The new dedusting equipment of the Coke Oven quenching tower in ArcelorMittal Ostrava will reduce emissions by two thirds

Ostrava, October 14, 2015 – ArcelorMittal Ostrava has successfully commissioned another environmental capex project. Today, the mill received the modernized Coke Oven quenching tower from the contractor. The modernization and greening of the quenching tower for two coke oven batteries worth 34.5 million crowns will reduce the volume of solid pollutants emitted during quenching of hot coke well below the limits of the European Union. The just completed guarantee tests have confirmed high efficiency of the equipment: each year the equipment will capture ten tons of dust which is by two thirds more compared to the previous condition. The construction took 33 days and was done during operation of the Coke Oven Plant.

“The European Union set the limits for coke oven plants to 25 grams per ton of produced coke. For reducing the volume of dust below 18 grams per ton the EU gave us a 50% subsidy for this project. The actual emission value is well below this value,” said Tapas Rajderkar, CEO of ArcelorMittal Ostrava when describing the big success.

The new environmental project has been focusing on strengthening and improving of separation of dust particles formed during quenching of coke when water is transformed to steam. While in the past, dust was separated in the quenching tower by lamellae, the new system consists of a two-layer cellular system with the dimensions of 100x100x25 cm in the cross-section of the quenching tower which significantly enhances separation of dust in water steam without limiting the efficiency of quenching or the water flow.

In order to ensure the necessary draught conditions the height of the tower has been increased by four meters. The tower is newly equipped with stainless steel water containers and the larch wood lining is brand new as well. This will ensure easy access to all parts of the tower for repairs and cleaning of the new equipment.

The modernization of the tower took 33 days under operation of the coke oven battery. The project was implemented by a local contractor Hutní Projekt Frýdek-Místek. The work continued during weekends and holidays, while during the construction period it was necessary to harmonize coke production and the construction time-schedule in order not to jeopardize production, the implementation of the project, and mainly safety of the employees.

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1 The quenching tower is used for cooling of freshly produced coke which after pushing from the coke oven battery has a temperature of 1100°C and it immediately starts burning on air. A special wagon will transport the coke under the quenching tower that sprinkles the hot coke with water and cools it down to approximately 300°C, thus saving the wagon from burning.
This year is the year of greening for ArcelorMittal Ostrava. Across the production departments, the company builds equipment for reducing the level of emissions totaling three billion crowns which all together will capture more than 510 tons dust per year. After their completion, ArcelorMittal Ostrava will be one of the greenest mills in the world.

ArcelorMittal Ostrava a.s. is part of the world’s largest steel and mining group ArcelorMittal. Annually it produces 2 million tonnes of steel, which is mainly used in construction and machinery. It is the only manufacturer of safety barriers and grain-oriented electrical steels in the Czech Republic. Besides the Czech market the company sells its products to more than 40 countries around the world. ArcelorMittal Ostrava and its subsidiaries employ 7500 people. Average income was CZK 35,124 in 2014. The company produces iron and steel in compliance with all environmental legislation. Years ahead it has reduced its environmental footprint beyond the requirements of the EU legislation and this year it will complete 13 subsidized above-standard environmental projects worth CZK 3 billion. The sole shareholder is ArcelorMittal Holdings A.G.

Fig. 1: Freshly produced coke after pushing from the coke oven battery has a temperature of 1 100°C and it immediately starts burning on air

Fig. 2: The new technology will capture ten tons of dust per year