Nenskra HPP NEWSLETTER

JSC Nenskra Hydro

#2 2019

Nenskra Hydropower Plant Project Newsletter *June*

NENSKRA HYDRO IS CARRYING OUT THREE MAJOR SOCIAL PROJECTS ►

JSC Nenskra Hydro is carrying out three major social projects in the villages of Chuberi and Nakra.

The projects are based on an assessment of the needs of local residents with the close involvement of the Mestia Municipality and cover such areas as population assistance with registration of land plots under actual ownership, access to mechanization, and vocational training.

On 11 and 12 February 2019, the company held meetings with the population of Chuberi and Nakra to introduce the projects. The meeting was attended by Nino Vibliani - Deputy Governor of Samegrelo-Zemo Svaneti, and Kapiton Zhorzholiani - Mayor of the Mestia Municipality.

All three projects are being implemented within the framework of the Memorandum of Cooperation signed between Nenskra Hydro and Mestia Municipality in 2018.

NENSKRA HPP PREPARATORY WORKS ONGOING IN CHUBERI

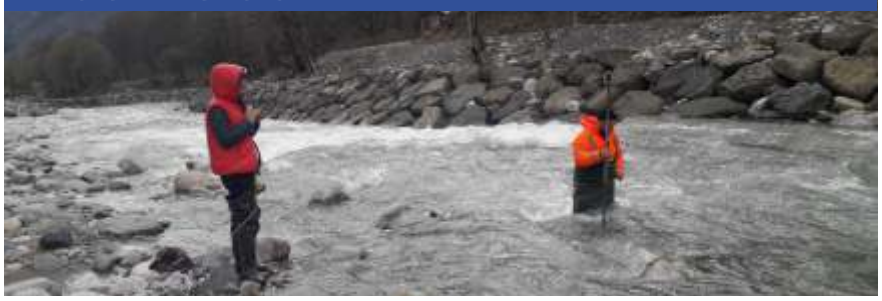
Continued on page 4

The Latest Technologies Will Be Used to Construct the Nenskra HPP Tunnels

Continued on page 6

Current Environmental Activities

Continued on page 8



CONTINUED FROM PAGE 1

LAND REGISTRATION SUPPORT PROJECT

In the framework of the Land Registration Support Project, the company offers to provide families in Chuberi and Nakra cadastral surveys of land in their ownership and / or use.

JSC Nenskra Hydro provides assistance to up to 400 families, with a total land area of 450 hectares. Nenskra Hydro fully covers the consultation costs of planning and measuring, the preparation of cadastral surveys and land registration procedures.

The main objective of the Land Registration Support Project is to support the local population in the development of small and medium enterprises. Official registration of land in their ownership will allow the population of Chuberi and Nakra to develop agricultural businesses and guest houses.

At this stage, the company has received 100 applications from local residents to measure land plots. Cadastral surveys have already been done for 66 families. In total, the company has prepared 159 surveys that cover 86 hectares in total.

For more information about the project, please contact the Land Acquisition and Compensation Officers:

Koba Gagnidze - 595 007 799
Otar Rukhadze - 599 700 501

MANANA KHARZIANI

RESIDENT OF CHUBERI, BENEFICIARY OF THE PROJECT

"We heard about the land registration project from Nenskra Hydro. We are very glad that Nenskra Hydro employees understood the situation of the local population and chose to implement such a vital project. Land registration is necessary, as you legitimate what is yours.

“We wanted for years to register our land, but due to financial problems and lack of time, we couldn’t manage it. We thank Nenskra Hydro for solving our problem.”

MECHANIZATION PROJECT

The mechanization project envisages technical assistance with heavy equipment for Chuberi and Nakra villages for agricultural and small infrastructure works. It allows any individual or group to contact the company through a maximally simplified procedure, with a request they provide heavy equipment.

The company allotted ten units of heavy equipment for the project. Nenskra Hydro fully covers the costs associated with equipment usage.

At this stage, the company has received 51 individual and 9 collective applications. JSC Nenskra Hydro has so far satisfied 15 individual and 5 collective applications.

For more information about the project, please contact Community Relations Officer

Ana Maghradze - 598 421 202

ARKADI SUBELIANI

RESIDENT OF CHUBERI, BENEFICIARY OF THE PROJECT

“The July flood took away a 500-meter section of the road, and some of the population were all but isolated from the world, as the second road is very bad and heavy equipment is unable to move there. Four communities addressed Nenskra Hydro within the mechanization project. Several months ago there was no road, but today it is restored and transport moves freely there."

VOCATIONAL TRAINING FOR HEAVY MACHINERY OPERATORS

More than 1000 jobs will be created during the active construction phase of the Nenskra hydropower plant and priority will be given to the local population. To have the local workforce conform with the standards of international construction companies, Nenskra Hydro decided to support the local population in vocational training and sponsor training courses for heavy equipment operators, as this position will be in high demand throughout the construction of the Nenskra HPP.

Nenskra Hydro signed an agreement with LEPL College Spectri to ensure the quality of vocational education. Within the framework of the program, Spectri teachers prepare operators of forklift, excavators, graders and loader trucks. The theoretical part of the course is conducted in the villages of Chuberi and Nakra, while the program beneficiaries attend practical courses in Tbilisi. JSC Nenskra Hydro covers all expenses related to the training courses.

The aim of the program is to prepare not only the staff needed for the construction of the Nenskra HPP, but also to support the local population to be more competitive on the employment market.

Currently, the program has 80 beneficiaries in Chuberi and Nakra.

For more information about the project, please contact the Community Liaison Officers:

Rodam Gvaramiani (Nakra) - 599 866 543
Giorgi Ansiani (Chuberi) - 599 862 206

LEVAN MEKOSHKISHVILI

RESIDENT OF CHUBERI, BENEFICIARY OF THE PROJECT

"It was interesting to study in the theoretical course. We were given everything we needed to get the right education, and interest in the courses was high among the locals in Chuberi.

“I’m employed as a driver in Nenskra Hydro. In my opinion, this training is the best way to upgrade your qualifications and get experience. Right now, I’m attending a practical training course in Tbilisi. I have very high expectations from this project."

NENSKRA HPP PREPARATORY WORKS ONGOING IN CHUBERI

On July 5, 2018, due to a natural disaster on the River Okrili, one of the tributaries of the River Nenskra in Chuberi, where the Nenskra Hydropower Project (HPP) is being implemented, was affected, and the central part of the village was flooded and roads and bridges were damaged.

On July 6, the Nenskra Hydroelectric Project Company, JSC Nenskra Hydro, began mobilizing heavy equipment in Chuberi. The subcontractor of the project company - Georgian Construction Consortium (GCC) carried out technical assistance, cleaning, bank-strengthening and restoration works.

On November 1, rehabilitation works of damaged road sections, through the subcontractor GCC, resumed.

The construction of 45 kilometers of road and 11 bridges is planned in the Nenskra valley, seeing the arrangement of new roads in certain sections and the restoration and rehabilitation of existing roads in others.

To date, a 211-meter section of the road to Tita village has been fully rehabilitated and access is restored. Bank-strengthening works are complete and certain sections of the Nenskra river-bed has been cleared of debris from the mudflow in Okrili. On the left bank of the River Nenskra, a stone embankment, also called a “riprap,” was put into place, and the existing section of road was cleared from river sediment.

As part of the rehabilitation works, the damaged Chuberi bypass (945 m) was partly rehabilitated: the

river-bed was cleaned, the existing road was widened and bank-strengthening measures were undertaken.

Access roads to the boreholes in Nakra valley were arranged: heavy equipment was mobilized on site and a temporary wooden bridge was constructed.

Corrugated pipes and wire grids were arranged to ensure the safety of residents in the vicinity of the village Lari-Lari.

Currently, rehabilitation works on the damaged road are being carried out from the 7th bridge to the dam site (14.4 km), namely, excavation, loading and disposal of sediment. A stone embankment and temporary wooden bridges have been set up and the river-bed cleaned.

In addition, excavation works for the first abutment of a fourth bridge (at the entrance to Nenskra valley) were started. In parallel to the construction of this bridge, the construction of a second bridge is planned.

Up to 100 local residents were employed in the above-mentioned works and the company has used the service of 12 local guest houses and 1 local catering service.

The site preparatory works for the Nenskra HPP, which were restarted in November 2018, aside from the construction and rehabilitation of bridges and roads in Chuberi and Nakra, foresees the installation of a dedicated power supply line to provide energy during construction activities.

The mentioned works will be implemented in 2019.

THE LATEST TECHNOLOGIES WILL BE USED TO CONSTRUCT THE NENSKRA HPP TUNNELS

Two tunnels will be constructed as major infrastructure components of the Nenskra Hydropower Plant (HPP) Project . The Nakra Transfer Tunnel, which connects the Nakra and Nenskra valleys, will be about 12.5 km long with a 3.5 m diameter. The tunnel will send water from the Nakra weir to the Nenskra water reservoir. The Nenskra Headrace Tunnel will have a length of 15.1 km, with a 4.5 m diameter. It will pass along the left bank of the Nenskra valley and connect the water reservoir to the powerhouse.

The latest technologies will be used for construction of the Nenskra HPP tunnels; namely, two tunnel-boring machines (TBMs), Double Shield TBM, which were specially manufactured by the German company Herrenknecht for JSC Nenskra Hydro. The length of the machines are 190 and 250 meters, respectively, with a 4.3 m and 5.3 m diameter. Both machines arrived in Georgia and are being stored in Poti.

Herrenknecht has been creating tunnel-boring machines since 1977 and is considered the world leader in this field. The company's name is linked to more than 4000 projects.

The tunnel-boring machine (TBM), also known as a "mole", was first used to bore the Frejus Rail Tunnel connecting France and Italy in the Alps in 1845.

The TBM was invented by Belgian engineer Henri-Joseph Mau. The world's largest tunnel-boring machine weighs 6100 tons, its length is 99 meters, and it has a diameter of 17.5 meters. With this equipment, it is possible to excavate 18 meters of tunnel per day.

The Frejus Rail Tunnel connecting France and Italy in the Alps, bored in 1845

ADVANTAGES OF TBM

The use of TBM has several advantages over the traditional drill-and-blast method, the first of these being safety and reduction of environmental impact.

In parallel to tunneling, the machines provide concrete segment lining which guarantees safe and efficient operation in tunnels, as well as protecting workers' safety.

When excavating a tunnel, the TBM prevents the formation of dust. In addition, it takes the needed electricity from a dedicated power supply line and is not dependent on a diesel generator. Thus, the use of this technology results in minimum noise and does not pollute the environment.

Excavation of a tunnel with a TBM is carried out in just one direction and therefore requires only one construction site, while the drill-and-blast method requires 3 or 4 entrances and construction sites of the same number.

Spoil generated by headrace tunneling activities is transferred to a platform set up at the tunnel entrance. From there, spoil is transported by truck or conveyor belt to a dedicated spoil disposal area. Spoil will not be transported through villages, thereby avoiding disturbance to local communities.

Current Environmental Activities

Work on the Nenskra HPP Project Environmental Impact Assessment (EIA) report and Supplementary Environmental and Social Studies (SESS) was carried out in 2011-2017. Both Georgian and international specialists worked on these studies, which were conducted within the scope of the project.

Studies cover and describe the various aspects of the project, among them geology, hydrology, climate, biodiversity, social impact, meteorology, seismology, natural hazards, dam safety, archeology, cultural heritage and land acquisition.

To address the impact assessment, the report includes a list of mitigation measures and management plans, which are being implemented and monitored by JSC Nenskra Hydro.

The results of the studies were reflected in 10 volumes of document and, in total, make up 3000 pages.

The EIA Report and Supplementary E&S Studies of Nenskra HPP are available on the project website www.nenskra.ge/reports/ in both Georgian and English.

JSC Nenskra Hydro is implementing a number of environmental measures that are set out in the Environmental and Social Management Plan. The plan includes all environmental mitigation measures to be undertaken during construction and exploitation, the main goal of which is to avoid negative impact on the lives of the local population and promote environmental protection.

Monitoring of noise level

Among the environmental monitoring that the company regularly carries out during construction is a baseline study of the noise level, measuring the noise level in the day and night-time in the existing and future construction areas close to populated areas. The aim is to eliminate noise coming from the construction site which is in excess of permitted threshold values and which may affect nearby settlements.

In order to ensure compliance with the international standard of threshold values of noise from construction sites, the Environmental Team of JSC Nenskra Hydro records weekly measurements using a noise level meter.

The company also informs the local population and ensures their involvement in environmental monitoring activities to increase awareness.

Monitoring of water quality

Monitoring of water quality involves checking the quality of water in the rivers Nenskra and Nakra and detailed inspection of drinking water from the various sources.

JSC Nenskra Hydro prepared a plan for water monitoring compliant to international standards, in which the number of water samples and locations in the HPP project area, as well as monitoring frequency, parameters and methodology, are prescribed.

Every month, the company's environmental management team takes samples from the rivers Nenskra and Nakra, as well as their tributaries and springs, and compares the water quality with the baseline data.

Monitoring of water quality has been ongoing since the national EIA and Supplementary E&S Studies were prepared, and will continue throughout the HPP construction and operation phases.

Monitoring of water Flow

In order to determine the actual flow of the rivers Nenskra and Nakra, the company carries out water flow monitoring, the results of which are submitted to the Ministry of Environment Protection and Agriculture of Georgia on a quarterly basis.

The mentioned monitoring involves monitoring the flow discharge values and quality of the river to maintain the environmental flow of the river water.

The company informs the local population and ensures their involvement in environmental monitoring activities in the valleys.

Monitoring of the population of

fish, invertebrates and otters

In 2017, the company began to monitor fish, invertebrates, and otters.

The aim of this study is to monitor the population of fish, invertebrates and otters in the rivers Nenskra and Nakra and their tributaries, as well as to carry out hydro-morphological research.

How to raise a grievance

Verbally

To raise a grievance verbally, please approach one of our Community Liaison Officers and they will register your grievance.

If you prefer, you can contact other members of the Social team or another project representative and they will pass the information to the Social team.

By phone

598 421 202
599 855 543
599 862 206

You can call one of our Community Liaison Officers and they will register your grievance.

In writing

info@nenskrahydro.ge
www.nenskra.ge/en/grievance

Fill in a form available at the Chuberi and Nakra information centers.

Request a form from the Social team.

Write us an e-mail at: info@nenskrahydro.ge

Fill in the form on our website:
www.nenskra.ge/en/grievance

For more information, please contact our Social team members:

Anna Maghradze (Chuberi and Nakra): 598 421 202

Giorgi Ansiani (Chuberi): 599 862 206

Rodam Gvarmiani (Nakra): 599 855 543

JSC Nenskra Hydro

6, Marjanishvili St., floor 4–5, Tbilisi, 0102, Georgia
Tel.: + 995 322 430 421
info@nenskrahydro.ge
www.nenskrahydro.ge