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Texas Nuclear Profile

State Nuclear Profiles with data for 2008
Last Updated: September 2010
Next Update: August 2011

State Overview

There are two operating nuclear power plants in Texas:

- Comanche Peak in Somervell County
 - Comanche Peak, formerly owned and operated by Texas Utilities (TXU), was acquired by Luminant in 2004.
 - Luminant has followed up on TXU's plan to file a Combined License (COL) for two additional reactors at this site. More information on this COL is available in Status of Potential New Commercial Reactors in the United States.
- South Texas in Matagorda County
 - Texas anticipates significant growth in electricity demand, and both of the Lone Star State's nuclear plants are planning to add reactors.
 - The twin reactors at the South Texas Project (STP) site were the largest reactors ever constructed in the United States (although since then, uprates at Palo Verde Units 1 and 2 have increased capacities beyond those of the STP units).

Contribution of Nuclear Power

Texas is one of the 10 largest states in terms of nuclear capacity, accounting for almost 5% of the national total.

Nuclear power makes up less than 5% of Texas's total electric capacity, but produces almost 10% of the State's electricity, third behind natural gas and coal.

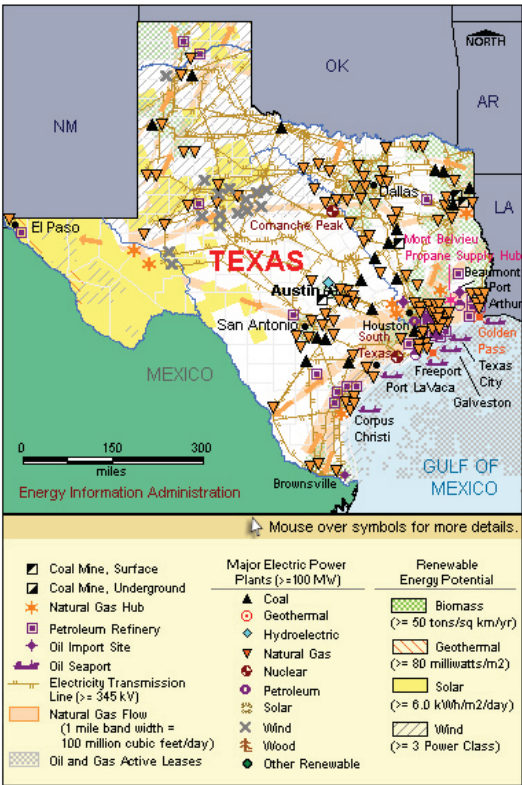
Texas exports roughly 2% of its electricity production.

License Renewals

- Comanche Peak: The original operating license for Comanche Peak unit 1 expires February 2030. The operating license for unit 2 expires February 2033.
- South Texas: On June 18, 2008, the STP Nuclear Operating Company notified the NRC that it plans to submit a license renewal application for both South Texas units. The original operating license for South Texas unit 1 expires August 2027; unit 2 expires August 2028.

New Applications

- Comanche Peak: On September 19, 2008, a Combined License application was submitted for two new, Advance Pressurized Water Reactors (APWR) at the Comanche Peak plant.
- South Texas: On September 20, 2007, a Combined License application was submitted for two new, Advanced Boiling Water Reactors (ABWR) at the South Texas plant.
- Victoria County: A Combined License application was submitted for a new, two reactor plant in Victoria County on September 3, 2008; however, that application has since been put on hold.



[d](#)
Sources: Energy Information Administration, Form EIA-923, Power Plant Operations Report, and predecessor forms.

Texas Total Electric Power Industry, Summer Capacity and Net Generation, by Energy Source, 2008

| Primary Energy Source | Summer Capacity (MW) | Share of State Total (Percent) | Net Generation (Thousand MWh) | Share of State Total (Percent) |
|------------------------------|----------------------|--------------------------------|-------------------------------|--------------------------------|
| Nuclear | 4,927 | 4.7 | 40,727 | 10.1 |
| Coal | 20,189 | 19.2 | 147,132 | 36.3 |
| Hydro and Pumped Storage | 673 | 0.6 | 1,039 | 0.3 |
| Natural Gas | 70,856 | 67.5 | 193,247 | 47.7 |
| Other ¹ | 396 | 0.4 | 3,969 | 1.0 |
| Other Renewable ¹ | 7,708 | 7.3 | 17,639 | 4.4 |
| Petroleum | 218 | 0.2 | 1,034 | 0.3 |
| Total | 104,966 | 100.0 | 404,788 | 100.0 |

¹ Municipal Solid Waste net generation is allocated according to the biogenic and non-biogenic components of the fuel; however, all Municipal Solid Waste summer capacity is classified as Renewable.

Notes: Totals may not equal sum of components due to independent rounding.

Other: Blast furnace gas, propane gas, other manufactured and waste gases derived from fossil fuels, non-biogenic municipal solid waste, batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, tire-derived fuel, and miscellaneous technologies.

Other Renewable: Wood, black liquor, other wood waste, biogenic municipal solid waste, landfill gas, sludge waste, agriculture byproducts, other biomass, geothermal, solar thermal, photovoltaic energy, and wind.

Sources: Form EIA-860, "Annual Electric Generator Report," and Form EIA-923, "Power Plant Operations Report."

Texas Nuclear Power Plants, Summer Capacity and Net Generation, 2008

| Plant Name/Total Reactors | Summer Capacity (MW) | Net Generation (Thousand MWh) | Share of State Nuclear Net Generation (Percent) | Owner |
|------------------------------------|----------------------|-------------------------------|---|--------------------------|
| Comanche Peak | | | | |
| Unit 1, Unit 2 | 2,367 | 19,235 | 47.2 | TXU Generation Co LP |
| South Texas Project Unit 1, Unit 2 | 2,560 | 21,493 | 52.8 | STP Nuclear Operating Co |
| 2 Plants | 4,927 | 40,727 | 100.0 | |
| 4 Reactors | | | | |

Note: Totals may not equal sum of components due to independent rounding.

Sources: Form EIA-860, "Annual Electric Generator Report," and Form EIA-923, "Power Plant Operations Report."

Plant Profiles**Comanche Peak Nuclear Power Plant****Comanche Peak**

| Unit | Summer Capacity (MW) | Net Generation (Thousand MWh) | Summer Capacity Factor (Percent) | Type | Commercial Operation Date | License Expiration Date |
|------|----------------------|-------------------------------|----------------------------------|------|---------------------------|-------------------------|
| 1 | 1,209 | 9,659 | 91.2 | PWR | 8/13/1990 | 2/8/2030 |
| 2 | 1,158 | 9,576 | 94.4 | PWR | 8/3/1993 | 2/2/2033 |
| | 2,367 | 19,235 | 92.8 | | | |

Data for 2008

PWR = Pressurized Light Water Reactor.

Notes: Totals may not equal sum of components due to independent rounding.

Sources: Form EIA-860, "Annual Electric Generator Report," and Form EIA-923, "Power Plant Operations Report."

Operator: Luminant

Location and Service Territory: The Comanche Peak power plant is located in Somervell County.

Reactor Descriptions: Both units are Westinghouse four-loop pressurized water reactors.

Cooling System: Comanche Peak uses a once-through cooling system that draws water from the Squaw Creek Reservoir.

South Texas Project**South Texas Project**

| Unit | Summer Capacity (MW) | Net Generation (Thousand MWh) | Summer Capacity Factor (Percent) | Type | Commercial Operation Date | License Expiration Date |
|------|----------------------|-------------------------------|----------------------------------|------|---------------------------|-------------------------|
| 1 | 1,280 | 10,767 | 96.0 | PWR | 8/25/1988 | 8/20/2027 |
| 2 | 1,280 | 10,726 | 95.7 | PWR | 6/19/1989 | 12/15/2028 |
| | 2,560 | 21,493 | 95.8 | | | |

Data for 2008

PWR = Pressurized Light Water Reactor.

Notes: Totals may not equal sum of components due to independent rounding.

Sources: Form EIA-860, "Annual Electric Generator Report," and Form EIA-923, "Power Plant Operations Report."

Operator: STP Nuclear Operating Company.

Location and Service Territory: The South Texas Project (STP) is located in Matagorda County between Bay City and Palacios.

Staffing: There are 1,300 full-time personnel, including contractors.

Reactor Descriptions: Both South Texas reactors are Westinghouse four-loop pressurized water reactors holding 193 fuel assemblies.

Cooling System: STP is cooled by water from its own 7,000 acre reservoir.

¹ NRG Energy, <http://nrgenergy.com/pdf/stp1and2.pdf>

² Nuclear Regulatory Commission (NRC), <http://www.nrc.gov/reading-rm/basic-ref/teachers/04.pdf>

³ NRG Energy, <http://nrgenergy.com/pdf/stp1and2.pdf>

see also:

[annual nuclear statistics back to 1953](#)

[projected electricity capacity to 2030](#)

[international electricity statistics](#)