KARUMA HYDROPOWER PROJECT ADDS 200MW TO NATIONAL GRID

By John Odyek

The $1.7b (sh6.4 trillion) Karuma hydropower project has now hit the 200 megawatt (MW) mark in terms of the amount of electricity it is adding to Uganda's national grid.

The project, with a designed capacity of 600MW, is part of government efforts to lower power tariffs to enable homes and industries consume affordable and reliable power.

The 180MW Nalubaale Power Station in Jinja last week had to contend with floating debris, water hyacinth and weeds. This prompted the Uganda Electricity Transmission Company to request the Uganda Electricity Generation Company Ltd (UEGCL) to double their power supply to the national grid from Karuma. The plant has been supplying 125MW to the national grid.

Officials of the Karuma hydropower plant have expressed hope that by the end of December, the project shall be completed with tests that will enable the synchronising of the remaining 400MW to the grid. The commissioning of Karuma is planned to increase reliable power supply at lower tariffs.

Uganda's access to the national electricity grid stands at 19% while off-grid connections, mainly solar power connections, stand at 38%. The current national level of electricity connectivity access stands at 57%. Uganda's generation capacity of about 1,402MW will increase to 2,000MW once the Karuma hydropower plant is launched.

On Friday, UEGCL's board inspected the project site located along the River Nile in Kiryandongo district. Eng. Proscovia Margaret Njuki, the chairperson of the UEGCL board, said they were impressed by the progress of the works are now 99% complete.

Njuki said the new commissioning date and handover of the plant is August next year. She noted that in the meantime, power is being generated and charged at an interim generation tariff of 0.01 US cents per kWh.

Njuki said the contract terms state that the full generation tariff of 4.8 US cents per kWh will be charged when the plant is handed to UEGCL by the contractor (Sinohydro Corporation Ltd.). She noted that the few remaining things for the project to be completed include designing and fitting the trash cleaning equipment, floating boom, completing the warehouse, the handover of manuals and increasing the height of the wall in the stilling basin.

Floating booms are used as a barrier to manage the spreading of debris and aquatic plants, preventing them from blocking the water intake sections of the dam.

Njuki said the employees camp is complete and will house 70 people. They will be responsible for operating and maintaining the plant after the handover. Njuki was accompanied by other board members, including Eng. Gilbert Kimanzi, Nixon Kamukama, Hope Bizimana, Ronald Dravu and Eng. Julius Wamala.

Tuwmine (right) addressing Njuki (third-right) and other board members, contractors and staff on the progress of works during an inspection visit at the 600MW Karuma hydropower plant in Kiryandongo

Eng. Paul Tumwine, the acting project manager, said the project completion has been delayed by 53 months due to emerging snags that had to be resolved, such as increase in water inflow, civil works in the diesel generator room, access roads, fencing, redesign of the Police post and testing the firefighting system.

"A weather station measuring wind speed, pressure and rainfall is being completed too," Tumwine added.

Ding Tuqiang, the project manager of Sinohydro Corporation Ltd, said the issue of submerged weeds and water hyacinths requires unique approaches.

"We are working on three protection elements to prevent weeds. We are adding a screen at the water intake, the trash machine and the log boom. The log boom was not in the original design," Tuqiang added.

Isaac Arinaitwe, the chief projects officer of UEGCL, noted that the nature of debris from Lake Kyoga needs technical solutions and engineering ingenuity, which are in place.

The Karuma hydropower plant is one of Uganda's flagship projects financed by the Export-Import Bank of China, which finances 85% of the project, while 15% is funded by the Government.

Eng. Ziria Tibalwa Waako, the chief executive officer of the Electricity Regulatory Authority, at a separate event, said the cost of electricity affordability was keeping the regulators awake.

Waako said bill affordability is challenging because the country is in a period involving investing in capital intensive assets with over $2b (sh7.6 trillion) being injected into that. She noted that from the Nalubale and Kira power stations, electricity is being sold at under 2 US cents per kWh. For Karuma, it will cost 4.8 US cents per kWh and Isimba Power Project 5 US cents per kWh because of the loans. However, the cost is expected to fall to 2 US cents per kWh over time.