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Vale informs on Stability Condition Declarations

Vale informs that it continues to improve its Tailings Management System (TMS), with the support of international experts. As a result of this process, in January this year, the Engineer of Record role (EoR) was implemented as an additional step in the assessment of its structures in Brazil.

Among its duties, the EOR is responsible for carrying out a regular dam safety inspection, as well as the issuance of monthly technical reports, continuously interpreting the results of the inspection activities and monitoring the structures. The EoR is external to the operations and is integrated with Vale's lines of defense and to the senior management level, in order to act with the authority required for this type of role. In this model of a continuous supervision, more rigorous, if a change in the stability of any structure is identified, a new Stability Condition Declaration (DCE) may be issued at any moment of the year. In fact, the EoR's focus is the continuous management of dam safety and the DCE becomes a consequence of this process. The adoption of the EOR is a good practice recommended by the Mining Association of Canada - MAC, the Canadian Dam Association- CDA and by the Extraordinary Independent Investigation Committee. It aims to provide further reliability and quality to the process of monitoring and reviewing the safety of dams.

After the EoR's assessment, Vale informs that 78 positive DCEs were issued to structures of its Ferrous Minerals and Base Metals operational units in Brazil, in compliance with the Ordinance nº 70.389/17 of the National Department of Mineral Production (DNPM), currently the National Mining Agency (ANM).

The nine dams listed below remain with negative DCEs, at emergency levels 2 and 3 of the Mining Dams Emergency Action Plan (PAEBM), whose Self-Rescue Zones (ZAS) had already been evacuated, with the exception of the Doutor dam that had its ZAS evacuation plan activated in February and will be concluded by the end of April 2020. The evacuation was activated as a preventive measure to assure the safety of the downstream communities during the dam de-characterization plan. The state and municipal Civil Defence agencies, with Vale's support, will temporarily relocate the families residing downstream from the structure.

In addition to keeping the reservoirs dry and reducing the water disposal in the nine structures listed below, with the implementation of belt channels, Vale is building three containment structures for dams at emergency level 3, having already completed the one related to the Sul Superior dam; and forecast to complete the others during the first semester of 2020. The effectiveness of the containment is still subject to verification by the authorities. The containment project followed international technical criteria and aimed to retain the volumes of these dams in a hypothetical scenario of extreme rupture, preventing the tailings from reaching the Secondary Safety Zone of the downstream municipalities. Below is the list of the nine dams.

Structures at emergency levels 2 and 3							
Structure	Location	Status in 2020	DCE Sep/2019	Emergency level Sep/2019	DCE Mar/2020	Emergency level Mar/2020	Impact in 2020 production
B3/B4	Mar Azul mine	Inactive	Negative	3	Negative	3	No
Capitão do Mato	Capitão do Mato mine	Inactive	Negative	1	Negative	2	No
Doutor	Timbopeba mine	Inactive	Negative	1	Negative	2	No
Forquilha I	Fábrica Complex	Inactive	Negative	3	Negative	3	No
Forquilha II	Fábrica Complex	Inactive	Negative	2	Negative	2	No
Forquilha III	Fábrica Complex	Inactive	Negative	3	Negative	3	No
Grupo	Fábrica Complex	Inactive	Negative	2	Negative	2	No
Sul Superior	Gongo Soco mine	Inactive	Negative	3	Negative	3	No
Sul Inferior	Gongo Soco mine	Inactive	Negative	1	Negative	2	No

The evacuation of the ZAS is not required for the eighteen structures at PAEBM emergency level 1 listed in the table below. Complementary studies and works are ongoing to increase the dams' safety conditions.

In the new process of continuous monitoring of dams through EoR there is a remarkable process of greater technical knowledge of the structure, which even tends to evolve over time. Within this context and due to new data evaluated and parameters established, eight new structures had negative DCEs in this semester and are classified as emergency level 1. The list of all eighteen structures with negative DCEs at emergency level 1 is provided below.

Structures at emergency level 1							
Structure	Location	Status in 2020	DCE Sep/2019	Emergency level Sep/2019	DCE Mar/2020	Emergency level Mar/2020	Impact to 2020 production
Barragem VI	Córrego do Feijão mine	Inactive	Negative	1	Negative	1	No
Capim Branco	Paraopeba Complex	Inactive	Negative	1	Negative	1	No
Campo Grande	Alegria Mine	Inactive	Negative	1	Negative	1	No
Captação de Água ¹	Igarapé Bahia	Inactive	Negative	1	Negative	1	No
Dique B	Capitão do Mato mine	Inactive	Negative	1	Negative	1	No
Forquilha IV	Fábrica Complex	Inactive	Positive	-	Negative	1	No
Itabiruçu ²	Itabira Complex	Inactive	Positive	-	Positive	1	No
Maravilhas II	Vargem Grande Complex	Inactive	Negative	1	Negative	1	No
Marés I	Fábrica Complex	Inactive	Positive	-	Negative	1	No
Marés II	Fábrica Complex	Inactive	Negative	1	Negative	1	No
Menezes II	Córrego do Feijão mine	Inactive	Positive	-	Negative	1	No
Norte/Laranjeiras	Brucutu mine	Inactive	Positive	-	Negative	1	Yes
Peneirinha	Capitão do Mato mine	Inactive	Positive	-	Negative	1	No
Pilha Xingu	Alegria mine	Inactive	N/A	-	Negative	1	No
Santana	Itabira Complex	Inactive	Positive	-	Negative	1	No
Sistema 5 (MAC)	Agua Claras mine	Inactive	Positive	-	Negative	1	No
Sistema Pontal	Itabira Complex	Inactive	Negative	1	Negative	1	No
Vargem Grande	Capitão do Mato mine	Inactive	Negative	1	Negative	1	No

¹ Single Base Metals structure with a negative DCE.

² The Itabiruçu dam is at emergency level 1, but has a positive DCE.

As already mentioned, it is important to note that the emergency levels of each dam are also continually reviewed by Vale in conjunction with the EoR, which can be modified according to the evolution of the understanding of each structure and in light of new information and parameters that are being generated within the "As-Is" program that is being conducted to the dams.

The Brucutu plant, which used to dispose tailings in the Norte/Laranjeiras dam (at emergency level 1 since December 2nd, 2019), will continue to operate at around 40% of its capacity through wet processing and tailings filtration. Short-term alternatives for tailings disposal, such as the optimized use of the Sul dam, are being tested by geotechnical and operational teams and may increase Brucutu plant's processing capacity to 80%. If such alternatives for tailings disposal or the reclassification of the emergency level for Norte/Laranjeiras dam are not accomplished until the end of 2Q20, there will likely be an impact on the 2020 annual iron ore fines production volume.

Vale reiterates that its priority is the safety of its employees and the communities downstream of its operations, as well as the safety of all its structures.

More information



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