



Samarco intensifies construction works at Candonga

The Company applies technology used in the construction of shipping harbors and large bridges to expand the containment of tailings. Dredging works continue within the schedule forecasted.

Samarco expanded in this month of October the construction work in the region of the Hydro-electric Power Plant of Risoleta Neves (Candonga), in the Zona da Mata (MG). A new structure of sediment containment began to be built and integrates with the emergency system for the retention of solids in the region. The project foresees the installation of steel sheet piling which will function as a barrier for the sediments. The structure will be under water when the reservoir of the power plant is full.

The technology was brought by Samarco from the Italian company, *Piacentini Costruzioni*, which implemented the same initiative in Venice, in Italy, to impound the waters of that city. The technology is widely utilized in the area of sea ports for the construction of ship wharves and large bridges.

The structure, called Barrier B, encompasses the containment chain of tailings. The Barrier B, which is being built 5.1 kilometers upstream of the Candonga power plant, will be ready by December of this year. The second structure, Barrier A, will be located at about 400 meters from the spillway gates of Candonga and has its conclusion foreseen for the first semester of 2017.

The work still includes the intensive dredging of sediments, in addition to the possibility of construction of three dikes along the Gualaxo do Norte river. These dikes are still under assessment by the competent environmental agencies and, consequently, still do not have their construction schedules forecast.

SAFETY

Samarco understands that there is still much to be done. But the company is undertaking every effort to maintain the safety at Candonga and implement every action necessary to remediate the impacted generated on the region.

With the collapse of the Fundão dam, in November last year, 32 million cubic meters of tailings were entrained by the waters of the rivers, provoking impacts on several communities and riverside villages, reaching as far as the Risoleta Neves power plant. The reservoir of the hydroelectric dam retained a considerable portion of the tailings,



and 80 % of which accompanied the breach remained between Fundão and the power plant. Of that total, 10.5 million m³ were deposited in the Candonga reservoir.

After negotiations and signature of the Framework Agreement (TTAC) with the Candonga Consortium, owner-operator of the power plant, with the State Public Prosecutor and with the General Advocacy of the State, Samarco embarked upon a new initiative, raising the water level of the reservoir to continue the service, which today relies upon the operation of two dredging machines. The company is working round the clock to implement the entire system of containment and carry out the dredging of the sediments.

Up to this moment, approximately 500 thousand cubic meters of tailings have already been removed from Candonga. By July of 2017, Samarco is going to complete the removal of 1.3 million m³ of sediments in the region. This volume represents the clean-up of the first 400 meters of the reservoir, starting from the spillway gates of the dam, which is required for the return to operational status for the generation of energy. The actions are made with the approval and accompaniment of the competent environmental agencies – IBAMA and SEMAD, such that monthly discussions are maintained with the technical chamber of tailings management.

In order that the works of dredging may be carried out, Samarco had to create areas for the deposition of these sediments. Five points were created for the placement of these solids: sector 1, sector 4, sector 5, sector 8, all located along the Candonga reservoir. Samarco also acquired a privately owned land in the proximities of the power plant for the same usage/destination. Known as “Fazenda Floresta”, the area is in the drilling phase. The company should begin to use the area for deposition of sediments in January of 2017.

DEPOSITION OF TAILINGS

All of the areas of deposition were chosen within the locations which were already impacted since the formation of the Candonga lake. The tailings dredged are being sent to these areas by means of tailings pipelines, which were installed by the company in the region. Daily monitoring of the variation of turbidity of the water alerts the need for adjustments in the dredging operation, considering also the interruption of the operation, when required.

The objective is to maintain the works within the volumes forecast in the management plan for tailings dredging. The areas of deposition will become submerged in the waters of the reservoir of the power plant or will be re-vegetated later. These actions also were subject to the approval process of the competent environmental agencies.

The program of installation of the emergency system of containment, deposition of solids and of dredging is being conducted in parallel with the work of reconfiguration of the riparian forest along the channels and the banks of the rivers.

This action includes a broader plan of environmental recovery than is in development by the Foundation Renova, which will conduct the socio-economic and socio-environmental programs created after the collapse of the Fundão dam.

Candonga in Numbers		
Volume of sediments released by the dam	After collapse of the Fundão dam	10.5 million m ³
Volume of sediments already dredged	Available data up to now	500 mil m ³
Volume of sediments to be dredged	By July of 2017 (Phase 1)	1.3 million m ³
Solids Containment structures	In addition to Barriers A & B, there will be 3 dikes, 1 in sector 4, 1 in Velho Soberbo & another in Fazenda Floresta	Five
Areas of deposition of sediments	Sectors 1,4,5,8, in addition to Fazenda Floresta	Five
Dredging Machines	Two large dredges with daily capacity to remove 5,000 m ³ & another	Three

	smaller one for filling sand bags	
Locations for daily monitoring of water	Along the reservoir	Six

About Samarco

Samarco has been in operation for 39 years. It has two operational units – Germano, in Mariana, Minas Gerais, where it mines the iron ore and beneficiates it using three concentrators, and Ubu, in Anchieta, Espírito Santo, where it has four pellet plants and its own port facility. These two units are linked by 3 pipelines of 400 km each, which cross 29 municipalities.

In 2015, the year of the Fundão dam break, Samarco produced 24.9 million tons, of which 97% were pellets and 3% were pellet feed. In that year, the Company was the 12th largest exporter of Brazil and generated 3027 direct jobs, of which 1736 in Minas Gerais and 1291 in Espírito Santo.

Press Relations – Samarco: (31) 3269-8844/3269-8838 – imprensa@samarco.com

Ana Heineck - (31) 98313 -2201

Leandra Valadares - (31) 98281 - 3034

Marcone Andrade - (31) 98481 - 3401

Visite nossa Sala de Imprensa – www.samarco.com/imprensa.

