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Fatal Explosion at Natural-Gas Plant in Tamaulipas Exposes Safety, Staffing Problems for State-Run Oil Company PEMEX

By Carlos Navarro

An explosion at a natural-gas distribution plant near the US-Mexico border city of Reynosa in mid-September killed 30 workers and injured another 46, raising new questions about the safety record of the state-run oil company PEMEX. The plant measures natural gas extracted from neighboring wells and transfers the fuel to a nearby processing plant, which separates liquid hydrocarbons from the gas.

President Felipe Calderón said quick action by workers at the facility prevented a much greater disaster, since the distribution center is adjacent to a larger and more flammable plant. "Because of the timely response by oil workers, firefighters, and the Mexican Army, they were able to control the fire relatively quickly and avoid a real catastrophe of larger proportions and greater damages if the fire had spread to the center for gas processing, which is right there," the president said.

And, while the tragedy made headlines because of the magnitude and severity of the explosion, the incident exposed a troublesome trend in PEMEX's hiring practices. A large majority the victims of the explosion were not direct employees of PEMEX but were working for subcontractors. This raised questions of whether the personnel were truly qualified to perform the technical duties required for the facility.

No signs of sabotage

Two concerns quickly rose to the forefront in the aftermath of the explosion at the facility, known as the Central de Medición de Pemex Exploración y Producción, on the Reynosa-Monterrey highway. The first was the possibility that the explosion might have been caused by sabotage or a botched attempt at fuel theft, a problem that PEMEX has had to address in recent years.

Investigators later ruled out sabotage or fuel theft, saying a leak from a ruptured pipe was the probable cause of the explosion. "The primary cause is rupture of a duct that carries gas from our site," said Carlos Morales Gil, director general of Pemex Exploración y Producción (PEP), a PEMEX subsidiary. "This is where we measure the fuel before turning it over to our clients."

Even though Calderón has ordered the Procuraduría General de la República (PGR) to investigate whether organized crime might have had a role in the explosion, Morales said there are no signs that outsiders intervened. "We do not have any evidence of sabotage," said the PEP executive.

A related concern was whether the explosion would tighten natural-gas supplies in Mexico, as the plant was going to be shut down while authorities—including the PGR and the Secretaría de Energía (SENER)—completed an investigation of the incident. The plant—which distributes natural gas extracted from the Burgos Basin—handles about 700 million cubic feet of fuel per day. But the amount produced at the Reynosa complex is only a small portion of the average of nearly 6.6 billion cubic feet of natural gas that PEMEX produced daily in 2011. PEMEX imported an average of about 791 million cubic feet of gas per day last year.

PEMEX officials said they expected the plant's closure to be relatively brief, and, if needed, imports would supplement domestic supplies. "Our supply is guaranteed," Morales Gil told reporters. "Because of the decline in volume of gas produced at Burgos, the ducts that transport fuel to the center of the country will carry a larger percentage of imported gas."

"The most immediate task at hand for PEMEX is to repair the duct," said Agustín Humann, president of the Asociación Mexicana de Gas Natural (AMGN). "But this is not the only plant of its kind. Others can perform the same tasks."

Other industry sources agreed that supply should not be a problem in the medium or long term. "If Monterrey can be supplied from one pipeline, it can be supplied from another," independent energy analyst David Shields told Reuters.

Still, some doubted the government's explanation of the cause. Fortino Cisneros Calzada, a columnist for the Tamaulipas daily newspaper El Mañana, said the chances of an explosion are very small in an outdoor facility like the one in Reynosa, "This would be explainable if it were inside an enclosed area, where an accumulation of gas could catch fire with a simple spark," said Cisneros. "But a complex of valves and ducts in the open air would not likely cause a disaster like the one that occurred here."

Cisneros also wondered why the warning systems did not work. "If there were a problem in the storage tanks, an excess of pressure would have been detected immediately in the instruments, both in the supply and the distribution centers."

The explosion is a black eye for PEMEX, which had prided itself on an improved safety record during the past decade. PEMEX reported a sharp drop in the number of accidents per million hours, going from 1.06 in 2005 to 0.42 in 2010. That level is compatible with the international average of about 0.43 per million, said a report from the British-based International Association of Oil and Gas Producers.

But the oil company acknowledged in a recent report that a series of smaller blasts and fires, mainly at refineries and petrochemical plants, since late 2011 had "seriously impacted" its safety rate. Because of this, said PEMEX, the rate of injuries per million hours had risen to 0.54.

This was the second accident for PEMEX in September. Earlier in the month, four PEMEX workers were injured after a fire broke out at the Madero refinery in Tamaulipas. Another fire at the same location occurred less than a month before on Aug. 13.

David Páramo, a business columnist for the Mexico City daily newspaper *Excélsior*, said the Reynosa accident brought back memories of another more serious disaster at the San Juanico facility in México state in 1984. In that incident, a series of massive explosions at a liquid petroleum gas (LPG) facility caused significant damage to the nearby town of San Juan Ixhuatepec. Three other explosions occurred at the site after that, prompting the Chamber of Deputies to hold a special hearing in 1996.

PEMEX staffing practices under question

One revelation that came out of the latest disaster was the scheme that PEMEX now uses to staff many of its projects. According to company statistics, only one-sixth of those killed and half of the 46 injured were actually on PEMEX's payroll. The other workers were employed by several private companies, which had received multiple-services contracts to conduct operational and maintenance work at the station. PEMEX began using these contracts in 2003 as a way to attract private investment to make up for its tight budget, since most of the company's revenues have traditionally been used to fund the federal treasury. Recent changes in the tax code have allowed PEMEX to keep a larger share of its revenues, but these are still considered insufficient to provide the needed funding for major projects.

Critics said this practice results in less favorable working conditions for people involved in some PEMEX operations. "The employees of the contractors receive lower pay, are less trained, and operate equipment with minimal protection and safety," said Cisneros Calzada. "This exposes them to accidents."

"The workers employed by the contractors do not have the privilege of working for a company that pays one of the best salaries in our country, and yet they have to assume the same high risks as the regular employees," Páramo noted.

"I'm certain that we will discover that many of those affected by the explosion probably do not have adequate accident and health benefits, forcing them to deal with the tragedy without the

proper safety net," added Páramo. "The least that PEMEX could do is to respond to the accident as if they were employees of the company with full rights."

Some companies that lost employees in the explosion provide services such as sales and servicing of measuring equipment, technological consulting, infrastructure repair, and chemical analysis. "Did these companies have any responsibility for the explosion?" asked Cisneros.

"Was their equipment certified, and were the workers properly trained for this type of work? These are questions that have to be answered."

Employees of subcontractors were among the 22 workers killed in PEMEX's last major accident in 2007, when a sudden storm caused a drilling rig and a floating oil platform to collide. About three-quarters of the workers on the rig were employed by companies hired by PEMEX. Investigators concluded that the deaths were partly the result of inadequate emergency training.

Cisneros said PEMEX's secrecy surrounding the accident is typical of the attitude that the Mexican government has had for generations regarding the oil industry. "Mexico cannot wait until the government develops a will to inform. Mexicans have the right to truthful and verifiable information. The victims deserve justice and not just words. They need tangible and concrete actions," said the columnist. "We have to eradicate the terrible corruption that prevails in the petroleum industry, which they say belongs to all Mexicans. In reality, only a few thieves benefit."