



Having reached the final dam height of 435 m.a.s.l., EPM continues toward the goal of risk reduction for populations downstream of the Ituango hydroelectric project

- The dam of the project was built meeting the highest national and international technical standards
 - Together with the spillway and machine house, it is one of the three most important work fronts in all hydroelectric projects
- With this new technical achievement, competent authorities can determine the possibility of reducing the red alert that exists today between the dam site and the Puerto Valdivia and Port Antioquia corrections

“Finishing the construction of the dam of the Ituango Hydroelectric Project is a milestone that means a lot for all Colombians, especially for inhabitants of municipalities located downstream of this great project, which is destined to be an important element of the country’s social, economic and environmental development in the next decade.” This is how EPM’s CEO Jorge Londoño De la Cuesta described it this Friday, announcing the culmination of the work that allowed this structure to be brought to the height of 435 meters above sea level (m.a.s.l.), the maximum set in the original designs of the future power center.

In an event this Friday with the presence of the Mayor of Medellín, Federico Gutiérrez Zuluaga, representatives of the entities and companies involved in the project and authorities from the area, Londoño de la Cuesta emphasized that “having it at its final height is an important step in reducing risks to downstream populations.”

The CEO added that due to this and other advances that have been achieved in the recovery of the project, the competent authorities will be able to check to determine the possibility of reducing the red alert currently in effect between the dam site, Puerto Valdivia and the correction Port Antioquia, in the municipality of Tarazá, downstream of the Ituango project.

To continue to reduce risks to downstream communities, the first of the two gateways in the Auxiliary Diversion Gallery, GAD, was managed to be closed in late May, as EPM reported in a timely manner, and it is working on the second gate installation that is set to be operational at the end of this year. Similarly, the design is being advanced for the execution of the first pre-plug in the right offset tunnel.

Technical characteristics

The dam with waterproofed core (ECRD), was built meeting the highest national and international technical standards. It is 225 meters tall and 20 million cubic meters in volume. Its height is almost twice the Coltejer building of Medellín and is nine meters higher than the highest building in Colombia, located in Bogotá. It is located immediately upstream where the Ituango River flows to the Cauca River. The average flow rate is 1.010 m³/s.

The base of the structure is about 1 kilometer, measured between its upstream “leg” and downstream “leg”. It is built between the Central and West mountain ranges: the municipality of Ituango in the west and Briceño on the central side. From rock wall to rock wall the dam is 550 meters. Construction was started immediately after the bypass operation of the Cauca River in February 2014, and its completion was projected for July 2018.

When the contingency occurred on April 28, 2018, the dam was at the height of 380 m.a.s.l. (under the 401 m.a.s.l. height of the spillway), and because that at that time the reservoir began to be filled prematurely, several technical decisions were made to safeguard the lives of the people downstream, facing a possible overflow of water above the dam. The first of them was to divert water from the Cauca River through the machine house, and the second, precisely because of the threat of damage to the dam structure, it was decided to raise it quickly by a procedure called “priority filling”, to ensure that the 410 m.a.s.l. height was reached, and in this way protect the populations of Bajo Cauca, specifically Puerto Valdivia, Tarazá, Cáceres, Caucasia and Nechí.

When the dam was at the height of 418 m.a.s.l. and to ensure that the dam area where the priority fill was built (levels 380 to 418 m.a.s.l.) had a higher guarantee of being waterproof, the construction of a plastic concrete screen was advanced.



The dam, just as the various work fronts in the Ituango project, has 24/7 surveillance from the Technical Monitoring Center. During the nearly 15 months of operation, all indicators have shown stability and normality.

Monitoring is performed, among other mechanisms, with radar, piezometers, inclinometers, pressure cells, settlement cells and measurement of infiltration. The latter are kept at levels far below the limits allowed for the security of the structure. All dams in the world have leaks that must be properly controlled.

The construction of this dam allowed the reservoir to be created, which in its maximum size of 75 kilometers.

This is how EPM has been working to overcome the contingency, with a value scale starting with safeguarding the lives of the people in the surrounding municipalities and the lives of workers in the project; secondly, protecting the environment, and ultimately recovering the project from a technical standpoint, with the expectation, optimism and commitment to get the project working and start generating energy for Colombia by the end of 2021.