22 January 2021

FLSmidth to deliver unique dry stacking tailings solution to cut environmental footprint and improve water recovery at Rajasthan mine

PRESS RELEASE, COPENHAGEN, DENMARK

FLSmidth will deliver an integrated dry stack tailings solution and a paste fill plant to a Hindustan Zinc Limited (HZL) lead-zinc mine in Rajpura Dariba, Rajasthan. The solution will ensure environmental sustainability and significant process water recovery, as well as reduce the footprint of the tailings storage facility.

The new order, which was booked in Q4 2020, includes design, engineering, procurement, supply of equipment and the commissioning for integrated dry tailings and stacking along with tailings paste fill plant. FLSmidth will also supply two Automatic Filter Presses (AFP-IV™), two E-Disc filters and one 26m-Dia High-Density Thickener as the main pieces of equipment. The project is expected to be completed by February 2022. This new order follows a previous tailings-related order for Hindustan Zinc Limited at their Zawar mine site in 2018.

Hindustan Zinc Limited operates beneficiation plants at Rajpura Dariba and Sindesar Khurd, which both discharge tailings (mine waste) to the same tailings pond. The tailings dam was reaching capacity for conventional wet tailings deposition and so Hindustan Zinc needed a way to resolve this issue. The solution they required would involve creating a small dry-stack tailings area with minimised environmental and physical footprint and also a method to backfill the mine by using an adjusted dry filter cake mix.

By choosing FLSmidth's hybrid technology – a combination of the E-Disc filter and the AFP-IV Automatic Pressure Filter – Hindustan Zinc Limited will now be able to achieve this and recover around 85% of process water, which can be reused by the process plant located at the mine site with minimum operating and capital expenses. The cake from the E-disc filter will contain below 16% moisture and can be used for mine back filling, while the cake from the automatic filter press, with below 12% moisture, can be stacked on the surface in a safe and compact manner.

The solution will also significantly reduce industrial water consumption, something that is of heightened importance in water-scarce areas, such as Rajasthan. The site will also have zero effluent discharge, further boosting its sustainable mining goals.

"We are delighted to book this order from Hindustan Zinc Limited. It is another strong proof point for the quality and flexibility of our technology for filtration and our engineering solutions for tailing management. This project resolves the customer's challenge through optimum utilisation of available space and ensures the paste backfill requirements are met with the lowest possible operating and capital costs. Importantly, it also secures a high level of reusable water for the mine site, which helps their sustainability efforts and supports our own

MissionZero ambition," comments Manfred Schaffer, Mining President, FLSmidth.

More about dry-stack/filtered tailings: The trend in the industry is towards filtered tailings, where filter presses are used to remove the water from tailings. This means filtered tailings increase the amount of water that can be returned to the plant for reuse, as well as decrease the amount of water lost to evaporation and seepage. Some of the advantages include: Water reclamation and reduced water costs, a minimised tailings management facility (TMF) area, a reduction in closure costs at end of mine life, with progressive closure possible and finally, with reduced tailings risk, safety is improved. Dry-stack/filtered tailings are a central offering in FLSmidth's MissionZero portfolio. More online here.

Contacts

Business inquiries
Todd Wisdom, Director of Tailings, FLSmidth, Todd.Wisdom@FLSmidth.com

Media inquiries
Rasmus Windfeld, +45 40 44 60 60, rwin@flsmidth.com

FLSmidth provides sustainable productivity to the global mining and cement industries. We deliver market-leading engineering, equipment and service solutions that enable our customers to improve performance, drive down costs and reduce environmental impact. Our operations span the globe and our close to 11,000 employees are present in more than 60 countries. In 2019, FLSmidth generated revenue of DKK 20.6 billion. www.flsmidth.com