Kola MMC has launched initiatives to reduce emissions and improve environmental conditions at Monchegrosk site.

One of them involves upgrading the 4th technological system in the sulphuric acid section (SAS) of the Refining Shop. After being decommissioned in 2000, the system is now approved to go back online as Nornickel looks to curb its off-gas-related emissions.

“The most important thing about this project is that it seeks to address environmental issues and reduce pollutant emissions. We expect that the new SAS system will help us cut our annual emissions of sulphur-rich gases by 400 tonnes,” said Maxim Ryabushkin, First Deputy CEO and Chief Engineer at Kola MMC. “Secondly, the project is set to improve the reliability and performance of the sulphuric acid section thanks to this new highly automated system boasting a greater capacity and better gas cleaning capabilities while being more advanced and robust.”

The upgrade is expected to bring the line’s design capacity to 75,000 nm^3/h. Cutting-edge equipment will be installed, including washing and drying towers, heat exchangers, electric gas heaters, a SO_3 absorption tower, catalytic converter, pump units, electrical substations, and ventilation. Some metal pipework, gas ducts and acid tanks are going to be replaced with durable acid-resistant plastic alternatives.

To reduce emissions, all technological systems in the SAS will receive a shared filtration system designed to capture sulphuric acid mist and aerosols before gases get into a flue-gas stack. Worth over RUB 7.8 bn, this project is scheduled to be completed in 2023.

In the same year (2023), the company plans to finish the replacement of electrostatic precipitators (ESPs) used to clean process gases produced by the Refining Shop’s fluidised-bed furnaces.

To this end, a new gas cleaning building will be erected in the shop territory to accommodate 4 four-stage ESPs, auxiliary equipment and a process control system. These new ESPs can remove more dust from the sulphur-rich gases generated by fluidised-bed furnaces than the three-stage precipitators currently in use, reducing the dust load on the sulphuric acid section and making it more reliable.

Running simultaneously, the two mutually related projects are set to make Kola MMC’s sulphuric acid production more efficient while also curbing emissions.

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