



Type what you want to search

Search

08/14/2019



Vale announces investments in water supply for Belo Horizonte metropolitan area

Projects (around R\$450 million) include interventions in Paraopeba river basin and Rio das Velhas basin

Vale will invest around R\$450 million in a series of actions on water withdrawal and supply systems for the capital of Minas Gerais – Paraopeba river basin and Rio das Velhas basin. These actions are part of the Agreement approved this week between Vale and the Sanitation Company of Minas Gerais (Copasa, Companhia de Saneamento de Minas Gerais) with the participation of the State and Federal Prosecution Offices.

The purpose of these actions is to reestablish water supply system of Belo Horizonte metropolitan area (RMBH, Região Metropolitana de Belo Horizonte) provided that water flow rate will be the same. Water supply has been temporarily affected due to the prohibition of water withdrawal from Paraopeba river after the breach of dam B1 in Brumadinho.

Under this Agreement, Vale undertakes to build a new water withdrawal system at Paraopeba river, take preventive actions on water withdrawal at Rio das Velhas, and contract an external audit service that will, among other things, analyze the projects and monitor the volume of water stored in RMBH reservoirs.

Belo Horizonte and its metropolitan area have two main water withdrawal and supply systems under the responsibility of Copasa, which include withdrawal and treatment plants located in Paraopeba river basin and Rio das Velhas basin. Regarding Paraopeba river basin, water is withdrawn from the dams at Rio Manso, Serra Azul and Vargem das Flores, as well as from Paraopeba river. In Rio das Velhas, water is directly withdrawn from the river, in Bela Fama.

New Water Withdrawal from Paraopeba River

The new water withdrawal point will be built almost 12km away from Copasa's current withdrawal structure at Paraopeba river, in Brumadinho. According to the project, the new system will provide the same flow rate – 5,000 liters per second, which has been interrupted – and will comply with the same engineering premises. The new withdrawal system at Paraopeba river will be built outside the flooding area of Vale's dams.

This water withdrawal system consists of an engineering structure designed to take water from a specific point – such as a riverbed – and transfer it through a pipeline or channel to another point, such as a Water Treatment Plant (WTP). The transfer can be done by gravity or pumping, or even by integrating these two methodologies, depending on the topography (relief) of the region.

Regarding this withdrawal project for Copasa, the system will feature pumps for water withdrawal from the river and transfer through pipeline to a sandbox, which aims to reduce the percentage of solids in the water. The structure will also

feature a new power substation and network, which is being discussed with the Electric Power Company of Minas Gerais (Cemig, Companhia Energética de Minas Gerais).

Then, by gravity, the water will be transferred to a reservoir. From this reservoir, the system will feature more five high-power pumps for water transfer through a pipeline to the WTP at Rio Manso.

According to the schedule presented by Vale to the authorities, the works will begin in October and shall generate more than 300 direct jobs at the peak phase of works. Vale, in compliance with its internal policy, will focus on hiring local workforce.

According to the Agreement, the deadline for completion of the works is September 2020. Vale and Copasa are working together to complete the project within the agreed deadlines.

Rio das Velhas

Rio das Velhas basin is also one of the focuses of this Agreement signed by Vale and Copasa. Although not impacted by the breach, there will be investments in Rio das Velhas preventively. One of the actions is the construction of an impoundment barrier around the withdrawal system at Bela Fama, in Nova Lima. In case of an eventuality, this enclosure will be able to protect the plant by preserving the structure and its equipment. The barrier will be about 3 meters high and 300 meters long; it is under construction and its completion is scheduled for October.

In addition to this barrier, Vale is also studying a complementary system for the treatment plant at Bela Fama. The purpose of this measure is to strengthen the system, increasing efficiency of the current treatment processes, ensuring water drinkability even if any changes occur.

Treatability Tests

Vale – in partnership with researchers from the Environmental and Sanitary Engineering Department of the Federal University of Minas Gerais (UFMG, Universidade Federal de Minas Gerais) – is conducting studies to evaluate water quality upstream of the treatment plant at Bela Fama, in Nova Lima. These studies allow a diagnosis of water quality and sediments from the bottom of Rio das Velhas and its tributaries, as well as an evaluation of the composition of tailings from the dams and their possible impacts on the water quality.

Researchers are conducting treatability tests – based on the laboratory analyses of water, sediment and tailings – to find out the type of treatment required to ensure drinkability in the case of a breach. Results will be available by the end of December this year.

Monitoring of Paraopeba River

Since the breach of B1, Vale has implemented a series of actions to monitor the water quality of Paraopeba river. The affected stretch runs from B1 to Retiro Baixo plant, in the municipality of Pompéu (Minas Gerais). In all, it is a 315km long river.

Currently, 67 monitoring points cover an area of more than 2,600 kilometers of the river. Almost 2 million water, soil, and sediment analyses have been performed, checking 393 parameters. In addition to surface water analysis, samples were also collected at two meter depth. The results compared to the surface water analysis were under normal conditions. The analysis is being done by four specialized laboratories, involving approximately 250 professionals.

Analyses by Vale and the Water Management Institute of Minas Gerais (IGAM, Instituto Mineiro de Gestão das Águas) show that the sediment plume has stopped at the reservoir of Retiro Baixo plant. Since late March, mercury and lead levels are below the legal limits according to IGAM analyses. But, due to the presence of these heavy metals, the State Authority prohibited the water withdrawal from river directly. This prohibition remains as a preventive measure.

More information



Media Relations Office

imprensa@vale.com

[Click here](#) to see our contacts