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01/26/2019



Clarifications on the Dam I of the Córrego do Feijão Mine

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Vale is investigating the causes to ascertain why this happened. The following information is in regard to the structure and management of the project.

Dam I of Córrego do Feijão Mine is used to dispose tailings from ore production and was located in Brumadinho, Minas Gerais. It was inactive (no tailings were being added), there was no pond and there was no other type of operational activity in progress. A decommissioning project was also under development.

The dam was built in 1976 by Ferteco Mineração (acquired by Vale on April 27, 2001), using the upstream method. The height of the dam was 86 meters and had a crest length of 720 meters. The waste disposal area was 249.5 thousand m² and the volume disposed was 11.7 million m³.

Dam I had 'Stability Condition Statements' issued by TUV SUD do Brasil, an international company specializing in Geotechnics. The 'Stability Condition Statements' were issued on 13/06/18 and 26/09/18, related to the Periodic Safety Review of Dams and Regular Dam Safety Inspection processes, respectively, as determined by DNPM Decree 70.389 / 2017. The dam had a Safety Factor in accordance with world best practices and was above the Brazilian Standard reference point. Both of these stability declarations attest to the physical and hydraulic safety of the dam.

The Dam went through biweekly field inspections, all of which were reported to ANM (National Mining Agency) through the SIGBM (Integrated System for Safety Management of Mining Dams). The last inspection registered on the ANM system was executed on 21/12/18. In addition, it underwent inspections on 1/8/19 and 22/01/19, and was registered on Vale's own monitoring system. The registration of each inspection on the ANM, according to legislation, must be executed by the end of the following fortnightly period. All these inspections did not detect any change in the state of the structure.

The dam had 94 piezometers (an instrument for measuring the pressure of a liquid) and 41 Water Level Indicators to monitor its integrity. The information from the instruments was collected periodically and all their data analyzed by the geotechnicians responsible for the dam. Of the 94 piezometers, 46 were automated.

The dam had an PAEBM (Mining Dam Emergency Action Plan), as established by DNPM regulation 70.389 / 2017. The same was filed in Federal, State and Municipal Civil Defenses between June and September of 2018. The PAEBM was constructed based on a hypothetical breach study that defined the flooding area. In addition, the dam had a video monitoring system, siren alert system (all tested) and downstream population registration. The external emergency simulation was also carried out on 16/06/2018, under the coordination of Civil Defenses, with Vale's full support, and internal training with employees on 23/10/18.

In spite of all the points described above, we are still seeking answers to find out exactly what happened.

More information

