



Controversial projects offer safety lessons

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Process safety issues were a major factor in the world's two most controversial projects last year, according to a new report.

Number one on RepRisk's *Most Controversial Projects* list was the Zhongrong Metal Production Company's factory in Kunshan, China, which suffered a dust explosion in August that killed 146 workers and injured 114 others. Grupo Mexico's Buenavista del Cobre mine in Mexico came in second, which RepRisk attributed to a major spill of sulphuric acid into the Sonora and Bacanuchi rivers, also in August.

Australia's Abbot Point Port Expansion made equal third on the list, with RepRisk stating ecosystem and community impact, waste and pollution were issues linked to the project.

The report identified the 10 projects most exposed to environmental, social and governance (ESG) risks in 2014. The firm screened data from a range of public sources in order to quantify ESG risks and express them using a Reputational Risk Index (RRI).

The Zhongrong factory saw its RRI peak at 83 out of a possible 100 after the explosion, which was caused by the spontaneous combustion of aluminium dust that had accumulated on the premises. Chinese authorities accused the company of failing to prevent the build-up of dust. RepRisk stated there had been another dust-related fire at the site two months before the blast, and the company repeatedly ignored warnings from local authorities about the risks associated with metal dust. The firm was also criticised for environmental and safety issues related to its waste gas and water discharges.

At the end of August, the Zhongrong chairman, general manager, and production manager were arrested, and 15 Kunshan city officials are also facing prosecution. The NGO China Labor Watch argued that General Motors and its subsidiary General Motors China were also partly responsible, because the factory was their second-tier supplier.

Around the same time, 40,000 m³ of sulphuric acid were spilled into Mexican rivers as a result of a defective pipe seal at the Buenavista del Cobre mine. According to RepRisk, the spill deprived 20,000 people of water, destroyed crops and cattle, and contaminated wells and soil. Grupo Mexico originally stated the accident had been caused by an "unusual amount of rain", a claim that was rejected by Mexico's Ministry of the Environment. Profepa, the country's environmental protection agency, filed charges against Buenavista del Cobre SA for violating environmental laws and for possible negligence in the handling of hazardous substances.

Toxic spills also led to controversy around the Mount Polley mine in Canada and the Dan River Steam Station in the US, which were listed at sixth and eighth respectively.

Trish Kerin, director of the IChemE Safety Centre, told *TCE* the events could not be considered "black swans". "This means each of them was absolutely preventable, had the principles of good process safety engineering been applied," she said. "There are clear lessons for all of us working in engineering fields."

Caption: Contaminants from the Buenavista del Cobre mine turned local waterways orange. Mexico's environment secretary called it the "worst natural disaster provoked by the mining industry in the modern history of Mexico". Photo: Jesus Ballesteros/Expreso-Cuartoscuro.com

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