



# Gas, Oil, and Petroleum Coke-fired Plants in Mexico



## Lerdo Durango

**Location:** Sonoma

**Operator:** Comision Federal de Electricidade

**Configuration:** 2 X 160 MW

**Operation:** 1991

**Fuel:** heavy fuel oil

**Boiler supplier:** MHI

**T/G supplier:** Ansaldo

**Quick facts:** This plant is also known as Guadalupe Victoria.

*Photograph courtesy of Comision Federal d'Electricidad*

*Posted 17 Jul 2005*



## Mazatlan

**Location:** Sinloa

**Operator:** Comision Federal de Electricidade

**Configuration:** 2 X 158 MW, 1 X 300 MW

**Operation:** 1976-1980

**Fuel:** heavy fuel oil

**Boiler supplier:** MHI, Babcock-Hitachi

**T/G supplier:** Hitachi, MHI, Melco

**Quick facts:** This plant is also known as J A Pozos.

*Photograph courtesy of Comision Federal d'Electricidad*

*Posted 20 Jul 2005*



## Penoles

**Location:** San Luis Potosi

**Operator:** Termoelectrica del Golfo, Termoelectrica Penoles

**Configuration:** 2 X 260 MW

**Operation:** 2003-2004

**Fuel:** petroleum coke

**Boiler supplier:** Alstom

**T/G supplier:** Alstom

**Quick facts:** These twin autoproducers are among the world's largest units burning pet coke. Each has a pair of CFB boilers with a single T/G set. In Oct 1998, the Termoelectrica del Golfo (TEG) BOT project was awarded to a consortium of Alstom Holdings and Sithe after an international bidding process initiated by Cementos Mexicanos (Cemex) \$277mn of financing was arranged by the IADB including a \$100mn credit facility guaranteed by COFACE. TEG has a 20-yr PPA with five Cemex companies and Cemex has a 20yr contract with Pemex for coke supply. The offtaker and owner of Termoelectrica Penoles (TEP) is metals and chemicals company Industrias Penoles, which signed agreements for the project in May 2000. The plant's development and operation, as well as fuel supply and grid arrangements are similar to those for TEG. In October 2000, Industrias Penoles announced that it had secured a \$320mn syndicated loan for the project.

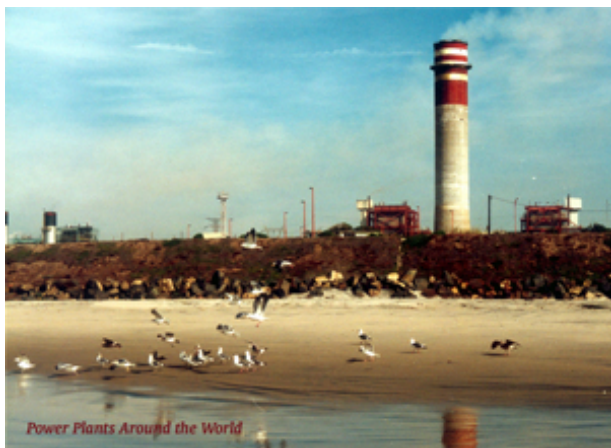
*Photograph courtesy of Power*

*Posted 24 Sep 2005*



## Puerto Libertad

**Location:** Sonoma  
**Operator:** Comision Federal de Electricidade  
**Configuration:** 4 X 158 MW  
**Operation:** 1985-1989  
**Fuel:** heavy fuel oil  
**Boiler supplier:** MHI  
**T/G supplier:** Toshiba  
**Quick facts:** Two 350-MW units are planned for the site.  
*Photograph courtesy of Comision Federal d'Electricidad*  
 Posted 17 Jul 2005



## Rosarito

**Location:** Baja California  
**Operator:** Comision Federal de Electricidade  
**Configuration:** 4 X 75 MW, 2 X 158 MW  
**Operation:** 1964-1992  
**Fuel:** heavy fuel oil, natural gas  
**Boiler supplier:** B&W, CE, Babcock-Hitachi  
**T/G supplier:** WH, Ansaldo  
**Quick facts:** This plant is also known as Presidente Juarez.  
*Photograph courtesy of Comision d'Electricidad*  
 Posted 20 Jul 2005



## Topolobampo

**Location:** Baja California  
**Operator:** Comision Federal de Electricidade  
**Configuration:** 1 X 41 MW, 2 X 160 MW  
**Operation:** 1968-1998  
**Fuel:** heavy fuel oil, natural gas  
**Boiler supplier:** B&W, Babcock-Hitachi  
**T/G supplier:** Siemens, Toshiba  
*Photograph courtesy of Comision d'Electricidad*  
 Posted 20 Jul 2005



## Tuxpan

**Location:** Baja California  
**Operator:** Comision Federal de Electricidade  
**Configuration:** 6 X 350 MW  
**Operation:** 1991-1996  
**Fuel:** heavy fuel oil, natural gas  
**Boiler supplier:** Babcock-Hitachi, Stein  
**T/G supplier:** MHI, Melco, GEC\_Alstom, TuralmeX  
**Quick facts:** This plant, also known as LopeZ Mateos, is one of Mexico's two largest power plants.  
*Photograph courtesy of Comision d'Electricidad*  
 Posted 31 Jul 2005

# Tucson Citizen

Special Report - The Colorado River Story

## Betting on a pipeline

With the next-closest source of natural gas in Peru, Puerto Libertad hopes to cash in on a precious resource.

[ERIC PAVRI and MARK POEPSEL](#)

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PUERTO LIBERTAD, Son. - You probably haven't heard of this tranquil fishing town on the Sea of Cortez.

But if El Paso Corp. and Rockingham Investment Group have their way, this isolated town could dwarf everything else on Sonora's Gulf Coast.

Los Angeles-based Rockingham is developing 72 square miles north of town.

Its Liberty Cove project would feature a Formula 1 racetrack, motocross track, equestrian center, polo fields, golf course, hotels, condos and marinas for 100,000 people.

El Paso plans a 1,500-acre receiving facility for liquefied natural gas (LNG) south of town.

Oceangoing tankers would take advantage of the natural deep harbor to siphon the liquid fuel onshore.

The LNG would be converted back into gas, then piped south in Mexico and north to Arizona.

The pipelines would be built in a joint venture with Houston-based DKRW Energy. All four principal partners of DKRW were previously senior executives of the Enron Corp.

Although their village of 3,300 would be boxed between two giants, most locals welcome the prospect of tourism jobs and dollars.

**They also would appreciate cleaner fuel for their power plant, one of the dirtiest**

anywhere.

Dual smokestacks tower over the shore, as the plant burns sludge left over from petroleum distillation to provide electricity for all of Sonora.

The ash mixes with the moist sea air, producing sulfuric acid that causes chronic eye, lung and skin problems, says local paramedic Eduardo Peralta.

Fisherman Jaime Mazariegos says, "It eats through automobile paint, and even the metal on a house roof."

If the power plant opted to convert to natural gas, tapping into El Paso's plant, the result would be much cleaner air, says Dick Kamp, director of E-tech International, an environmental consulting group that has studied the region.

But the LNG tankers could endanger whales that calve in the area, Kamp adds.

Residents know that decompressing natural gas carries risks of explosions and suffocation if it seeps into homes.

"They're being careful to build the plant in the safest way possible, but the government oversight ends after design and construction," Peralta says. "Who makes sure they keep it safe in the future?"

Germán Gonzales of SEMARNAT, a Mexican environmental agency, says neither the gas plant nor Liberty Cove has submitted the required initial assessments.

El Paso spokesman Richard Wheatley says their plans continue to move forward.

"We see demand growing in the market by leaps and bounds," Wheatley says.

But the question is supply.

Natural gas is compressed into liquefied form so it can be shipped in large quantities.

Then plants such as the one El Paso envisions convert it back into gas for household and industrial use.

From here, the closest source of natural gas is the \$1.6 billion Camisea project in Peru.

Camisea's biggest investor is Hunt Oil, whose chief executive, Ray L. Hunt, serves on the board of Halliburton.

The Camisea pipeline transports gas from the Amazon to the Peruvian coast, where a Hunt Oil plant, yet to be built, would compress it into liquid form for shipment

overseas.

The pipeline, completed last year, has been criticized for allegedly polluting streams, damaging rain-forest preserves and causing mysterious illnesses in indigenous communities near the gas source in rural Peru.

"Peru is the most likely source," Kamp says, to provide LNG to the El Paso plant. "Natural gas would help clean up Puerto Libertad's air, but you have to look at what else could happen.

"The Camisea pipeline is a damn mess. They've had five ruptures in about 18 months."

Wheatley says El Paso doesn't yet know the future supplier for the Puerto Libertad project. "It hinges on the desires of potential shippers."

Locals already are banking on the gas plant and resort. Some have opened stores.

Alejandro Montigo, a local landlord, squats atop the roof of his apartment building, where workers are adding rooms.

Stacks of drywall and cinder block lie around the work site.

"We're thinking about the future. We know more people will be coming."

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#### **ADDITIONAL INFORMATION**

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For more, see the Tucson Citizen's Special Report:  
[The Colorado River Story](#)  
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