



Rental Power

> Case History

Industrial Minera Mexico, Mexico



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Where:

Industrial Minera Mexico copper and zinc refining facility, San Luís Potosí, Mexico

What:

11 emergency Rental Power units with capacities from 100 kW to 1500 kW, totaling 7.1 MW

Purpose:

To provide three months of continuous power for copper and zinc refining after failure of some of the plant's electrical equipment

Primary choice factors:

Rapid availability of Rental Power with sufficient capacity to supply critical plant operations; technical support from the Cummins Power Generation distributor in Mexico for rapid setup, operations and maintenance

Cummins Power Generation Inc. helps zinc refinery resume production with emergency Rental Power

SAN LUÍS POTOSÍ, MEXÍCO — Industrial Minera Mexico is one of the world's largest zinc refiners, annually producing 270,000 metric tons of zinc concentrate and 104,000 metric tons of metallic zinc. Located near the capital city of San Luís Potosí in Mexico's state of San Luís Potosí, the facility was opened in 1925 as a copper ore refinery. In 1982, the company built a zinc refinery adjacent to the copper refinery. During its more than 80-year history, Industrial Minera Mexico has expanded and modernized, especially during the past decade.

In early 2006, a major electrical failure at the plant damaged rectifiers used in the zinc refining process and halted production. Industrial Minera Mexico immediately turned to the local Cummins Power Generation distributor for help in restoring electrical power to critical areas of both the zinc and copper processing facilities to get the plant back in production.

Response was immediate

Within hours of the call, the first 1500 kW Cummins Power Generation Rental Power unit was delivered to the plant. "The electrical failure occurred around midnight, and we received a call at about 11 a.m.," said Oswaldo Chimal, sales manager, Mexico and Central America, Rental Business, Cummins Power



This is one of 11 trailerized emergency Rental Power units installed at Industrial Minera Mexico.



Some generator sets were paralleled to provide power for separate zones within the zinc refinery and the copper refinery.

Generation. “After assessing Industrial Minera Mexico’s needs and determining the regional availability of Rental Power units, we delivered the first 1500 kW units to the plant by 4 p.m. The rest of the units began arriving later in the week, with the final two sets delivered to the copper plant within two weeks,” he said.

“Cummins Power Generation responded to this emergency very quickly, and we had no performance problems with the equipment.”

Most of the emergency power — 5.2 MW — was dedicated to the zinc refining operation, while 1.9 MW was supplied to the copper plant. The Rental Power units included one 1500 kW, one 1000 kW, one 900 kW, four 750 kW, three 200 kW and one 100 kW. The project was divided into two zones, which operated independently due to the distances between the zones.

The 1900 kW zone for the copper plant was supplied by two generator sets operating in parallel to provide continuous power to some critical pumps. Paralleling of the units was simplified by the Cummins Power Generation PowerCommand® digital master control, which facilitated synchronization, diagnostics and monitoring. All 11 units were supplied by a 42,000-liter fuel tank that was installed and constantly replenished by Cummins Power Generation to keep the Rental Power units operating 24/7.

“I am pleased with the service that Cummins Power Generation provided to us,” said José Eduardo Rodríguez Garay, an engineering manager with Industrial Minera Mexico’s zinc facility.

“They responded to this emergency very quickly, and we had no performance problems at all with the equipment.”

Maintenance was crucial

Because all the Rental Power units had to run continuously for the three months it would take to correct the original electrical problem, proper maintenance of the units was crucial. Chimal said, “The unit maintenance was performed by our Cummins Power Generation distributor in Mexico and some technicians directly from Cummins Power Generation’s assembly plant in San Luis Potosí.”

“We did the maintenance in such a way that we never interrupted the operation of the plant.”

Due to continuous operation, preventive maintenance was performed every 250 hours, or about every 10 days. The maintenance procedure included oil changes and replacement of air, oil, fuel and water filters. It also included a full review of all mechanical and electrical parameters. “We did the maintenance in such a way that we never interrupted the production of the plant,” Chimal said. “Every single maintenance operation was performed to avoid any unexpected failure or unscheduled stop.”

Thanks to the quick response of the Cummins Power Generation team, Industrial Minera Mexico was able to maintain zinc and copper production without interruption.

For more information about Rental Power or other energy solutions, contact your local Cummins Power Generation distributor or visit www.cumminspower.com/rental.

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