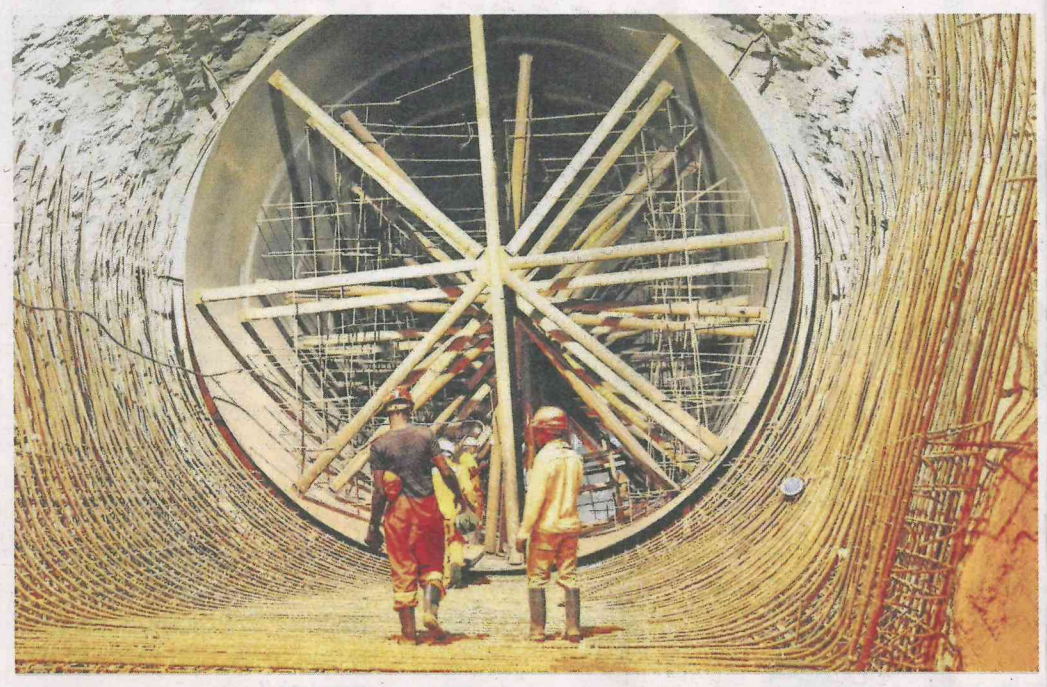
POWERING UGANDA



Engineering works in progress at the 600MW Karuma underground tunnels. Picture: Morgan Mbabazi

Quality control issues persist at Karuma

Site visit cites design flaws but power utility firm says these won't affect its completion before December 2018

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The EastAfrican

As Uganda's flagship hydroelectric power project enters the final 12 months of construction, quality control issues that could in future compromise the structural integrity of the dam if not addressed persist.

Uganda Electricity Generation Company Ltd (UEGCL) last week said the 600MW Karuma dam project is on course for commissioning by end of nexxy year, but noted that workmanship was sloppy, with works that do not conform to the dam's design.

The UEGCL board and top managers cited the concrete mix designs, the design of the tunnel and its lining as areas for concern that were unearthed during a visit to the project.

The company partly faulted the Indian consultant firm Energy Infratech Pvt Ltd, which is supervises construction works on behalf of UEGCL, on these fresh queries on the dam's engineering aspects especially the dam section and surface intake as "areas that require corrective measures".

"The board has noted the progress made so far but it is also concerned with quality control issues that have been brought to the attention of the engineer and the EPC contractor," said Proscovia Margaret Njuki, UEGCL chairperson.

Major cracks

This is not the first time that UEGCL has raised engineering enquiries resulting from poor workmanship by the contractor, Chinese firm Sinohydro, and the capacity of Infratech, the consultant that supervises the project on behalf of the government's utility agency.

Last year, the construction works at Karuma were delayed by four months after periodic appraisals of the project revealed major cracks in the dam section, which needed corrective work.

According to UEGCL, the consultant "has staffing needs" while the company also tasked the contractor to submit an up plan to avoid project delay.

Besides engineering challenges, the utility firm also pointed out health and environmental issues at the site that the contractor needs to address.

"We've raised concern on areas that need to be corrected or improved. These won't delay the project but will need more manpower," said Ms Njuki.

However, other sources said challenges in design could delay the completion after the tailrace tunnel was put on hold.

The underground dam is the first of its kind in Uganda, with the deepest point at 80 metres, but the improper alignment of some of its 26 kilometres of tunnels is potentially problematic.

Land compensation

"The [improperly aligned tunnels] require corrective measures. The wrongly aligned surface tolerances if not corrected could become problematic in future," said Albert Byaruhanga, the Karuma project manager.

The UEGCL chief executive officer Harisson Mutikanga says that notwithstanding the engineering challenges, Karuma should start generating power by December 2018.

But UEGCL says challenges in land compensation by its sister company Uganda Electricity Transmission Company Ltd to acquire land for construction of the high voltage transmission lines could delay the relay of power from Karuma.

LIFESPAN OF DAM

The projected lifespan of Karuma, located downstream on the Nile, is 100 years.

The project was awarded to Sinohydro in June 2013 and construction started in December that year, to be completed in 60 months. China committed to financing 85 per cent of the dam's $1.7 billion cost under a loan from the China Exim Bank, while the balance would be met by Uganda government from its energy fund.