

Relevant Information

Medellin, April 12, 2019

ESTIMATED ADDITIONAL COSTS OF THE ITUANGO HYDROELECTRIC PROJECT

Within the recovery work of the Project, a diagnosis of the affectations was recently made to determine an estimate of the additional costs required to the restoration and start-up of the future power generation plant.

The estimated figure to date, which amounts to COP 3.5 billion (direct cost), could vary depending on the circumstances of the work,

The following is a summary of the current conditions of the plant:

- The main sluice gate of the headrace tunnel No 2 was closed on January 16, 2019.
- The main sluice gate of the headrace tunnel No 1 was closed on February 5, 2019.
- After closing the sluice gates, the works of the underground power plant were accessed through the evacuation and ventilation gallery and through the inclined cable shaft located in the northern part of the caverns.
- In the shafts of the adduction gates, the status of these shafts was checked by the ventilation vacuum and the section of the upper tunnels 1 and 2 downstream of the gates was inspected. Likewise, a verification was made with video and laser system of the conditions of the pressure shafts of these two head race tunnels. Of the inspections, the following is summarized:
 - The vault of the powerhouse is without any affectation.
 - The vault of the transformer cavern is without any affectation.
 - The vault of surge tank 1 is affected in the upper sector.
 - The gables of the powerhouse show minor affectations.
 - The gables of the transformer cavern show cracks in their upper part.
 - The gables of surge tank 1 have affectations mainly in the one that corresponds to upstream, there are also affectations in the wall of the northern sector.

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- Regarding the concrete structures that were built in the cavern of the powerhouse, it has been observed that there are significant affectations in the structures corresponding to the power generation units 1 and 2 and to the buildings in the cylinder heads north and south of this cavern that were intended for auxiliary services.
- As regards equipment that was already assembled or in the process of being assembled, it has been assessed that there are serious damages to the two 500-ton traveling cranes of the powerhouse, the 25-ton temporary traveling crane owned by the contractor and the equipment of generation units 1 and 2.
- The services of air conditioning, fire system, electrical auxiliaries, lighting and others have general damage.
- The pressure shafts of the headrace tunnels 1 and 2 have significant affectations, because a cavity of approximately 70,000 m³ that joined these two pressure shafts was formed.
- The underground works of the project, associated with the plant, could not be fully inspected, since the drainage of the water has not been completed. In addition, some galleries are blocked by rock of local instability.
- EPM continues to work permanently to overcome the contingency and contributing to the development of the country and the quality of life of the community

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