project manager shall have primary obligation to perform this plan. He/she shall be liable to notify the supervisor-consultant on any emergency situations, which may occur in the course of rehabilitation works.

### **2.2 Environmental and Social Protection Manager**

Environmental and social protection manager is a first contact person in case of emergencies (24/7). He/she shall carry out spillage reaction procedure, cleaning works as well as waste segregation and removal.

### **2.3 Employed Personnel**

Employed personnel shall notify the relevant persons on all types of emergency situations, which may occur in the course of rehabilitation works.

### **2.4 Emergency Responsible Contractor**

Construction Contractor may employ sub-contractor, which will be responsible for emergency response activities.

## **3. Emergency Situations**

### **3.1 Potential Incidents**

The plan includes the following potential incidents:

- Pollution by discharge of sediments in water flows;
- Spillage of polluting substances (e.g. during fuel filling, repair works, rehabilitation of access roads, etc.)

### **3.2 Potential Polluting Substances**

Potential polluting substances used in the project:

- Diesel fuel used for trucks and facilities;
- Diesel fuel necessary for trucks and facilities and other lubricants.
- Chemical substances (e.g. paint solvent, cement and concrete, antifreeze, biocide, paints, etc.)

- Construction waste (packaging material, welding electrodes, used filters, polluted soil, etc.)
- Polluted soil
- Noise
- Air pollution (by trucks and equipments) and
- Dust

Main preventive measures are described below and includes:

- Fuel storage and filling areas must be located far from water resources and rivers.
- Provision of proper tanks (e.g. with double cover), banisters and waterproof gasket near fuel storage and filling areas.
- Using of dropping bearing for static equipment (e.g. generators and pumps)
- Training of professional staff for pump and fuel filling operations
- Provisions of fire fighting facilities and equipments per each group, and
- Informing all the operators (through training) on spillage stoppage and localization procedures

### 3.3 Incident Potential Volume

Generally, there exists three rows having impact on incident management and informing.

Row	Description
Row 1	Local spillage that requires no external involvement and may be eliminated through exiting powers and remedies.
Row 2	Larger spillage that requires additional resources and workforce.
Row 3	Large scale spillage that requires regional and international level resources.

All potential incidents, reviewed in this document in view of project construction scale, require reactions in Row 1 and is agreed at site with personnel and existing remedies.

In case of spillage of a larger scale that requires supplementary external resources and workforce, the construction contractor shall hire a contractors having relevant experience, wherever necessary.

Response level and additional requirements are as follows:

Working area supervisor shall make initial review on the working area:

Row	Working area review	Actions
Row 1	To be solved on site	Spillage source suspension Localization of spilled fuel Informing Environmental and Social Protection Department Informing supervisor-consultant
Row 2	Requires additional resources	Spillage source suspension Localization of spilled fuel Informing Environmental and Social Protection Department Informing supervisor-consultant Informing regional authorities
Row 3	requires regional and international assistance	Spillage source suspension Localization of spilled fuel Informing Environmental and Social Protection Department Informing managing authorities of Georgia

### 3.3.1.1 High Frequency, High Impulse

Road accidents may result in an incident that may cause damage to the contractor’s personnel and sub-contractors involved in the project. Any type of incident will be recorded according to the plan immediately upon occurrence thereof.

### 3.3.1.2 High Frequency, High Impulse

Generally, pollution incidents occur when environment is polluted during filling vehicles, equipments and facilities. The are generally of small quantity.

The most exposed objects are as follows:

- Surface water (rivers, water reservoirs) and water reservoirs, which are sources of water supply and water irrigation.

- water irrigations and
- marshes

### **3.3.1.3 Average Frequency, Average Impulse**

Any leakage may be strong and have local affect for a short period of time. Management of potential impact will be effective and timely.

### **3.3.1.4 Low Frequency, High Impact**

The most critical pollution incident may occur, when a fuel pump is overfilled and leakage takes place not only in mechanism content, but also in water flow, flow tank.

If fire spreads from work object, it might affect RoW and afterwards damage the largest area of the woodland.

Operation near the water resources may result in pollution incidents, correspondingly fuel and lubricants must not be stored in the vicinity of water resources.

## **4. Emergency Equipment**

During fuel spillage there must be provided special buckets:

- Plastic bags
- Absorb cushions
- Absorb screen
- Spades/ dustpans
- Personnel protection equipment

They must be provided for:

- each construction site
- fuel filling group

The above remedies must be used in case of I row spillage.

## **5. Incident Response**

The personnel shall prevent pollution incidents and make all efforts during occurrence of such events.

Incident response procedure is summarized as follows:

- Suspension of spillage
- Localization of leaked fluids
- Informing relevant authorities (Tskaltubo, Kutaisi, Khoni, Senaki, Emergency Response Services)

Measures must be taken to avoid repeated spillage.

Cover the leaked fluid absorbing material to avoid its expansion.

Inform Health, Safety, Environment and Social Security Department on an incident and submit written report. Remove used absorbing material as a hazardous waste.

## **6. Notice on Incident**

All the personnel of construction personnel and sub-contractors must be strictly warned about pollution prevention measures during consideration of spillage and emergency response issues.

All the personnel engaged in the Project shall avoid pollution and shall take urgent measures and perform efficient actions to prevent the occurrence of such incident.

First stages of response:

- Suspension of spillage
- Localization of leaked fluids
- Informing relevant authorities

In case of occurrence of accident, leakage and pollution the following person must be informed by phone:

- Environment and Social Security Manager

- Health and Safety Manager
- Project Manager

Environment and Social Security Manager or Project Manager will inform the Supervisor Consultant and decide upon additional support taking in view the nature and scale of the incident.

In case of occurrence of critical incident Environment and Social Security Manager will also inform the regulatory entities, landowners, local administration (Tskaltubo, Kutaisi, Khoni, Senaki Emergency Response Service) and interested groups thereon.

After successful localization of the incident, the meeting will be held with regard to the following issues:

- Reasons of incident
- Actions and procedures to be developed
- improvement measures
- Types of activities to be conducted, persons responsible and timeframes

## **7. Training**

Emergency response testing must be made on a regular basis and improvement measures must be taken considering gained experience. Records will be kept in the Contractors Office.

## **8. Reporting**

All the personnel employed will be responsible to record information of spillage (irrespective of its scale). Official records must be submitted to the Supervisor-Contractor by using incident reporting form provided by the Construction Contractor (for additional information see Health and Safety Plan).

### **In case of emergency call:**

Project Manager -

Environment and Social Security Manager (24/7) -

Health and Safety Manager -

Fire and Rescue Service - 111

Police - 122

Emergency ambulance 113

Emergency Situation Service - 112