# POWER GENERATION WATER USE IN TEXAS FOR THE YEARS 2000 THROUGH 2060

## FINAL REPORT

## PREPARED FOR THE TEXAS WATER DEVELOPMENT BOARD

**BY REPRESENTATIVES OF**
**INVESTOR-OWNED UTILITY COMPANIES OF TEXAS**

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# TABLE OF CONTENTS

# EXECUTIVE SUMMARY

The objective and purpose of the research project is to develop improved methodologies for projecting water demands by the steam electric generation water use sector for a 50 year planning horizon, as well as actual projections for this sector on a regional and county specific basis throughout the state of Texas. Such projections and methodologies will be utilized by the Texas Water Development Board (TWDB) and the Regional Water Planning Groups (RWPGs) for state and regional water planning purposes.

This research was conducted pursuant to a contract executed by and between the TWDB and a research project team comprised of representatives of major investor-owned electric generating utilities in Texas. The actual contracting entity for the project team and project team leader was the Austin-based law firm of Lloyd, Gosselink, Blevins, Rochelle, Baldwin & Townsend, P.C. Lloyd, Gosselink is a leading environmental services law firm with a proven track record of success on water-related project leadership. The other project team members included representatives of the three largest generators of electricity in the state of Texas: American Electric Power, TXU Energy, and Reliant Energy.

The project team was uniquely qualified to undertake research for the development of electric generation water demand projection methodologies, as team members were selected on the basis of their training, institutional knowledge, and understanding of long-term trends in electric generation in Texas, trends in generation technologies, and related water usage. Members of the project team have already been intricately involved in the regional water planning process as members of various RWPGs, and as alternates, technical support, and liaisons to other RWPGs. In those capacities, they have also already been involved in the calculation of demand projections for the steam electric sector utilized in the first regional water planning cycle (post-Senate Bill 1 of 1997, which created the RWPG process).

This paper describes various types of current electric generation technologies, such as gas turbines, steam turbines, and others, and the water-utilizing processes within each technology. Estimates of the varying amounts of water consumed by each generation technology in the production of electricity are also provided. The paper then evaluates the various cooling technologies, such as once-through cooling and cooling towers, in combination with the above generation technologies and derives estimations of the amount of water that each of them consumptively use per unit of electricity generated. These consumption factors allow an accurate determination of the total annual water consumption at a particular facility based upon its reported actual generation, once its generation and cooling technologies have been identified.

The project team first developed a methodology and specific water demand projections for the power generation on a statewide basis. The statewide approach was deemed to be more reliable than any localized approach for two primary reasons: (1) the availability of statewide electric generation data projections; and (2) the fact that, because of electric transmission technologies and other regulatory constraints unrelated to water, the location of the generation facility (and, thus the location of the steam-electric water demand) is not necessarily related to the location of the demand for the electricity.

In order to develop statewide water demand projections for power generation, it was first necessary to develop projections for statewide electric demands, assuming once again that generation to meet those demands would occur in Texas. The project team developed two different methodologies for projecting statewide electric demand: (1) derivation of an electric demand growth factor from the electric demand projections developed by the Public Utility Commission of Texas (PUCT), and extrapolation of the factor across the 50-year planning horizon; and (2) derivation of a per capita electric use factor from existing population and total electric use data from the past two decades, and utilization of that per capita factor with the TWDB population projections to project total electric use through the year 2060. The two methodologies proved to yield significantly similar results, although the first methodology and its projections were selected as the most reliable and were used for the remainder of the research effort.

Utilizing those statewide electric demand projections and the consumptive water use factors associated with the various types of generation and cooling technologies, water use demand projections were developed using low-, medium-, and high-use scenarios through the year 2060. Each scenario was defined according to a combination of various assumptions related to the continuation or retirement of existing facilities and the percentage of future statewide electric generation that would be met by various generation and cooling technologies. The medium-use scenario was selected as the most probable predictor of future statewide water demand for power generation.

To determine the water demand for electric power generation on a county and regional basis, the statewide water demand projections derived under the medium use-scenario were utilized in combination with an exhaustive assimilation of actual fuel-type and cooling technology generation data for 214 electric utility and independent power producer plants in Texas, with 79 of those plants being placed in service, constructed or announced since 2000. The methodology utilized does not lend itself to summary explanation, although a few general descriptions of it may be proffered for summary purposes.

The water demand for each electric generating plant in Texas was estimated as a percentage of the statewide demand. For the baseline year 2000, the water demand for each plant was calculated by taking the actual generation by fuel type and applying the water use factor for the generating units at that plant for each fuel type.

Once the baseline year 2000 water demand was determined for each generation unit, water demand projections for the years 2010 though 2060 were also calculated on a unit-by-unit basis. Because of the availability of specific electric generation projection data by fuel type from other governmental agencies for the period of 2001 through 2020 and the lack of such data thereafter, these unit-specific water demand projections were derived by one methodology for the years 2010 and 2020 and a separate methodology for years 2030 through 2060. The methodologies utilized are discussed in greater detail in Section VI with illustrative examples provided.

For the years 2010 and 2020, the estimated water demand for coal-fired, nuclear, and conventional natural gas units was based on the 2000 water demand and was adjusted by a correction factor based upon a linear trending of the unit based upon its fuel type and projections of generation based on fuel types. Projections for natural gas fired combined cycle generation were also derived by taking the difference in the statewide totals and the trended totals from the conventional generation types, which was then apportioned to individual combined cycle plants.

For the decades 2030 through 2060 the water demand for each plant was projected to increase at the same rate throughout the state regardless of fuel type and generation type.

In order to calculate the county water demand projection for a given year, simply sum the total of all the individual plant projections located in that county for the same year. Similarly, to determine the water demand projection within a RWPG in a given year, sum the county totals for all of the counties included within the water planning region.

Other than the specific decadal water demand projections and methodologies, other results of the research may be of particular interest to the water resource planner. For example, while the research clearly indicates that the statewide electric demand is projected to increase by two percent annually for a total increase of 234 percent in 2060 over the year 2000 electric generation demand, the corresponding water demand would increase by only 162 percent over the same planning horizon due to the utilization of more efficient generation technologies. Also of interest is that the statewide water demand projections developed indicate that all surpluses of water currently held for steam electric generation will be exhausted by 2037.

With the number of indeterminable variables associated with the development of statewide steam-electric water demand projections on a 50-year planning horizon, no methodology can be developed that will result in a perfect, predictive tool. The lack of a necessary correlation between the location of the water demand and the location of the demand for the electricity generated with that water, which is particularly acute in the steam-electric sector, renders attempts to localize or regionalize such demand projections even less reliable. Nonetheless, the research, methodologies, and projections developed and presented in this report represent the most comprehensive effort to date to establish such generalized methodologies and to assimilate such information for the steam-electric sector in Texas.

Respectfully submitted,

Brian L. Sledge
Lloyd, Gosselink, Blevins, Rochelle,
Baldwin & Townsend, P.C.

W. Greg Carter
American Electric Power

Chris A.Bissett
American Electric Power

Kerry M. Whelan
Reliant Energy

Jason Fluharty
Reliant Energy

Joseph Simecek
TXU Energy

Paul Zweiacker
TXU Energy

# SECTION I: TYPES OF ELECTRIC POWER GENERATION PLANTS AND THEIR WATER NEEDS

## A. Introduction

There are a number of technologies employed throughout the state of Texas to generate electricity. The various processes associated with these generation technologies consumptively use varying amounts of water, with water that is utilized in the cooling process consuming the largest percentage of that water. Because the amount of cooling necessary for the power generation facility is largely dependent on the type of device used to power the electric generator and because additional amounts of water for purposes other than cooling are consumed in some generation processes, a basic understanding of these generation technologies and their water-consuming processes is integral to this research and is set forth below.

## B. Types of Power Plants

### Steam Turbines

Many of the electric generation facilities in Texas use steam turbines as the prime mover to drive the electric generators. Boilers, which are fueled by natural gas, fuel oil, coal, or in some cases, nuclear reactors, produce the steam for the turbines. Steam turbines are commonly used because they are efficient, reliable, and available in the large sizes necessary for powering large electric generators. Steam turbines and boilers are also used because the working fluid is water, which is relatively easy to purify and relatively abundant. Due to the need to condense the steam, the cooling requirements of steam turbines can be greater than those of other types of power systems. A basic process diagram of a power plant utilizing a steam turbine is set forth in Figure 1-1.

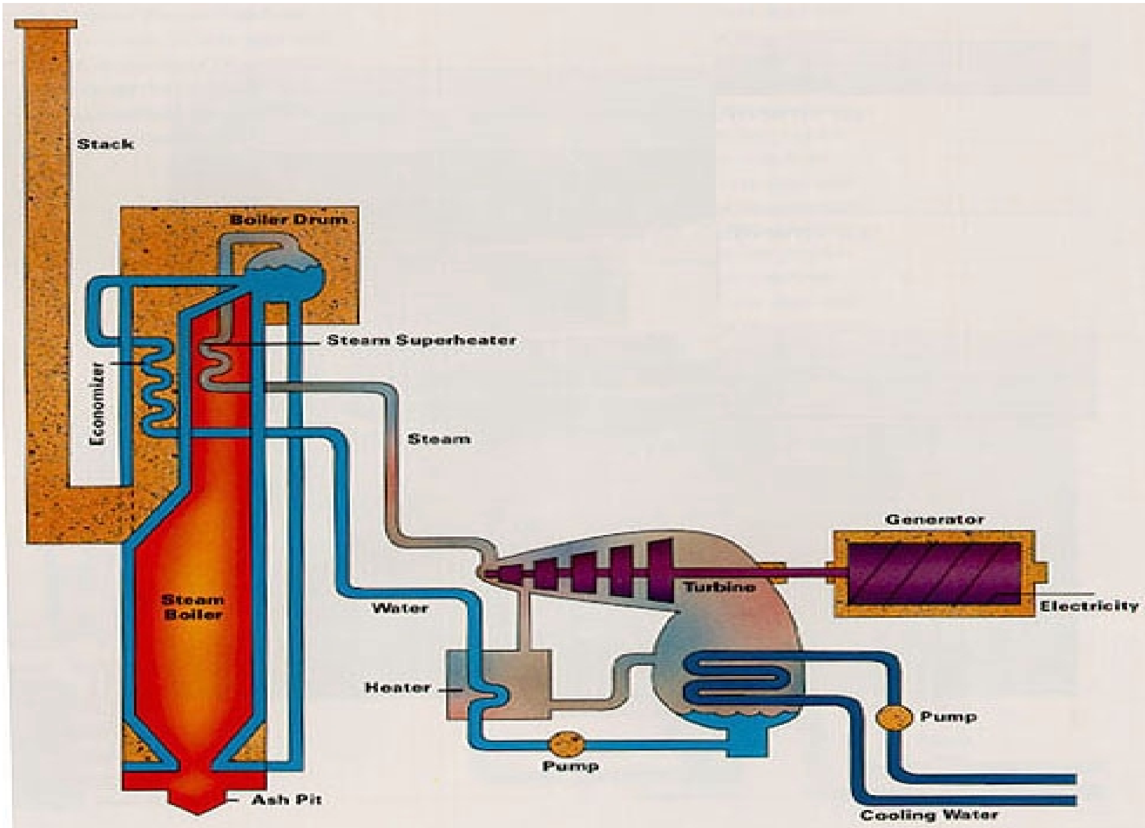


**Figure 1-1 Steam-Electric Power Plant**

## Gas Turbines

Other generation facilities use gas turbines as the prime mover to drive the electric generators. Gas turbines are large aircraft derived jet engines and are usually fueled by natural gas. Gas turbines have relatively small cooling systems when compared to steam turbines. Many gas turbines use water or steam injection to control emissions of nitrogen oxides. The water or steam is injected into the combustion area of the turbine to drop the flame bundle temperature and reduce the amount of nitrogen oxide (NOx) produced. The water or steam injected must be very pure with minimal amounts of contamination.

## Combined Cycle

Many of the newer generation facilities in Texas are a combination of gas turbine and steam turbine generation called "combined cycle" power plants. In this type of power plant, one or more gas turbines exhaust hot gases from the gas turbine through a heat recovery steam generator that uses the waste heat to generate steam. The steam is then used to power a steam turbine. Each gas turbine drives an electric generator and the steam turbine also drives an electric generator. Combined cycle power plants are more efficient than either gas turbine or steam turbine generators operated independently.

## Nuclear

Nuclear-fueled power plants are very similar to natural gas, oil, or coal fired steam turbine power plants. A nuclear-fueled power plant uses a nuclear reactor to generate steam to power a steam turbine. The steam turbine, as well as the rest of the power plant, is very similar in design to a gas or coal-fired steam electric power plant. A diagram of a typical nuclear-fueled plant configuration is set forth under Figure 1-2.

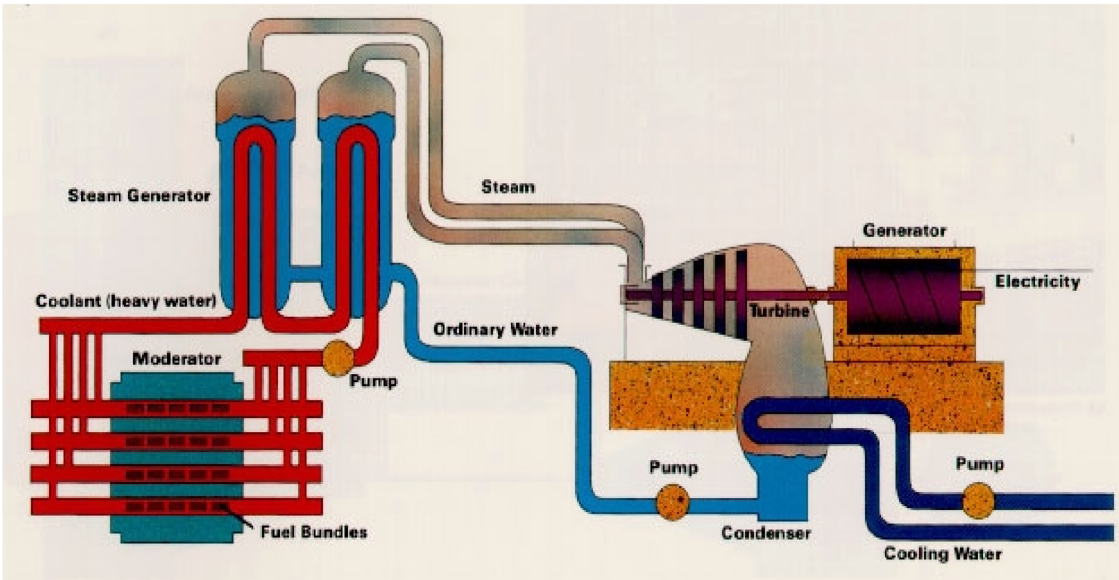


**Figure 1-2 Nuclear-Fueled Power Plant**

## Hydroelectric

Some of the electric generation in Texas is produced through hydroelectric facilities. As shown in Figure 1-3, these facilities produce power when water is released from a reservoir and the water passes through a water turbine, which in turn drives an electric generator. In most cases in Texas, the release of water from a reservoir through a water-powered turbine occurs only when the release from the reservoir is required by downstream use or for flood control measures. In this case, the power generation is secondary to another need for the release. In addition, there are also several small run-of-the-river hydroelectric facilities throughout the state. These facilities do not rely on the release of water from a reservoir, but instead utilize the force of a river current to drive the water-powered turbine.

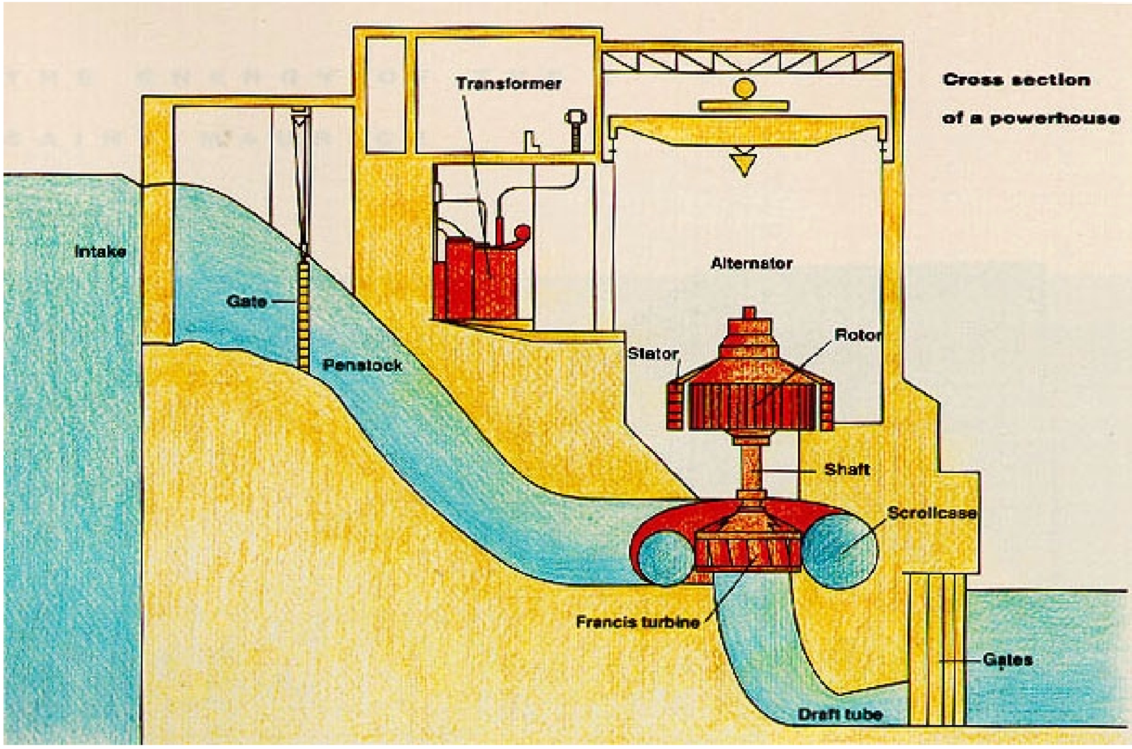


**Figure 1-3 Hydroelectric Power Plant**

## Alternate Technology

Some generation facilities use little or no water to generate power. Wind turbine (see Figure 1-4) and solar panel power generation are two types of electric generation with little water demand. However, this type of power generation is currently only a very small percentage of the power produced in Texas. Internal combustion engines powered by diesel fuel generally use small amounts of cooling water because of their smaller sizes and alternate cooling mechanisms. Finally, fuel cells have the potential to generate electric power with very little consumption of water if they can be produced and maintained in an economically viable manner.

**Figure 1-4 Wind Turbine Farm**

## C. Steam Electric Plant Water Needs

### Boiler Turbine Cycle

The use of water for the dissipation of heat is a necessary part of the thermodynamic cycle of all modern steam electric power plants. Its value for this purpose lies in its high specific heat, its general abundance and its ability to consume heat in the evaporation process.

In the modern steam electric power plant, whether nuclear or fossil fueled, steam from the boiler flows through the turbine giving up energy to the turbine rotor and cooling in the process. At the exhaust of the turbine, the steam must be condensed and returned to the boiler. This is accomplished in the condenser using cooling water and in the process the cooling water temperature is increased. Although some water is also used in other processes in the power plant, particularly for boiler make-up, the quantities are insignificant when compared with that consumed for condensing the used steam. The increase in the temperature of the cooling water flowing through the condenser depends upon the design of the condenser, but it is usually between 15 and 25 degrees F.

For a given rate of heat removal, the temperature rise in the cooling water is inversely proportional to the amount of water pumped through the condenser. The size of the condenser and the amount of water circulated can vary substantially. The design values are selected on the basis of a complex economic analysis which takes into account factors such as the cost of fuel, the cost of money, expected operating schedules, water temperature, meteorological data and site conditions, all being part of the optimization process in plant design which will result in a plant with the lowest production cost. The range in water flow rates for modern plants is between 20 and 60 gallons per kilowatt hour (kWh) generated, the lower rate being associated with very efficient plants and the higher rate being that of the larger commercial nuclear plants now in operation.[1]

Power plant efficiencies are expressed in terms of the plant heat rate, which is the British Thermal Units (BTU) required to generate each net kWh at the terminals of the plant generator. A "perfect" plant would have a heat rate of 3413 BTU/kWh, meaning that all of the heat energy that went into the system was converted into electrical energy. The most efficient technology available today can achieve a heat rate of approximately 6500 BTU/kWh, which is equivalent to an efficiency of about 53 %. There are many older plants with much higher heat rates, but the national average heat rate is about 10,300 BTU/kWh.[2] Most of the inefficiencies that occur in the generation of electricity come from the need to dissipate heat in the cooling process. In fossil-fueled plants, between 10% and 15% of the heat entering with the fuel is lost in the boiler, while the remainder is lost in the cooling process. In nuclear plants, which do not lose heat through combustion emissions, cycle cooling accounts for almost the entire loss. In the "average"

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[1] *Water and Sustainability (Volume 3): U.S. Water Consumption for Power Production –The Next Half Century*, Electric Power Research Institute, Palo Alto, CA: 2002 at pages 3-1 to 3-2. Also Figures 2-1, 2-2, and 2-3 were utilized from the EPRI report.

[2] Information provided by the National Electric Reliability Council.

United States electric generating plant, possibly 8800 BTU of the 10,300 BTU/kWh entering in the fuel would reach the turbine. Of this, 3413 BTU leaves as electricity and the balance, about 5400 BTU, is removed in the condenser. If this were a nuclear plant, the heat removed in the condenser would be about 7000 BTU/kWh. This is indeed typical of "first–generation" nuclear plants. In the latest, most efficient supercritical fossil-fueled units, on the other hand, the heat removal in the condenser may be as low as 3600 BTU/kWh. Thus the range of heat removal rates in the condensers of large modern plants is between about 4000 and 7000 BTU/kWh generated.[3]

The heat added to the water as it flows through the condenser must be allowed to dissipate externally from the system in some way. The process of "once-through cooling" occurs where cooling water is pumped from a water body through a condenser and subsequently returned to a receiving body. Where the cooling water is returned to a natural watercourse, reservoir, bay, or other water body, this dissipation of heat is accomplished by evaporation, radiation, conduction, convection, and advection.[4] If the heat is dissipated in a wet-type cooling tower, it is almost entirely by the evaporation of water. In a dry-type cooling tower, the heat dissipation is almost entirely by conduction and convection.[5]

It is advisable to make a distinction between the terms "consumption" and "use" as applied to water. As noted, the removal of heat in the condenser requires the circulation of large quantities of water, but except for its increase in temperature this water is unchanged in quality and is therefore still useable for other purposes. If the heat that is added, however, is dissipated partly by evaporation, the evaporated water cannot be reused and must be considered as having been consumed.

An alternative to using once-through cooling systems or cooling towers is use of a radiator system. This closed-loop system works in the same way that a radiator cools an automotive engine. Airflow through the radiator cools the water inside the radiator system. The cooled water flows back through the plant systems and collects heat from those systems. The warm water returns to the radiator and is cooled by airflow again. Although the radiator system is very conservative of water, it is not nearly as efficient at heat removal as a once-through or cooling tower system. This loss of efficiency results in a reduction in the amount of electric power available from a plant cooled by radiators and also reduces the thermal efficiency of the plant. However, the water demand of the plant is reduced to 10% of the cooling water requirement of a wet cooling tower. Water use is not totally eliminated, but it is greatly reduced.

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[3] *See generally* Drew, H.R., A Projection of Per Capita Water Use for Electric Power Generation in Texas, prepared for the Texas Water Commission, May 15, 1965.
[4] See Harbeck, Koberg, and Hughes, The Effect of the Addition of Heat From A Power Plant On The Thermal Structure And Evaporation of Lake Colorado City, Texas, Geological Survey Paper 272-B, U.S. Department of the Interior, 1959, at page 25.
[5] See description of wet-type and dry-type cooling towers in Section II, *infra*.

**Pollution Control Systems – Sulfur Oxide (SOx Systems)**
Coal-fired power plants are required to use various pollution control systems to improve the quality of boiler emissions to the atmosphere. One pollution control strategy requires control of sulfur oxide (SOx) emissions. Sulfur oxides are removed from coal-fired boiler gases by passing the gases through a spray of limestone slurry. The gases react with the limestone and the chemical and physical reaction removes SOx from the gas stream. Much of the moisture in the slurry is evaporated and carried out of the boiler stack by the gas stream. This results in a consumption of water.

The U.S. Department of Energy has estimated[6] the amount of water used by a 500 megawatt (MW) coal-fired boiler burning bituminous coal with a sulfur content of about 2% for three types of scrubber systems[7]. In a magnesium lime-based process, a total of about 666 gallons per minute (gpm) of water leaves the system. Most of this (587 gpm) is evaporation to the flue gas. If the process is limestone-inhibited oxidation, the evaporation to the flue gas is also 587 gpm. If the process is limestone forced-oxidation, the evaporation to the flue gas is 668 gpm. Measurement data at several coal-fueled generating plants has yielded a water use factor of 1 gallon per minute per megawatt of generation for SOx pollution control systems. For example a 500 MW unit would evaporate 500 gpm when scrubbing at full load. This equates to 0.06 gallons/kWh.

**Pollution Control Systems – Nitrogen Oxide (NOx Systems)**
Nitrogen oxide (NOx) control for fossil-fueled boilers is accomplished with a variety of methods applied to the furnace area of the boiler. Most of these methods do not use water, but instead use air and gas circulation to accomplish NOx reduction.

As NOx emission limits are pushed ever lower, new technology for NOx reduction has evolved. One of the newer methods being used is selective catalytic reduction (SCR). This method of NOx reduction involves injection of either urea or ammonia into the exhaust from a gas turbine or boiler to activate a catalytic process. The water consumption rate for SCR technology that utilizes a urea conversion system and sparge steam is 0.0121 gallons/kWh. It should be noted that this is only one type of system and the water consumption rates for other types of systems may be different. Technology exists that uses a specific burner design to limit nitrogen oxides (NOx) without the use of water or steam injection. This is termed dry NOx combustion. The water consumption for this type of technology is essentially zero. There may be some water use associated with equipment cooling, but it is minimal.

**Particulate Control Systems – Coal Ash**
Particulate control at a coal-fired plant is concerned with fly ash, economizer ash, and bottom ash products. Several power stations handle fly ash and economizer ash in a dry

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[6] U.S. Department of Energy, Pittsburgh Energy Technology Center entitled Electric Utility Engineer's FGD Manual; prepared by Radian International LLC; Grant No. DE-FG22-94PC94256; May 1996.
[7] Ibid. at Table 3-1 ("Typical Terms in a Lime/ Limestone Flue Gas Desulferization (FGD) Process Water Balance); page I.3-35.

form and no water loss is associated with these systems. Bottom ash is normally handled in a slurry, which results in some water use. Water use for a 600 MW coal-fired unit is estimated to be approximately 2,500 acre-feet per year.[8] This equates to approximately 0.155 gallons per kWh.

Particulate control at gas or oil-fueled generating plants is very minimal, and no appreciable water use is associated with particulate control at these plants. Minimal amounts of water are used at coal-fired power stations for dust suppression at their coal stock pile.

**Solid Waste Disposal Systems**

In addition to ash by-products, the only other appreciable solid waste that occurs at some coal-fired generation facilities is flue gas desulfurization (FGD) solids. Normally, this material is placed in landfills or ponds, which are capped after they are full. The water loss associated with these ponds can be estimated by referencing the Texas Water Development Board (TWDB) evaporation/precipitation data for Texas.

Solid waste disposal at gas and oil-fired power stations is minimal and associated water loss is negligible.

**Other Electric Generation Water Usage**

Generation facilities utilize minimal amounts of water for a variety of other purposes. For example, some amounts of water may be consumed in the process of purifying the water needed for boiler-makeup. Facilities also use minimal amounts of water for potable purposes, which is often supplied through contract with municipalities and other water suppliers, or by a private water well. For purposes of this research and the determination of steam-electric water demands, consideration of this usage will be omitted.

## D. Gas Turbine Electric Plant Water Needs

**Nitrogen Oxide (NOx) Control Systems**

Gas turbine driven electric generators are limited by State and Federal law to specific levels of nitrogen oxide emissions to the atmosphere. NOx can be controlled in several ways. Injecting water or steam into the combustion area of the gas turbine can control NOx emissions. The water or steam reduces the maximum combustion temperature of the fuel and air mixture and thereby reduces the emission rate of NOx. The water or steam used for injection must be of extremely pure quality, which requires rather elaborate purification equipment. The water consumption rates for NOx control systems on gas turbines have been measured in the range of 0.05 to 0.07 gallons of water consumed per kilowatt-hour of electric power produced.[9] For a 172 MW gas turbine, this equates to a water consumption rate of approximately 10,837 gallons per hour or 0.063 gallons per kWh produced.

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[8] Internal estimates of electric generating utilities on project team.

[9] *Ibid.*

**Cooling Systems**

Gas turbine powered generating systems require water for equipment cooling, but because there is no need to condense large amounts of steam, the cooling systems are much smaller than those found in steam electric generating plants. The most common method of cooling the equipment is a cooling tower, and occasionally a reservoir. Water use associated with this process is relatively small.

## SECTION II: ESTIMATING ELECTRIC POWER GENERATION WATER USE

### A. Estimation of Water Used by Cooling Systems

**Reservoir Use For Cooling**

A pioneering study by G. Earl Harbeck at Lake Hefner, Oklahoma City, Oklahoma, utilizing energy budget and mass transfer analyses, demonstrated that the increase in evaporation from the lake was directly proportional to the amount of heat added to the lake by the power plant adjacent to it. The study indicated that the heat added to the lake was dissipated in the following manner:

1% by advection out of the body of water;
15% by long wave radiation emitted by the body of water;
54% by evaporation;
28% by conduction from the body of water as sensible heat; and
2% by energy advected by the evaporated water.[10]

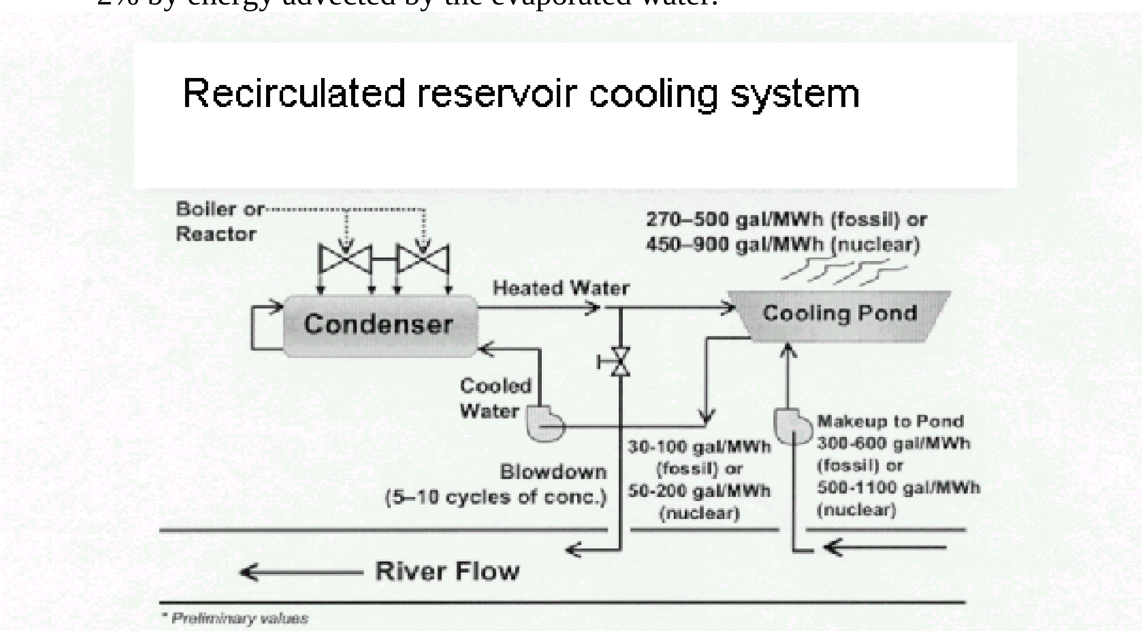


Figure 2-1 Reservoir cooling system

[10] See Harbeck, G. Earl, Jr., The Use of Reservoirs and Lakes for the Dissipation of Heat, Geological Survey Circular 282, U.S. Department of the Interior, 1953, at page 5.

For Lake Colorado City, Texas, Harbeck estimates that 58 % of total heat added is dissipated by evaporation, 25 % was conducted to the air above the reservoir, 3 % was carried away by the evaporated water, and 14 % was radiated to the atmosphere.[11]

Dissipation of heat added to the reservoir varies with meteorological conditions, particularly wind speed, air temperature, and humidity. Therefore, while the results may be generally applied at other locations, the exact results of studies such as the one conducted at Lake Colorado City should be strictly applied only to the location where the research was conducted. However, a third Harbeck study permits an estimation of the increase in evaporation that would occur in other locations by making adjustments based upon the air temperature and wind speed measured at the nearest weather station.[12]

The following table was prepared using the foregoing study to illustrate the percentage of heat used in evaporation at different locations throughout the United States.

TABLE 2-1 VARIOUS CITIES - EVAPORATION RATES

| City | Mean Temperature (°F) | Mean Wind Speed* (mph) | Percent of heat added that is utilized to increase evaporation |
|---|---|---|---|
| Phoenix, Arizona | 69.0 | 3.3 | 46 |
| Sacramento, Calif. | 60.4 | 6.2 | 49 |
| Denver, Colorado | 49.5 | 6.7 | 42 |
| Atlanta, Georgia | 61.4 | 6.6 | 50 |
| Chicago, Illinois | 50.8 | 7.3 | 43 |
| Topeka, Kansas | 54.9 | 7.9 | 49 |
| Syracuse, New York | 48.0 | 7.0 | 42 |
| Portland, Oregon | 52.9 | 5.4 | 44 |
| San Antonio, Texas | 68.7 | 6.4 | 55 |
| Washington, D.C. | 57.0 | 6.8 | 48 |
| | | | Avg. = 46.8 |
| *corrected to 2 meter speed | | | |

If 47 % of the heat added to a reservoir is dissipated by evaporation and assuming evaporation takes place at the rate of 1061 BTU per pound of water (the enthalpy of water at a saturation temperature of 57°F), the amount of water evaporated will be approximately 50 gallons per million BTU of heat added to the lake.

[11] See FN 4, supra, at page 26.
[12] Harbeck, G.E. Jr., Estimating Forced Evaporation from Cooling Ponds, Journal of the Power Division, Proceedings of the American Society of Civil Engineers, Vol. 90 No. PO 3, October 1964; also see generally FN4, supra.

The dissipation of heat from a lake is entirely a surface phenomenon. Therefore, the amount of surface area available is a critical factor in the use of lakes for cooling. A general rule used by electric generating utilities is that about one acre of lake surface area is required for each megawatt of generating capacity using the lake for cooling.

There is little information available as to the amount of water consumed due to heat that is added to flowing rivers. Although heat dissipation from a river involves some phenomena that are different from those which occur in ponds and reservoirs, this paper will assume that the percentage of heat added to a river, that is dissipated through evaporation, is the same as that for a reservoir. Although this assumption may have a probability of error, it should be adequate for the purpose of this paper until better research on heat dissipation in rivers becomes available.

**Wet-Type Cooling Tower Use For Cooling**

Wet-type cooling towers dissipate approximately 90 % of their heat load by evaporation. In addition, systems using wet-type cooling towers require an additional continuous replacement of water in order to prevent excess build-up of dissolved solids in the circulating water system due to the loss of water by evaporation. The water that is discharged from the system in this process is termed “blowdown.” The amount of this blowdown varies, depending upon the salt content of the makeup water and the permissible concentration (from considerations of corrosion and scaling) in the circulating water system. For the generalized case, the total water consumption in the tower is equal to **En**/(**n**-1) where **n** is the ratio of the concentration of the water maintained in the cooling tower system to the concentration of the makeup water and **E** is the amount of water evaporated by the tower. A concentration ratio of 5, which is typical among generating facilities, results in a total water requirement approximately 25% greater than that needed to replace the evaporation loss alone.

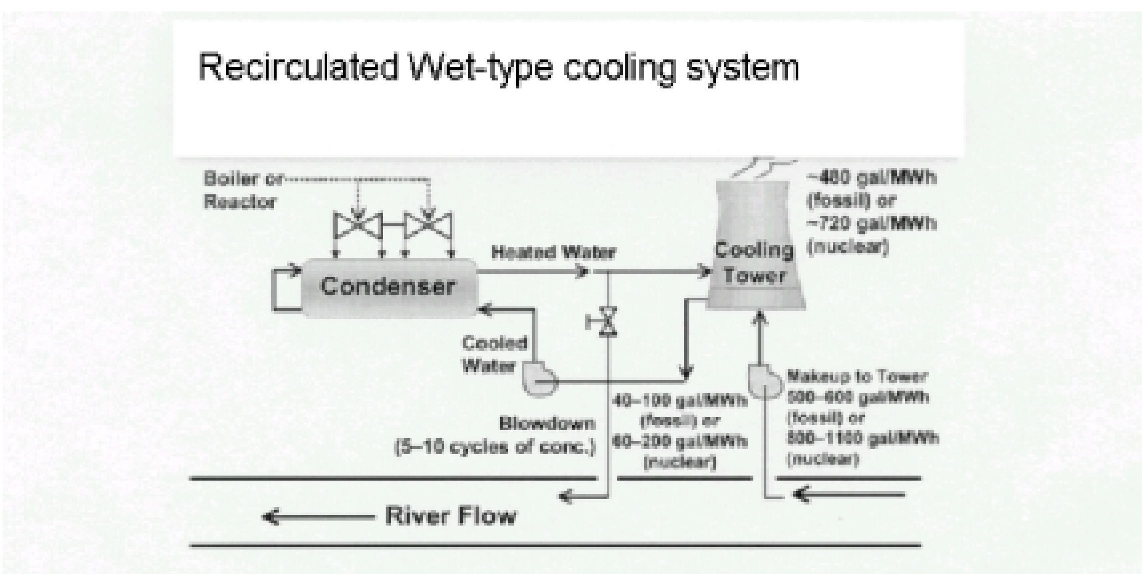


Figure 2-2 Wet-type cooling tower system

Assuming that the typical cooling tower dissipates heat at the rate of 1061 BTU per pound of water evaporated, that 10% of the heat is dissipated by non-evaporative processes, and that makeup is 1.25 times the amount evaporated, the net amount of water required for the typical wet-type cooling tower is approximately 140 gallons per million BTU of heat dissipated.

**Dry-Type Cooling Tower (Radiator) Use For Cooling**
Dry-type cooling towers are very expensive and infrequently used, though they are becoming more common in desert climates where water supplies are severely constrained. Because the heat is dissipated directly to air by conduction and convection rather than by evaporation as in a wet-type cooling tower, much more air must be moved through the dry-type tower and the available heat transfer surface must be very great. Both of these factors greatly increase the power requirements of these towers, because of the power needs of the fans utilized to move air across the cooling coils. In addition, the minimum cooling temperatures achievable in dry-type towers are limited by the dry-bulb (rather than the wet-bulb) air temperature, which results in higher turbine exhaust temperatures. In the warmer parts of the country this places a severe penalty upon the efficiency and capability of the power plant. Because of their substantially greater energy and capital cost, it is unlikely that dry-type towers will be used to any great extent in this country in the near future. Hence, they are not considered as a factor in determining the water use estimates in this paper.

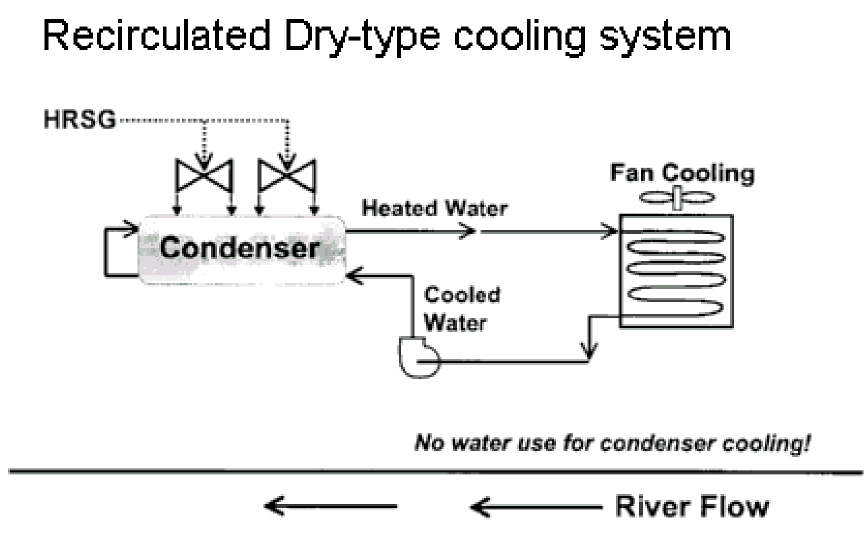


Figure 2-3 Dry-type (radiator) cooling system

## B. Determination of Estimating Factors for Total Electric Generation Water Use

The estimated water use for various type of electric generation is listed in Table 2-2. A discussion of the various types follows and the sources and derivations of these water use factors is set forth under this section.

TABLE 2-2 SUMMARY OF WATER USE BY GENERATION TYPE

| Type of Generation | Gallons of water evaporated / kWh |
|---|---|
| Steam Turbine | 0.2 – 0.98 Range |
| Gas Turbine | 0.05 |
| Combined Cycle | 0.23 |
| Coal Fueled | 0.35 |
| Nuclear | 0.4 – 0.72 Range |
| Gasified Fluidized Bed | 0.51 |

**Steam Turbine Electric Generating Plants**

As has been shown earlier in this report, the bulk of the water consumed by a fossil-fueled electric generating plant is that which is utilized for plant cooling and pollution control. Most other uses are considered to be minimal and can, for planning purposes, be disregarded. Since cooling water need is directly related to plant operation (i.e. that plant does not consume water when it is not operating) water consumption can be estimated when the following factors are known:

- Type of electric generating plant (steam turbine, gas turbine, etc.)
- Fuel type (natural gas, coal, nuclear)
- Type of cooling system used (once-through, cooling tower, radiator)
- Electric production of the plant (how much power will be produced)

By combining the foregoing estimates of water consumption rates with the ranges in heat rejection and circulating water flow, ranges of water consumption by type of generating facility can be estimated as follows:

(1) For smaller, less efficient fossil-fueled plants and for currently operating nuclear units, the amount of heat rejected can be as high as 7000 BTU/kWh generated and the amount of water required to be circulated through the condenser for the removal of heat is about 50 gallons/kWh generated. The amount of water actually consumed is about 0.41 gallons /kWh in plants located on lakes or rivers and 0.98 gallons/kWh in plants using wet-type cooling towers.

(2) Large, modern, highly efficient plants will typically reject heat at rates as low as 4000 BTU/kWh generated and will require the circulation of about 30 gallons/kWh generated. The actual water consumed will be as low as 0.20

gallons/kWh in plants located on lakes or rivers and 0.56 gallons/kWh in plants using wet-type cooling towers.

(3) Most plants operate between the above ranges. The "average" fossil-fueled unit would reject heat at a rate of 5300 BTU/kWh generated and would consume between 0.27 (lake or river) and 0.75 (wet-type tower) gallons/kWh. For purposes of this study, it is assumed that the "average" power plant using once-through cooling will consume water at the rate of 0.35 gallons/kWh and the "average" power plant using a wet-type cooling tower will consume water at the rate of 0.60 gallons/kWh.[13]

**Gas Turbine Electric Generating Plants**

A natural gas-fueled gas turbine will use much less water for cooling than a natural gas-fueled steam turbine system. The water use factor for a gas turbine with wet NOx control is approximately 0.05 gallons of water evaporated/kWh of electricity produced. The water use factor for a gas turbine with dry type NOx control is negligible.

**Combined Cycle Electric Generating Plants**

Modern combined cycle electric generating plants generally have two units of gas turbine generation for each unit of steam turbine generation and use natural gas as a fuel. For example, a 300MW capacity combined cycle generating plant will have 200 MW of gas turbine capacity and 100 MW of steam turbine capacity. The gas turbines will consume about the same amount of water that a gas turbine would consume when operating alone or not in combined cycle. The steam turbine will consume about as much water as it would consume when operating alone. But the two systems operating in combined cycle will exhibit a lower water consumption rate than if the total capacity was produced by a steam turbine alone. For example, a 300 MW combined cycle power station using a surface reservoir (once-through) for cooling will have a water consumption factor as follows:

(200,000 kWh)(.05 gal/kWh) + (100,000 kWh)(0.35 gal/kWh) = (300,000 kWh) (x)

x = **0.15 gallons/kWh**

If the 300 MW combined cycle power station uses a cooling tower for cooling, the water consumption factor is calculated as follows:

(200,000 kWh)(.05 gal/kWh) + (100,000 kWh)(0.60 gal/kWh) = (300,000 kWh) (x)

[13] As noted earlier in the report, approximately 60 percent of the heat rejected to a reservoir being used as a source of once-through cooling for a power plant will be dissipated by evaporation of water from the surface of the reservoir. At standard atmospheric conditions, it takes approximately 970 BTUs to evaporate one pound of water. Therefore, in order to determine the amount of water evaporated, the amount of heat rejected to the reservoir as measured in BTUs should be multiplied by 60 percent and the product divided by 970 to determine the pounds of water that were caused to be evaporated by the addition of heat to the reservoir. The pounds of water can be converted to gallons by dividing pounds by 8.32 (i.e. the number of pounds in a gallon of water at standard atmospheric conditions).

x = **0.23 gallons/kWh**

**Coal-Fueled Electric Generating Plants**

Because of the various pollution control devices used in a coal-fueled generating plant, the water use factor is higher. From water use measurements for various coal-fueled electric generating plants, the following water use factors are recommended:

- A coal-fueled plant cooled by a cooling tower -- 0.60 gallons of water consumed for each kWh of electric power produced.
- A coal-fueled plant cooled by once-through circulation from a surface reservoir -- 0.35 gallons of water consumed for each kWh of power produced.

**Nuclear-Fueled Electric Generating Plants**

From water use measurements taken at nuclear-fueled electric generation facilities cooled by once-through circulation within a closed pond system, water use can be estimated as 0.58 gallons per kWh. The Electric Power Research Institute (EPRI)[14] derived the water consumption estimates for nuclear-fueled electric generation facilities shown below in Table 2-3.

TABLE 2-3 NUCLEAR PLANT WATER CONSUMPTION

| **Plant and Cooling System Type** | **Typical Water Consumption (gal/kWh)** |
|---|---|
| Nuclear steam, once-through cooling | ~0.400 |
| Nuclear steam, pond cooling | 0.400 – 0.720 |
| Nuclear steam, cooling towers | 0.720 |

**Gasified Fluidized Bed Generating Plants**

Gasified fluidized bed generating units are still a relatively new technology. The number of generating units of this type in Texas is nominal. Because of the potential of this technology to minimize the emission of air pollutants from coal fuels, it may be utilized more in the future. The Electric Power Research Institute estimates[15] that the water consumed by a coal/petroleum residuum-fueled combined-cycle generating plant utilizing cooling towers is approximately 0.51 gallons/kWh.

[14] See FN 1, supra, at page viii.
[15] See FN 1, supra, at page 3-7

# SECTION III: STATEWIDE ELECTRIC GENERATION PROJECTIONS

**Introduction**

This section of the study attempts to establish statewide electric generation projections for Texas on a decadal basis that corresponds with the 50-year planning horizon to be utilized by the regional water planning groups during the next 5-year planning cycle (i.e. through 2060). These electric generation projections will be calculated utilizing two different methodologies, so that the results of each methodology can be compared for verification and calibration purposes. A final methodology will then be recommended.

Generally, the two methodologies used are as follows:

1. Derivation of a per capita electric use factor from existing population and total electric use data from the past two decades, and utilization of that per capita factor with the TWDB population projections to project total electric use throughout the 50-year planning horizon; and

2. Derivation of an electric demand growth factor from the electric demand projections developed by the Public Utility Commission of Texas (PUCT), and extrapolation of the factor across the 50-year planning horizon.

Once the total electric demand has been estimated for a given year, then the amount of statewide water consumption by electric generation facilities for that year can be estimated.

**Derivation of Electric Demand Growth Rate Using PUCT Generation Projections**

Table 3-1 presents data obtained from the PUCT that predicts annual statewide electric generation for the years 2000 through 2009.[16] The table indicates a leveling of the electric generation growth rate at approximately 2% annually. This is a decline of approximately 1% from the electric growth rate experienced in the years 1994 through 1999.

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[16] See "2000 Annual Update of Generating Electric Utility Data," Public Utility Commission of Texas, 2001.

TABLE 3-1 PROJECTED GROWTH OF TOTAL ELECTRIC DEMAND FOR TEXAS

| Year | Total Generation (GWh) | Growth Rate (GWh) |
|---|---|---|
| 2000 | 337,582 | 0.7 |
| 2001 | 340,142 | 0.8 |
| 2002 | 350,129 | 2.9 |
| 2003 | 357,471 | 2.1 |
| 2004 | 366,511 | 2.5 |
| 2005 | 373,979 | 2.0 |
| 2006 | 383,482 | 2.5 |
| 2007 | 391,612 | 2.1 |
| 2008 | 401,228 | 2.4 |
| 2009 | 410,415 | 2.2 |
| Decade Averages | 22.45% increase (2000 – 2009) | 2.0% |

**Derivation of Per Capita Electric Demand and Per Capita Demand Growth Rate**
Table 3-2 presents statewide population estimates for the years 1981 through 1999[17] and statewide generation estimates from the PUCT for those same years.[18] The fourth column in the table presents the per capita power consumption for each person in the State, which is calculated by dividing statewide electric generation by the statewide population. The result is calculated in average kilowatt-hours used by each person each year and utilized to determine the average statewide per capita growth rate for electric generation demand.

[17] Population information provided by U.S. Census Bureau (years 1981-1993) and Texas State Data Center (1994-1999).
[18] See FN 16, supra.

TABLE 3-2 DERIVATION OF PER CAPITA ELECTRICITY DEMAND GROWTH RATE FACTOR

| Year | State Population | State Electric Generation (GWh) | Per Capita Electric Use (kWh/yr) | Per Capita Electric Demand Growth Rate |
|---|---|---|---|---|
| 1981 | 14,746,318 | 194,685 | 13,202 | ------- |
| 1982 | 15,331,415 | 195,753 | 12,768 | -3.40% |
| 1983 | 15,751,676 | 194,926 | 12,375 | -3.18% |
| 1984 | 16,007,086 | 206,410 | 12,895 | 4.03% |
| 1985 | 16,272,734 | 208,953 | 12,841 | -0.42% |
| 1986 | 16,561,113 | 205,525 | 12,410 | -3.47% |
| 1987 | 16,621,791 | 207,698 | 12,496 | 0.68% |
| 1988 | 16,667,022 | 217,553 | 13,053 | 4.27% |
| 1989 | 16,806,735 | 221,624 | 13,187 | 1.01% |
| 1990 | 16,986,510 | 227,387 | 13,386 | 1.49% |
| 1991 | 17,339,904 | 228,699 | 13,189 | -1.49% |
| 1992 | 17,650,479 | 230,659 | 13,068 | -0.93% |
| 1993 | 17,996,764 | 240,288 | 13,352 | 2.12% |
| 1994 | 18,378,185 | 283,679 | 15,436 | *See FN 19 |
| 1995 | 18,723,991 | 293,307 | 15,665 | 1.46% |
| 1996 | 19,128,261 | 309,637 | 16,187 | 3.23% |
| 1997 | 19,439,337 | 319,639 | 16,443 | 1.55% |
| 1998 | 19,759,614 | 337,363 | 17,073 | 3.69% |
| 1999 | 20,044,141 | 335,159 | 16,721 | -2.11% |
| Average | ------- | ------- | ------- | 0.50% |

The average per capita use for electric generation in Texas for the years 1981 through 1999 indicated an average statewide per capita electric generation demand growth rate of 0.5%.[19]

[19] When calculating the growth rate utilizing the data set forth from years 1981 to 1999 in Table 3-2 above, the project team discarded the jump in growth between years 1993 and 1994 as an inaccurate anomaly based upon a change in reporting requirements that led to the generation of the data used between those two years. The information on total electric generation for years 1981 through 1993 were taken from "1996 Statewide Electrical Energy Plan, " Public Utility Commission of Texas, 1996. The information on total electric generation from years 1994 through 1999 were taken from "2000 Annual Update of Generating Electric Utility Data," FN 16, supra. A review of the data set forth under Table 3-2 indicate that the per capita electric demand growth rate during the 1993-1994 transition between the two sources of data set forth in this footnote is an anomaly resulting from the utilization of the two sources of information rather than an actual, reliable data point.

**Comparison of Total Statewide Electric Demand Projections Using PUCT Growth Rate Factor Versus Using Per Capita Electric Demand Growth Rate and TWDB Population Projections**

In an attempt to verify the accuracy of the 2% growth rate for total statewide electric demand obtained from the PUCT (see Table 3-1), future electric demand was calculated by extrapolating the 0.5% per capita growth rate into the future and multiplying the product by the TWDB's population projections over the 50-year planning horizon to obtain annual generation on a decadal basis. Column A of the following table presents the results of this calculation as compared to the PUCT projections, which are presented in Column B through the year 2060.

TABLE 3-3 COMPARISON OF TOTAL STATEWIDE ELECTRIC GENERATION DEMAND PROJECTIONS

| Year | Column A<br>Annual generation assuming 0.5% increase in per capita electric demand and TWDB population estimates | Column B<br>Annual generation assuming 2.0% increase in annual generation from PUCT |
|---|---|---|
| 2010 | 438,829 | 418,623 |
| 2020 | 538,019 | 510,299 |
| 2030 | 641,308 | 622,052 |
| 2040 | 750,832 | 758,278 |
| 2050 | 877,157 | 924,337 |
| 2060 | 1,021,679 | 1,126,761 |

The previous table shows remarkably similar results using both test methods for estimating statewide electric generation. There is only a 10 % difference in the 2060 generation estimate. It should also be noted that the United States Department of Energy (USDOE)[20] projected a 1.8% annual generation increase for the Electric Reliability Council of Texas (ERCOT) planning region (a large percentage of the State) for the next twenty years, which would yield a statewide generation estimate in general agreement with the other two estimates, considering that portions of the state are not included in the USDOE projections.

**Recommendation of Methodologies for Projecting Statewide and Per Capita Electric Demands**

Given the results of the test calculations under Table 3-3, the project team recommends the following assumptions and methodologies be used for purposes of this study:

1. Future statewide electric demand for the years 2000 through 2009 is assumed to be the same as the PUCT estimates. Electric demand in the year 2010 should be

[20] See "2002 Annual Energy Outlook," United States Department of Energy, Energy Information Administration, December 21, 2001.

assumed to be the 2009 PUCT number of 410,415 GWh increased by 2% (418,623 GWh). Statewide electric demand in future years should escalate the year 2010 demand by 2% per year, utilizing the 2% average annual electric demand growth rate derived under Table 3-1.

2. Utilize the TWDB population projections from the last approved State Water Plan when projecting population for a given year.
3. Per capita electric use for a given year should be calculated by dividing statewide electric demand for that year (utilizing the 2% extrapolation as set forth under Assumption 1) by the TWDB state population projection, rather than extrapolating the per capita electric demand growth rate derived under Table 3-2.

**Statewide Electric Generation Demand Projections**

Utilizing the methodology set forth above, projected statewide electric generation demand for the years 2000 through 2060 is presented on a decadal basis in the following table, while the projections for each year during that planning horizon are set forth individually in Appendix B1 of this study.

TABLE 3-4 ANNUAL ELECTIC DEMAND PROJECTIONS

| **Year** | **Annual Electric Demand (GWh)** |
|---|---|
| 2010 | 418,623 |
| 2020 | 510,299 |
| 2030 | 622,052 |
| 2040 | 758,278 |
| 2050 | 924,337 |
| 2060 | 1,126,761 |

Electric generation demand varies by regions for a number of different reasons. For example, significant manufacturing demand is not found in some regions and heavily concentrated in other regions. The areas that do not have the manufacturing electric demand still use the manufactured products and contribute to the demand, even though the demand is only realized in other regions. After an extensive search of various databases, it appears that there are no databases that predict electric demand on a county basis. Further, there do not appear to be any generally acceptable predictive tools that would allow a certain per capita electric demand to be applied to individuals that live in rural areas as compared to those who live in metropolitan areas. For those reasons, the project team chose to project electric demand on a statewide annual generation basis, assume that all generation to meet that electric demand would occur within the state of Texas, develop a methodology to determine the amount of water required on a statewide basis to meet that demand, and then develop a methodology to attempt to allocate that water demand by regional water planning group region and by county.

The types of electric generation facility predicted to supply the generation requirement for each county and each region is addressed in Section V of this study. Section V presents three planning scenarios for estimating statewide generation facility requirements.

# SECTION IV: WATER SOURCES CURRENTLY IN USE

The objective of Section IV of this study is to identify water sources that are currently being used by power generation facilities in Texas. The electric generation facilities located in Texas as of the year 2002 have been identified and listed in a spreadsheet entitled "Electric Utility and Independent Power Producer Generating Units in Texas. This spreadsheet is included in Appendix A of this study. Within the spreadsheet, the project team assigned an "estimated water use factor" measured in gallons of water consumed per kilowatt-hour of energy produced to each listed unit using the project team's industry knowledge. The water use factor selection was based on the use factors presented in Section II of this study. The spreadsheet has a column entitled "Annual Capability at 100% Load Factor". This column indicates the yearly net electric power as measured in MWh that could be produced by each unit if the unit were operated at peak capability for an entire year. Another spreadsheet in Appendix A3 entitled "Future Water Demand for Steam Electric Generation in Texas by Plant or Unit" indicates the water that would be consumed by the unit if operated at peak capability for a year.

An estimate of the surplus water supplies available at each of the generation facilities currently identified was produced by examining the water plans developed by each Regional Water Planning Group. Each RWPG identified the electric generation water demand of electric generation facilities on a regional and county basis. The year 2000 electric generation water demand was compared to the water demand through the 2060 planning period. All claimed electric generation water demand in excess of the year 2000 claims was determined to be "surplus" water supply in that the claimed water must have been based on an underutilized water contract or on an identified future need that was location specific and based on presumed availability. The spreadsheet can be further used to estimate a current statewide water consumption factor for electric generation. That factor was calculated and used in Section V of this study.

The data presented in the spreadsheet in Appendix A3 entitled "Future Water Demand for Steam Electric Generation in Texas by Plant or Unit" was obtained from several sources including the USDOE's Energy Information Administration (EIA) and the 2002 State Water Plan.

A list of all cogeneration power generation facilities in Texas was compiled from various sources and is presented in Appendix A4 as "Cogeneration Facilities in Texas". Although the water use associated with cogeneration facilities was not considered in this report, many newer cogeneration plants have been built with a significant excess over the industrial plant demand with the excess being sold into the electrical grid.

# SECTION V: ESTIMATES OF FUTURE WATER USE AND STATEWIDE STEAM ELECTRIC WATER DEMAND PROJECTIONS

The objective of Section V is to estimate the future water use by the electric power generation sector utilizing “high use,” “medium use,” and “low use” scenarios.

There are a variety of factors that will affect the water requirements for electric power generation in the future, as has been pointed out in Section II of this report. If the current trend of using natural gas as a fuel for efficient combined cycle power plants continues, water consumption will be less than would be experienced if future generation is fueled by coal. Coal is not a fuel that is currently compatible with use of gas turbines unless the coal is processed into a low particulate gaseous fuel and that is currently very expensive. The price of various types of fuel (natural gas, coal, etc.) is a major factor in determining which generation technology will be utilized. The initiation of a State or Federal energy policy will affect the fuel choices and resultant water consumption. A State or Federal requirement to utilize wet-type cooling towers for electric generation would have the effect of greatly increasing future water use.

For example, in April 2002, the USEPA published newly proposed regulations under Section 316B of the Clean Water Act covering the entrapment and entrainment of aquatic organisms at power plants. If the proposed regulation is promulgated as published in draft form, future power plants would probably be required to install cooling towers rather than once-through cooling systems.

In Section III of this study, it was estimated that the demand for electric power will increase from 337,582 GWh in 2000 to 1,126,761 GWh in 2060. This is an increase of 3.34 times year 2000 electric demand (or a 234% increase). If the future water use rate by electric generation stays the same as the current rate, the need for water by electric generation will increase by the same 234% by the year 2060. However, there are technologies that can reduce the water consumption of electric generation. Use of some of these technologies will have the effect of increasing the cost of electric power because of capital requirements of water efficient generation, the loss of thermal efficiency, and/or the loss of generation capacity caused by in-plant energy uses necessitated by the water efficient equipment.

In order to establish some parameters that can be used to estimate the water needed for power generation through the year 2060, it was decided to establish three scenarios of water use by electric generation. These scenarios are a “high use” scenario, “medium use” scenario, and a “low use” scenario. All three are discussed in detail below.

TABLE 5-1 ESTIMATED INCREASE IN WATER USE BY 2060

| Scenarios | Increase Multiplier over Year 2000 |
|---|---|
| High Use | 3.34 |
| *Medium Use | ***2.62** |
| Low Use | 1.40 |

*Recommended: Medium Use

**High Use Scenario**

Except for the Panhandle, Gulf Coast, and Far West regions of Texas, most of the current electric generation in the State uses once-through cooling from reservoirs for large central station generation. Historically, much of the electric power generated in Texas was generated with natural gas as a fuel. Changes in the Federal laws regarding fuel use, which resulted from the oil embargo of 1973, forced a change in fuel use for electric generation from natural gas to either coal or nuclear fuels. Political sentiment has currently removed the nuclear choice from the list of acceptable fuels for future power generation facilities. Natural gas has been returned to the list of fuel options for electric generation by changes in the Powerplant and Industrial Fuel Use Act of 1978. However, the use of natural gas as a fuel is still constrained by the Federal requirement that all gas-fired generation facilities be capable of switching to coal or another alternate fuel on the call to do so by the Federal government. So all current gas-fired generation must be "coal convertible". (See Powerplant and Industrial Fuel Use Act, U. S. Code; Title 42; Chapter 92; Subchapter II; Part A; Section 8311 (a)).

A review of Sections I and II of this report shows the water consumption rates inherent in fuel and generation technology selections. Fuel options currently available are oil, natural gas, coal, lignite, and some renewable resources such as wind, solar, and hydroelectric power. For large power producers, the fuel selection is generally limited to natural gas, coal, and lignite. Given the fuel and generation technology options currently available, a "high use" scenario was predicated on future generation being fueled by natural gas, oil, coal, or lignite and the generation being cooled by cooling towers. From the estimating factors outlined in Section II of this report, future generation will consume water at the rate of 0.60 gallons per kilowatt-hour.

Calculation of statewide water consumption by electric generation under a "high use" scenario rests on the following presumptions:

1. Electricity demand will increase by a factor of 3.34 (or 234%) from 2000 to 2060. 2000 generation = X and 2060 generation = 3.34 X (From Section IV);
2. Current generation uses water at a rate of 0.60 gallons/kWh;
3. Future generation will be steam electric powered by fossil-fueled boilers;
4. New generation will be cooled by cooling towers and will consume water at a rate of 0.60 gallons per kWh; and
5. Current generation will continue to operate through 2060.

The factor for estimating 2060 water use as compared to 2000 water use under the "high use" scenario is calculated as follows:

2000 generation = X
2060 generation = 3.34X

water use rate for 2000 generation = 0.60 gallons per kilowatt-hour (gal/kWh) water use rate for 2060 generation = (X)(0.60 gal/kWh) + (X)(2.34)(0.60)gal/kWh)

2000 generation water use = (X) (0.60 gallons per kilowatt-hour)

2060 generation water use = (2.34)(X) (0.60 gal/kWh) +
(1.00)(X) (0.60 gal/kWh)

2060 generation water use = 1.404 X + 0.60 X = 2.004X

2060 water use divided by 2000 water use = 2.004X / 0.60 X = 3.34

Thus for the high use scenario, water use by electric generation in Texas will increase by a factor of 3.34 times current use by the year 2060 (representing a 234% increase).

**Medium Use Scenario**

The "**medium use scenario**" presumes that half of the future generation will be fueled by coal and cooled by cooling towers and half will be combined cycle generation fueled by natural gas and cooled by cooling towers. This scenario assumes that none of the current existing generation will be retired or replaced.

As stipulated in the "high use" scenario, 2000 water use is presently at a consumption rate of 0.60 gallons per kWh. From Section II of this report, the water use rate for coal-fired generation cooled by cooling towers is 0.60 gal/kWh. The water use rate for combined cycle generation fueled by natural gas and cooled by cooling towers is 0.23 gal/kWh. Using those presumptions, the 2060 water use under a medium use scenario is calculated as follows:

2060 use = (1 X)(0.60 gal/kWh) + (1.17 X)(0.60 gal/kWh) +
(1.17 X)(0.23 gal/kWh)

2060 use = 0.60X + 0.702 X + 0.2691 X
= 1.5711X

2060 water use divided by 2000 water use = 1.5711X / 0.60 X = 2.6185

Thus, for the medium use scenario, water use by electric generation in Texas will increase by a factor of 2.62 times current use by the year 2060 (representing a 162% increase).

**Low Use Scenario**

The "**low use scenario**" assumes that all future generation will be fueled by natural gas and will be combined cycle generation operated on once-through circulation cooling from reservoirs. One fourth of the current generation will be retired and replaced with the same type of units assumed for future generation. It is further presumed that the once-through cooling reservoirs are preexisting and that no surface evaporation losses will be accounted to the electric generation source. As stipulated in the high use scenario, current generation consumes water at the rate of 0.60 gal/kWh. From Section II of this report, gas fired combined cycle generation using once-through cooling will consume water at the rate of 0.15 gal/kWh. Given these presumptions, the water use under the low use scenario for the year 2060 will be calculated as follows:

2060 water use = (0.75 X)(0.60 gal/kWh) + (0.25 X)(0.15 gal/kWh)
+ (2.34X)(0.15 gal/kWh)

2060 water use = 0.45 X + 0.0375 X + 0.351 X = 0.8385 X

2060 water use divided by 2000 water use = 0.8385 X / 0.60 X = 1.3975

For the low use scenario, water use by electric generation in Texas will increase by a factor of approximately 1.40 times current use by the year 2060 (representing a 40% increase).

**Adjustments to the Scenarios**

The technology exists to control water use by electric generation without limiting the amount of generation. But the control must be accompanied by careful evaluation of the effects of cost on electricity prices. Obviously there are trade-offs. If water is relatively inexpensive and relatively available compared to fuel, there is little reason to require extreme water conservation and thereby assure more expensive electricity.

Many electric generation providers in Texas have surplus water supplies contracted or developed to provide for future generation. This is in conformity with the state goals manifest in Senate Bills 1 and 2 to engage in proper water resource planning before supplies are actually needed for such critical societal functions as the provision of electric power. This contracted or developed, but as yet unused, water will provide the cooling for an undetermined amount of future generation. It is estimated that this currently unused water is adequate for at least thirty-five years of generation growth, according to the calculations set forth herein. The data does not exist in any generally accessible database that would allow the project team to exactly quantify that water reserve. The reserve is hereby noted and provides a “cushion” that should be considered in planning for future water needs for electric generation. This contracted water may be reflected in Regional Water Planning Group data as the source of some specific future water use claims at some locations.

# SECTION VI: STEAM ELECTRIC WATER DEMAND ON A REGIONAL AND COUNTY BASIS

Section III of this report derived and recommended annual electric generation demands for the State. Section V utilized those electric generation demand projections along with the water consumption use factors identified for each generation and cooling technology to derive estimates of statewide water use for electric generation and statewide steam-electric water demand projections. The objective of Section VI of this study is to recommend a water supply allocation method for power generation that can be used on a county or regional basis through the year 2060.

**Difficulties in Allocating Steam Electric Water Demand on a Regional or County Basis**

One of the premises of this study was that electric generation water consumption needed to be determined on a county basis. Electric generation facilities are built in large blocks of generation capacity in order to achieve economies of scale. Currently, generation units are being built in sizes that range from 25 to 200 MW for gas turbines and from 400 to 1300 MW for gas and coal-fired steam turbine units. A power generation facility is located where there is fuel, water, an allowable air quality regime, and access to electric transmission facilities. Areas that do not have adequate resources for electric generation will be supplied by electricity generated at a remote site. Where the appropriate mix of these other factors can be found, areas that also have water available for electric generation will have the ability to attract electric generation if desired.

The point of this discussion is that water for electric generation must be provided, but the water management strategy to supply those generation needs will not necessarily be located in every county or even in every Regional Water Planning Group (RWPG) region. This phenomenon may not be unique to the electric generation water demand sector, but is definitely more prevalent than in any other type of water use category maintained by the TWDB. Because electric generation can be transmitted across the grid for great distances to its point of use, the water supplies needed to provide generation for a particular user group do not have to be located even remotely close in proximity to the end user of the electricity that is generated. Thus, it is problematic to derive a methodology for determining water demand projections for power generation on a county or regional basis based upon the electric generation needs of the county or region. Therefore, while the statewide projections developed for both total electric generation and total water needed to supply that generation may be reliable, attempting to predict the individual counties in which those generation facilities may be developed 50 years into the future will be much less reliable.

With that disclaimer in mind, the project team recommends that the TWDB and the regional water planning groups utilize the following methodology and baseline projections for steam electric water planning for both county-specific and region-specific water demand allocation.

**Methodology Recommended**
To determine steam electric water demand on a county and regional basis, a top down (i.e. use the statewide information as a basis and then derive the regional and county needs) methodology was utilized. Table 6-1 summarizes the statewide generation and water demand based on the medium water use scenario discussed in Section V. The table clearly indicates that the statewide electric demand is projected to increase by two percent annually for a total increase of 234 percent in 2060 over the Year 2000 Baseline Electric Generation Demand figure, while the corresponding water demand would increase by only 162 percent.

TABLE 6-1 STATEWIDE ELECTRICITY AND WATER DEMAND--2000 TO 2060

| Year | Electric Demand (GWh) | Percent of Year 2000 Baseline Electric Generation Demand | Increase Factor in Water Use over Year 2000 Based on Medium Use Scenario from Appendix B-1 | Calculated Annual Statewide Steam Electric Water Use (Acre feet) | 2002 State Water Plan Steam Electric Water Use |
|---|---|---|---|---|---|
| 2000 | 337,582 | ------- | ------- | 621,601 | 607,527 |
| 2010 | 418,623 | 124% | 1.166 | 724,814 | 831,301 |
| 2020 | 510,299 | 151% | 1.354 | 841,572 | 917,994 |
| 2030 | 622,052 | 184% | 1.583 | 983,900 | 1,007,424 |
| 2040 | 758,278 | 225% | 1.862 | 1,157,396 | 1,057,929 |
| 2050 | 924,337 | 274% | 2.202 | 1,368,887 | 1,134,644 |
| 2060 | 1,126,761 | 334% | 2.618 | 1,626,692 | ------- |

The water demand for each electric generating plant in Texas can be estimated as a percentage of the statewide demand. The county water demands can be summed to give either the regional or the state demand.

For the baseline year 2000, the water demand for each plant is calculated by taking the actual generation by fuel type as documented in the Energy Information Administration (EIA) database and applying the water use factor for the generating units at that plant for each fuel type. The total statewide water demand for the year 2000 can then be determined by adding the calculated demand for the individual units or plants. For the year 2000, the water calculated to be used by each facility was summed to obtain a statewide water demand of 586,664 acre feet, as indicated on the last page of Appendix A3. As indicated earlier in Section VI, statewide estimates for generation and water use are considered to be more reliable than regional and county estimates. Thus the estimated statewide generation (337,582 GWh) and water use (621,601 acre feet) was calculated for the year 2000 and each subsequent year as indicated in Appendix B1 and summarized by decade in Table 6-1. Finally the individual plant water demand estimates were normalized by taking a ratio of calculated statewide total for 2000 as shown in Table 6-1 and the summed statewide plant total from Appendix A3.

Potter County in Region A, which includes both a coal fired and a natural gas fired power plant, will serve as an example to illustrate the methodology used. As found in Appendix A1, Harrington, the coal fired plant, utilizes cooling towers for cooling and has a water use factor of 0.6 gal per kWh, while Nichols, a gas fired plant utilizing cooling towers, has a water use factor of 0.75 gal per kWh. The amount of electricity actually generated at Harrington and Nichols in the year 2000 was 8,028,946 and 993,701 MWh respectively, as indicated in Appendix A2.

So, the following illustrates the water use derivation for the Year 2000 and its corresponding decade at the two power plants:

> Harrington Water Use = (Actual electricity generated 8,028.946 GWh) x (water use factor 0.6 gal per kWh) x (Conversion factor of 1,000,000 kWh per GWh times 1 acre foot per 325,851 gallons) x (Ratio of calculated water used statewide from Table 6-1 [621,601 acre feet] to summation of individual plant water estimates statewide for 2000 [586,664 acre feet]); thus
>
> Harrington Water Use for 2000 = 15,664 acre feet as indicated in Appendix A3.
>
> Nichols Water Use = (Actual electricity generated 993.701 GWh) x (water use factor 0.75 gal per kWh) x (Conversion factor of of 1,000,000 kWh per GWh times 1 acre foot per 325,851 gallons) x (Ratio of calculated water used statewide from Table 6-1 [621,601 acre feet] to calculated water used by summing individual plant water estimates statewide for 2000 [586,664 acre feet])
>
> Nichols Water Use = 2423 acre feet, as indicated in Appendix A3.

The corresponding water demand for Potter County was then determined to be the sum of the demand for the two plants, or 18,087 acre feet. The corresponding water demand for the region was simply the summation of the demand for the individual counties.

Please note that for most plants on cooling reservoirs, the estimated annual makeup from a river to the cooling reservoir was included in the year 2000 plant water demand as the information was available. In addition, power plants that utilize salt water for cooling were considered to have a fresh water demand. The estimated salt water use is insignificant compared to the water demand for the entire state.

After the baseline year 2000 demand has been determined on a plant-specific basis, the future demand for the years 2010 though 2060 can be determined. The PUCT has estimated the generation demand by year and fuel type for 2000 to 2009[21] with the data being summarized in Appendix E3. The EIA has estimated the generation demand by year and fuel type for the period of 2001 to 2020[22] as found in Appendix E4. Both the PUCT and the EIA projections by fuel type can be trended to determine a rate of future

[21] See FN 16, supra

[22] See FN 20, supra

growth or decline in generation by fuel type. In general, both trends show that coal fired generation will remain relatively unchanged with a slight increase upward. The annual generation produced by nuclear plants in Texas is relatively unchanged as well, but has a slightly downward trend. The generation produced by conventional gas fired steam electric generating plants is projected to decrease over the next twenty years and has a downward trend. The generation produced by combined cycle gas fired steam electric plants is expected to rise sharply over the twenty-year period. Therefore, for the years 2010 and 2020, the estimated water demand was based on the 2000 water demand and was adjusted by a correction factor based on PUCT estimates of electricity generation by fuel type from 2000 to 2009.

Current economics indicate that electric generation from coal fired and nuclear steam turbines will operate at or near their full capability, which is defined as a base-loaded unit. Natural gas fired conventional steam turbine generation will operate more infrequently to meet peak demand. Natural gas fired combined cycle generation will operate somewhere between the base load and peak load extremes.

The decadal water demand for each conventional (nuclear, coal fired and natural gas fired) steam electric plant in the years 2010 and 2020 could then be estimated by assuming that water demand will increase or decrease according to the established generation trend as projected by the PUCT in Appendix E3 and compared to the baseline year 2000. The 2010 and 2020 water demand for coal fired, nuclear, and conventional natural gas fired is calculated by multiplying the demand in the year 2000 by a ratio of the linear trend in the fuel type for the 2010 and 2020 as compared to the trend in the fuel type for the baseline year 2000.The linear curve fit of the trends is provided in Appendix E3. Coal plants in 2010 are expected to generate approximately 1.2 percent more electricity than in 2000. Nuclear plants in 2010 are expected to generate approximately 1.2 percent less electricity than in 2000. Conventional natural gas fired plants in 2010 are expected to generate 17 percent less electricity than the baseline year 2000. For 2020 the generation estimates for coal, nuclear, and conventional natural gas are +2.4, -2.4, and -34 percent respectively when compared to the year 2000 baseline.

This methodology will be illustrated again using Harrington as an example. For 2010 the water demand is estimated as 1.2 percent greater than the 2000 calculated demand of 15,664 acre feet. The demand for 2010 is therefore 15,664 acre feet times 1.012 (1.2 percent) to result in a 2010 demand of 15,854 acre feet. Similarly for 2020 the demand is estimated as 15,664 acre feet times 1.024 (2.4 percent) which results in an estimated 2020 demand of 16,043 acre feet. The same process would be applied to all coal, nuclear, and conventional natural gas fired plants.

The statewide water demand for natural gas fired combined cycle generation may then be estimated by taking the difference between the calculated annual statewide demand as shown in Table 6-1 and the total statewide demand estimated for the conventional steam electric plants, as found on the last page of Appendix A3. The plant-specific combined cycle demand was then assumed to be a percentage of the overall demand attributed to the combined cycle plants statewide. That percentage of the overall combined cycle demand was determined by comparing the total water demand for a specific combined cycle plant at its maximum capability to the total water demand for all the combined cycle plants in the state at their maximum capability that will be operating during that decade. While this estimate may not accurately reflect the actual load and water demand for a specific unit, it was deemed the most expedient method for developing plant specific data in order to establish county and regional water demand requirements for 2010 and 2020.

The steam turbine for the Mirant plant in Wichita County will illustrate the methodology. For 2010 the estimate for combined cycle water needs is the difference of the statewide total water demand of 724,814 acre feet and the 580,388 acre feet demand estimated to be used by coal, nuclear, and conventional natural gas fired units, which results in 144,426 acre feet remaining for use by combined cycle gas turbine units. The portion of that 144,426 acre feet available to be allocated to the Mirant steam turbine would then be the calculated water usage at a 100 load factor (323 acre feet) for that unit divided by the 2010 water demand at 100 percent load factor for all combined cycle units in the state (180,899 acre feet). The resulting 2010 demand for the Mirant steam turbine would be 258 acre feet, as indicated in Appendix A3.

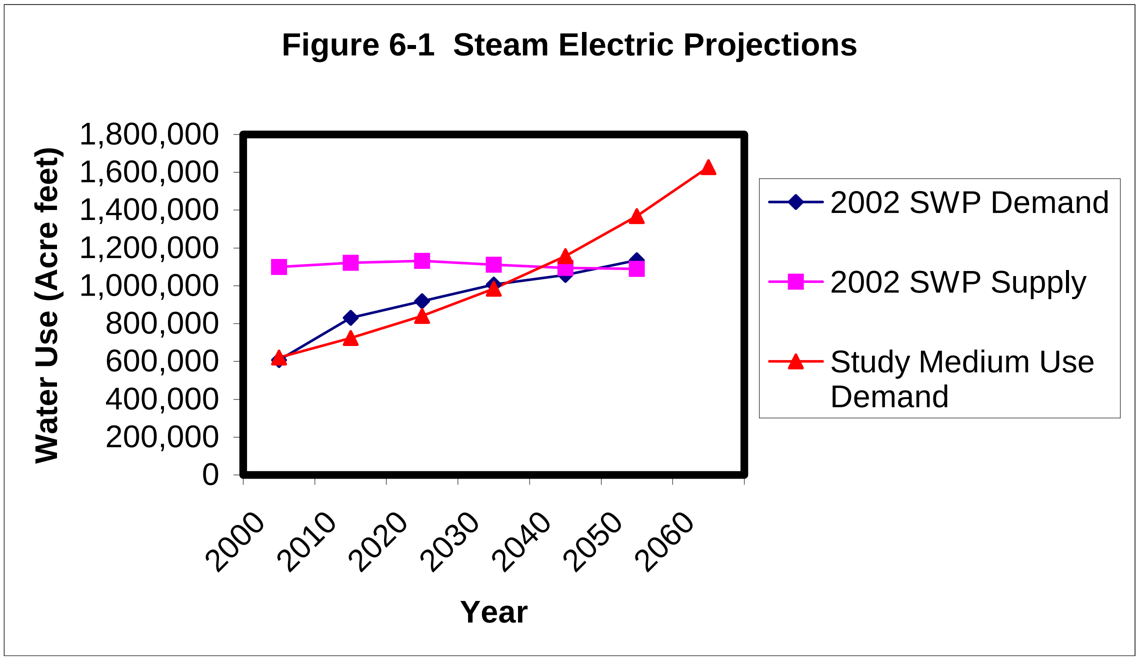
Please note that the PUCT information for new generating plants as presented in Appendix E was used to determine during which decade a new addition would be made. First, it was assumed that the water demand for all cogeneration facilities would be covered in the statewide manufacturing totals. Next, it was assumed that all of the independent power producing plants indicated in the table would be natural gas fired combined cycle plants and cooled by cooling towers. If the PUCT information indicated that a new plant was projected to be in service by 2010, then the water demand was shown in 2010. If an on-line date was not provided by the PUCT or a projected plant was delayed, it was assumed that the new generation would be added by the year 2020. These calculations were performed only for those counties that had existing or announced generation. All other counties were assumed to have no water demand for steam electric generation.

For the decades 2030 through 2060 the water demand for each plant was projected to increase at the same rate throughout the state regardless of fuel type and generation type. As detailed in the "Medium Use Scenario", it also assumes that none of the units existing today will be retired. While this is an unrealistic assumption, new units will replace existing units and continue to use the water that the existing units currently require. For the sake of simplicity it was assumed that generating units built after 2020 will be constructed at the same sites as those facilities identified in Appendix A3 or at least in the same counties. The individual plant estimates were calculated by multiplying the plant water demand in the year 2020 by a ratio of the future statewide water demand estimates for the year 2030 and the future statewide water demand estimates for 2020. The same procedure was used to estimate the regional and county demand for the years 2040 through 2060. For 2030 through 2060, those decadal estimates increased by the following percentages: 2030 – 16.9 %, 2040 – 17.6%, 2050 - 18.3%, and 2060 - 18.8%.

The method will again be illustrated for the decadal years 2030 through 2060 using Harrington as an example. In 2030 the Harrington demand is estimated as the 2020 demand of 16,043 acre feet multiplied by a ratio of the 2030 and 2020 statewide demands of 983,900 acre feet divided by 841,572 acre feet. The resulting demand for Harrington in 2030 is 18,756 acre feet. A similar process is used to calculate the demands at each plant for 2040, 2050, and 2060. To reiterate, each plant that was recognized to have a water demand in 2020 would see their corresponding water demand increase proportionally from 2030 to 2060. In reality each plant will not see their water demand increase at the same rate, but it was deemed the most expedient method that could be applied for long term planning purposes.

A summary of the estimated regional and county steam electric demand is presented in Table 6-2. It is recommended that each RWPG utilize and protect its regional steam-electric demand total as set forth in the table. Each RWPG should also use the county totals set forth under Table 6-2 as a baseline, and adjust them only based upon better site-specific information available to the county on steam-electric demand locations while protecting their regional total. It may be necessary to move the water out of the region to a location where other water supplies can be gathered together to support a generation facility of the size that achieves the economy of scale best suited to the asset, because high voltage transmission lines and future increases in transmission delivery efficiencies will likely mean that a sizable portion of the electricity demanded by a region could be imported from adjacent regions.

Many of the electric generation suppliers in Texas have water supply contracts that are not being fully utilized at this time. Many of these suppliers will fully utilize the water supplies in the future. Figure 6-1 shows the current water supply for steam electric generation needs as opposed to the steam electric demand per the 2002 State Water Plan (2002 SWP) and the medium water use demand from this study.




For that reason, this study assumes that additional water supplies for electric generation will not be needed, when the State is viewed as a whole, until around 2037. This does not mean that there will not be areas that are "water short" or "water long". It means that somewhere in the State there is adequate water to support additional generation through 2037. The 2002 State Water Plan estimated that statewide steam-electric water demand would exceed supply statewide in 2045. Based on the research performed in this study, it is anticipated that statewide demand will actually exceed supply by the end of 2037. Each region could develop a similar supply and demand curve in accordance with the data presented in Table 6-2 and Appendix C to determine at what point additional water is expected to be needed to support future steam electric generation in their region.

# SECTION VII: CONCLUSIONS

The literature review and other research performed in the course of this study indicate that this is the most comprehensive effort to date in the state of Texas to derive methodologies for the projection of water demands for the steam-electric water use sector and to apply those methodologies on a statewide, regional, and county-specific basis for the derivation of specific water demand projections. Efforts to check and calibrate the methodologies indicate that they are generally satisfactory, especially when applied to the statewide numbers, and are likely the most accurate and reliable generalized methodologies to be developed on the subject in Texas. However, as set forth in the body of the report, these methodologies and the projections derived from them should serve only as the default baseline numbers when applied on a county or regional basis, and should be adjusted when actual county-specific data is available that indicates clear projections to the contrary.

In carrying this research forward for utilization on a rolling 50-year planning horizon, water planners should note the resources that were deemed by the project team to be the most reliable for predicting future water demand projections for power generation, including information from the PUCT, ERCOT, the EIS and others regarding existing, announced, and projected electric generation, to determine whether such records and data will continue to be collected and to work towards supporting such a continuation if the methodologies developed in this study should continue to be utilized in the future. The labor-intensive effort required to gather and assimilate the plant-specific data for each of the generation facilities in the state might prove implausible but for the availability of such centralized records.

As assumed by the project team at the onset of this research effort, the statewide methodology appears to be much more reliable as a predictive tool than the county-specific methodology. However, the utilization of announced generation facilities, as available, and the trending of electric generation projections by fuel-type and their associated water use factors should prove to be more accurate than other alternatives in the absence of site-specific information.

Water planners will continue to be challenged to accurately predict future power generation water demands in Texas, especially on a localized basis. In large part, this stems from the fact that location of the demand for the water and the location of the end product of that demand, electricity, have little, if any, proximity requirements with modern advances in electric transmission technologies. Other factors unrelated to water supply that drive site selection considerations for future power generation, such as availability of transmission facilities and fuel supplies, emerging generation technologies, and other regulatory considerations such as air quality limitations, may be much more dispositive of the issue than water availability and, indeed, may lend more credence to the assignment by the project team of future generation and related water demand to existing and announced facilities .

# Appendix A
# Electric Generating Units in Texas

# Electric Utility and Independent Power Producer Generating Units in Texas

| Region | Company | Plant | County | Unit | Prime Mover | Nameplate (kW) | Fuel Source | Year in Service | Annual Capability at 100% Load Factor (MWhrs) | Cooling Type | Water Source | Water Use Factor (gal/kWhr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Cielo / LPL | Llano Estacado Wind Ranch - White Deer | Carson | | WT | 80,000 | WIND | 2002 | 700,800 | | | 0 |
| A | Xcel SPS | Celanese | Gray | 1 | OT | 13,000 | OTH | 1964 | 438,000 | Cooling Tower | Groundwater | 0.98 |
| A | | Celanese | Gray | 2 | ST | 37,000 | SUB | 1979 | | Cooling Tower | Groundwater | |
| A | Xcel SPS | Riverview | Hutchinson | 6 | GT | 25,000 | NG | 1974 | 219,000 | | | 0 |
| A | Xcel SPS | Moore County | Moore | 3 | ST | 49,000 | NG | 1954 | 429,240 | Cooling Tower | Groundwater | 0.98 |
| A | Xcel SPS | Harrington | Potter | 1 | ST | 360,000 | SUB | 1976 | 9,460,800 | Cooling Tower | Reuse | 0.6 |
| A | | Harrington | Potter | 2 | ST | 360,000 | SUB | 1978 | | Cooling Tower | Reuse | |
| A | | Harrington | Potter | 3 | ST | 360,000 | SUB | 1980 | | Cooling Tower | Reuse | |
| A | Xcel SPS | Nichols | Potter | 1 | ST | 114,000 | NG | 1960 | 4,169,760 | Cooling Tower | Reuse | 0.75 |
| A | | Nichols | Potter | 2 | ST | 114,000 | NG | 1962 | | Cooling Tower | Reuse | |
| A | | Nichols | Potter | 3 | ST | 248,000 | NG | 1968 | | Cooling Tower | Reuse | |
| B | Panda | Archer Power Partners | Archer | | CC | 500,000 | NG | Delayed | 4,380,000 | | | 0.23 |
| B | AEP WTU | Lake Pauline | Hardeman | 1 | ST | 20,000 | NG | 1928 | 350,400 | Once Through | Lake | 0.41 |
| B | | Lake Pauline | Hardeman | 2 | ST | 20,000 | NG | 1951 | | Once Through | Lake | |
| B | Electra | Electra | Wichita | 3 | IC | 240 | NG | 1939 | 37,055 | | | 0 |
| B | | Electra | Wichita | 4 | IC | 240 | NG | 1939 | | | | |
| B | | Electra | Wichita | 5 | IC | 500 | NG | 1945 | | | | |
| B | | Electra | Wichita | 6 | IC | 500 | NG | 1947 | | | | |
| B | | Electra | Wichita | 7 | IC | 1,500 | NG | 1953 | | | | |
| B | | Electra | Wichita | 8 | IC | 1,250 | NG | 1959 | | | | |
| B | Mirant | Southern Energy Wichita Falls LP | Wichita | GTA | CT | 20,000 | NG | 1987 | 175,200 | | | 0.05 |
| B | | Southern Energy Wichita Falls LP | Wichita | GTB | CT | 20,000 | NG | 1987 | 175,200 | | | 0.05 |
| B | | Southern Energy Wichita Falls LP | Wichita | GTC | CT | 20,000 | NG | 1987 | 175,200 | | | 0.05 |
| B | | Southern Energy Wichita Falls LP | Wichita | STD | CA | 20,000 | NG | 1987 | 175,200 | | | 0.6 |
| B | AEP WTU | Oklaunion | Wilbarger | 1 | ST | 663,943 | SUB | 1986 | 5,816,141 | Cooling Tower | Surface | 0.6 |
| B | AEP WTU | Vernon | Wilbarger | 1 | IC | 2,460 | DFO | 1963 | 98,813 | | | 0 |
| B | | Vernon | Wilbarger | 2 | IC | 1,360 | DFO | 1952 | | | | |
| B | | Vernon | Wilbarger | 3 | IC | 2,000 | DFO | 1961 | | | | |
| B | | Vernon | Wilbarger | 4 | IC | 4,100 | DFO | 1968 | | | | |
| B | | Vernon | Wilbarger | 7 | IC | 1,360 | DFO | 1953 | | | | |
| C | TXU | Collin | Collin | 1 | ST | 156,250 | NG | 1955 | 1,368,750 | Cooling Tower | Groundwater | 0.98 |
| C | Garland | Ray Olinger | Collin | 1 | ST | 75,000 | NG | 1967 | 3,854,400 | Once Through | Lake | 0.27 |
| C | | Ray Olinger | Collin | 2 | ST | 113,400 | NG | 1971 | | Once Through | Lake | |
| C | | Ray Olinger | Collin | 3 | ST | 156,600 | NG | 1976 | | Once Through | Lake | |
| C | | Ray Olinger | Collin | 4 | ST | 95,000 | NG | 2001 | | Once Through | Lake | |
| C | Garland | CE Newman | Dallas | 1 | ST | 7,500 | NG | 1957 | 845,340 | Cooling Tower | Surface | 0.75 |
| C | | CE Newman | Dallas | 2 | ST | 7,500 | NG | 1957 | | Cooling Tower | Surface | |
| C | | CE Newman | Dallas | 3 | ST | 18,750 | NG | 1960 | | Cooling Tower | Surface | |
| C | | CE Newman | Dallas | 4 | ST | 18,750 | NG | 1961 | | Cooling Tower | Surface | |
| C | | CE Newman | Dallas | 5 | ST | 44,000 | NG | 1963 | | Cooling Tower | Surface | |
| C | TXU | Lake Hubbard | Dallas | 1 | ST | 396,519 | NG | 1970 | 8,125,066 | Once Through | Lake | 0.27 |
| C | | Lake Hubbard | Dallas | 2 | ST | 531,000 | NG | 1973 | | Once Through | Lake | |
| C | Exelon | Mountain Creek | Dallas | 2 | ST | 31,213 | NG | 1945 | 8,396,381 | Once Through | Lake | 0.35 |
| C | | Mountain Creek | Dallas | 3 | ST | 74,999 | NG | 1949 | | Once Through | Lake | |
| C | | Mountain Creek | Dallas | 6 | ST | 135,779 | NG | 1956 | | Once Through | Lake | |
| C | | Mountain Creek | Dallas | 7 | ST | 136,000 | NG | 1958 | | Once Through | Lake | |
| C | | Mountain Creek | Dallas | 8 | ST | 580,500 | NG | 1967 | | Once Through | Lake | |
| C | TXU | North Lake | Dallas | 1 | ST | 176,800 | NG | 1959 | 6,207,380 | Once Through | Lake | 0.35 |
| C | | North Lake | Dallas | 2 | ST | 170,455 | NG | 1961 | | Once Through | Lake | |
| C | | North Lake | Dallas | 3 | ST | 361,350 | NG | 1964 | | Once Through | Lake | |
| C | TXU | Parkdale | Dallas | 1 | ST | 79,625 | NG | 1953 | 2,983,875 | Cooling Tower | Surface, Groundwater | 0.75 |
| C | | Parkdale | Dallas | 2 | ST | 125,000 | NG | 1955 | | Cooling Tower | Surface, Groundwater | |
| C | | Parkdale | Dallas | 3 | ST | 136,000 | NG | 1957 | | Cooling Tower | Surface, Groundwater | |

Data from US DOE Energy Information Administration's Forms EIA-806A, EIA-806B, EIA-906, and PUCT Report on New Electric Generating Plants in Texas

# Electric Utility and Independent Power Producer Generating Units in Texas

| Region | Company | Plant | County | Unit | Prime Mover | Nameplate (kW) | Fuel Source | Year in Service | Annual Capability at 100% Load Factor (MWhrs) | Cooling Type | Water Source | Water Use Factor (gal/kWhr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C | Bio-Energy Partners | DFW Gas Recovery | Denton | GEN1 | OT | 3,000 | LFG | 1988 | 26,280 | | | 0 |
| C | | DFW Gas Recovery | Denton | GEN2 | OT | 3,000 | LFG | 1995 | 26,280 | | | 0 |
| C | Lewisville | Lewisville | Denton | 1 | HY | 2,800 | WAT | 1992 | 24,528 | | | 0 |
| C | Lewisville | Ray Roberts | Denton | 1 | HY | 1,200 | WAT | 1992 | 10,512 | | | 0 |
| C | Lewisville | Spencer | Denton | 1 | ST | 12,650 | NG | 1955 | 1,523,758 | Cooling Tower | Reuse | 0.75 |
| C | | Spencer | Denton | 2 | ST | 12,650 | NG | 1955 | | Cooling Tower | Reuse | |
| C | | Spencer | Denton | 3 | ST | 22,000 | NG | 1962 | | Cooling Tower | Reuse | |
| C | | Spencer | Denton | 4 | ST | 61,162 | NG | 1966 | | Cooling Tower | Reuse | |
| C | | Spencer | Denton | 5 | ST | 65,483 | NG | 1973 | | Cooling Tower | Reuse | |
| C | ANP | Midlothian Energy Facility | Ellis | STK1 | CS | 289,000 | NG | 2000 | 2,531,640 | | | 0.23 |
| C | | Midlothian Energy Facility | Ellis | STK2 | CS | 289,000 | NG | 2000 | 2,531,640 | | | 0.23 |
| C | | Midlothian Energy Facility | Ellis | STK3 | CS | 289,000 | NG | 2000 | 2,531,640 | | | 0.23 |
| C | | Midlothian Energy Facility | Ellis | STK4 | CS | 289,000 | NG | 2000 | 2,531,640 | | | 0.23 |
| C | | Midlothian Energy Facility | Ellis | STK5 | CS | 289,000 | NG | 2002 | 2,531,640 | | | 0.23 |
| C | | Midlothian Energy Facility | Ellis | STK6 | CS | 289,000 | NG | 2002 | 2,531,640 | | | 0.23 |
| C | Tractebel | Ennis Tractebel Power Co LP | Ellis | | CC | 350,000 | NG | 2002 | 3,066,000 | | Municipal | 0.23 |
| C | Tractebel | Ennis Tractebel Power Co LP | Ellis | | CC | 800,000 | NG | 2004 | 7,008,000 | | | 0.23 |
| C | TXU | Valley | Fannin | 1 | ST | 198,990 | NG | 1962 | 10,297,292 | Once Through | Lake | 0.27 |
| C | | Valley | Fannin | 2 | ST | 580,500 | NG | 1967 | | Once Through | Lake | |
| C | | Valley | Fannin | 3 | ST | 396,000 | NG | 1971 | | Once Through | Lake | |
| C | Calpine | Freestone Power Generation LP | Freestone | | CC | 1,030,000 | NG | 2002 | 9,022,800 | | | 0.23 |
| C | TXU | Big Brown | Freestone | 1 | ST | 593,400 | LIG | 1971 | 10,396,368 | Once Through | Lake | 0.35 |
| C | | Big Brown | Freestone | 2 | ST | 593,400 | LIG | 1972 | | Once Through | Lake | |
| C | USCE | Denison | Grayson | 1 | HY | 35,000 | WAT | 1945 | 613,200 | | | 0 |
| C | | Denison | Grayson | 2 | HY | 35,000 | WAT | 1949 | | | | |
| C | Whitesboro | Whitesboro | Grayson | 1 | IC | 1,250 | NG | 1959 | 34,164 | | | 0 |
| C | | Whitesboro | Grayson | 2 | IC | 900 | NG | 1955 | | | | |
| C | | Whitesboro | Grayson | 3 | IC | 500 | NG | 1951 | | | | |
| C | | Whitesboro | Grayson | 4 | IC | 1,250 | NG | 1951 | | | | |
| C | TXU | Trinidad | Henderson | D1 | IC | 2,000 | DFO | 1966 | 35,040 | | | 0 |
| C | | Trinidad | Henderson | D2 | IC | 2,000 | DFO | 1966 | | | | |
| C | | Trinidad | Henderson | 6 | ST | 239,360 | NG | 1965 | 2,096,794 | Once Through | Lake | 0.35 |
| C | Duke Energy | Jack Energy Facility | Jack | | CC | 520,000 | NG | delayed | 4,555,200 | | | 0.23 |
| C | Cobisa / FP&L | Forney Power Plant | Kaufman | | CC | 1,818,800 | NG | 2003 | 15,932,688 | Cooling Tower | Reuse | 0.23 |
| C | Duke Energy | Kaufman LP Facility | Kaufman | | CC | 700,000 | NG | unknown | 6,132,000 | | | 0.23 |
| C | Brazos Electric | North Texas | Parker | 1 | ST | 16,500 | NG | 1958 | 621,960 | Once Through | Lake | 0.35 |
| C | | North Texas | Parker | 2 | ST | 16,500 | NG | 1958 | | Once Through | Lake | |
| C | | North Texas | Parker | 3 | ST | 38,000 | NG | 1963 | | Once Through | Lake | |
| C | Mirant | Mirant | Parker | | CC | 650,000 | NG | delayed | 5,694,000 | | | 0.23 |
| C | Weatherford | Weatherford | Parker | 1 | IC | 300 | DFO | 1940 | 51,334 | | | 0 |
| C | | Weatherford | Parker | 2 | IC | 300 | DFO | 1940 | | | | |
| C | | Weatherford | Parker | 3 | IC | 300 | DFO | 1940 | | | | |
| C | | Weatherford | Parker | 4 | IC | 840 | DFO | 1945 | | | | |
| C | | Weatherford | Parker | 6 | IC | 1,400 | DFO | 1948 | | | | |
| C | | Weatherford | Parker | 7 | IC | 1,360 | DFO | 1953 | | | | |
| C | | Weatherford | Parker | 8 | IC | 1,360 | NG | 1953 | | | | |
| C | TXU | Eagle Mountain | Tarrant | 1 | ST | 122,500 | NG | 1954 | 6,185,874 | Once Through | Lake | 0.35 |
| C | | Eagle Mountain | Tarrant | 2 | ST | 187,500 | NG | 1956 | | Once Through | Lake | |
| C | | Eagle Mountain | Tarrant | 3 | ST | 396,150 | NG | 1971 | | Once Through | Lake | |
| C | Exelon | Handley | Tarrant | 1 | ST | 43,750 | NG | 1948 | 12,556,146 | Once Through | Lake | 0.27 |
| C | | Handley | Tarrant | 2 | ST | 74,800 | NG | 1950 | | Once Through | Lake | |
| C | | Handley | Tarrant | 3 | ST | 404,800 | NG | 1963 | | Once Through | Lake | |
| C | | Handley | Tarrant | 4 | ST | 455,000 | NG | 1976 | | Once Through | Lake | |
| C | | Handley | Tarrant | 5 | ST | 455,000 | NG | 1977 | | Once Through | Lake | |
| C | TXU | North Main | Tarrant | 4 | ST | 81,250 | NG | 1952 | 711,750 | Once Through | River | 0.35 |
| C | Tractebel | Wise County Power Co LP | Wise | | CC | 800,000 | NG | 2004 | 7,008,000 | | | 0.23 |

Data from US DOE Energy Information Administration's Forms EIA-806A, EIA-806B, EIA-906, and PUCT Report on New Electric Generating Plants in Texas

# Electric Utility and Independent Power Producer Generating Units in Texas

| Region | Company | Plant | County | Unit | Prime Mover | Nameplate (kW) | Fuel Source | Year in Service | Annual Capability at 100% Load Factor (MWhrs) | Cooling Type | Water Source | Water Use Factor (gal/kWhr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D | AEP SWEPCO | Knox Lee | Gregg | 2 | ST | 30,000 | NG | 1950 | 4,018,159 | Once Through | Lake | 0.35 |
| D | | Knox Lee | Gregg | 3 | ST | 30,000 | NG | 1952 | | Once Through | Lake | |
| D | | Knox Lee | Gregg | 4 | ST | 75,000 | NG | 1956 | | Once Through | Lake | |
| D | | Knox Lee | Gregg | 5 | ST | 323,694 | NG | 1974 | | Once Through | Lake | |
| D | AEP SWEPCO | Pirkey | Harrison | 1 | ST | 660,402 | LIG | 1985 | 5,785,122 | Once Through | Lake | 0.35 |
| D | Entergy / NE TX Coop | Harrison County Power Project | Harrison | | CC | 570,000 | NG | 2003 | 4,993,200 | | | 0.23 |
| D | Cobisa | Greenville | Hunt | | CC | 1,750,000 | NG | 2006 | 15,330,000 | | | 0.23 |
| D | Greenville | Powerlane | Hunt | ST1 | ST | 16,500 | NG | 1966 | 741,972 | Once Through | Lake | 0.35 |
| D | | Powerlane | Hunt | ST2 | ST | 25,000 | NG | 1969 | | Once Through | Lake | |
| D | | Powerlane | Hunt | ST3 | ST | 43,200 | NG | 1977 | | Once Through | Lake | |
| D | Panda | Lamar Power Project | Lamar | CTG2 | CT | 171,700 | NG | 2000 | 1,504,092 | | Municipal | 0.05 |
| D | | Lamar Power Project | Lamar | CTG1 | CT | 171,700 | NG | 2000 | 1,504,092 | | Municipal | 0.05 |
| D | | Lamar Power Project | Lamar | STG1 | CA | 202,020 | NG | 2000 | 1,769,695 | | Municipal | 0.6 |
| D | | Lamar Power Project | Lamar | STG2 | CA | 202,020 | NG | 2000 | 1,769,695 | | Municipal | 0.6 |
| D | | Lamar Power Project | Lamar | CTG3 | CT | 171,700 | NG | 2000 | 1,504,092 | | Municipal | 0.05 |
| D | | Lamar Power Project | Lamar | CTG4 | CT | 171,700 | NG | 2000 | 1,504,092 | | Municipal | 0.05 |
| D | AEP SWEPCO | Wilkes | Marion | 1 | ST | 160,000 | NG | 1964 | 7,072,719 | Once Through | Lake | 0.27 |
| D | | Wilkes | Marion | 2 | ST | 323,694 | NG | 1970 | | Once Through | Lake | |
| D | | Wilkes | Marion | 3 | ST | 323,694 | NG | 1971 | | Once Through | Lake | |
| D | AEP SWEPCO | Lone Star | Morris | 1 | ST | 40,000 | NG | 1954 | 350,400 | Once Through | Lake | 0.35 |
| D | TXU | River Crest | Red River | 1 | ST | 112,500 | NG | 1954 | 985,500 | Once Through | Lake | 0.35 |
| D | TXU | Monticello | Titus | 1 | ST | 593,400 | LIG | 1974 | 17,345,238 | Once Through | Lake | 0.35 |
| D | | Monticello | Titus | 2 | ST | 593,400 | LIG | 1975 | | Once Through | Lake | |
| D | | Monticello | Titus | 3 | ST | 793,250 | LIG | 1978 | | Once Through | Lake | |
| D | AEP SWEPCO | Welsh | Titus | 1 | ST | 512,321 | SUB | 1977 | 13,463,796 | Once Through | Lake | 0.35 |
| D | | Welsh | Titus | 2 | ST | 512,321 | SUB | 1980 | | Once Through | Lake | |
| D | | Welsh | Titus | 3 | ST | 512,321 | SUB | 1982 | | Once Through | Lake | |
| | | | | | | | | | | | | |
| E | LCRA | West Texas Windplant | Culberson | WIND | WT | 33,600 | WIND | 1995 | 294,336 | | | 0 |
| E | National Wind Power | Delaware Mountain Windfarm | Culberson | WIND | WT | 30,000 | WIND | 1999 | 262,800 | | | 0 |
| E | Orion Energy | Orion | Culberson | | WT | 175,000 | WIND | 2003 | 1,533,000 | | | 0 |
| E | ANP | West Texas Energy Facility | El Paso | | CC | 500,000 | NG | delayed | 4,380,000 | | | 0.23 |
| E | Cielo / El Paso Electric | Hueco Moutain Wind Ranch | El Paso | | WT | 1,320 | WIND | 2002 | 11,563 | | | 0 |
| E | El Paso | Copper | El Paso | 1 | GT | 80,550 | NG | 1980 | 705,618 | | | 0 |
| E | El Paso | Newman | El Paso | CT1 | CT | 85,000 | NG | 1975 | | | | |
| E | | Newman | El Paso | CT2 | CT | 85,000 | NG | 1975 | | | | |
| E | | Newman | El Paso | 1 | ST | 81,600 | NG | 1960 | 2,438,565 | Cooling Tower | Reuse, Groundwater | 0.75 |
| E | | Newman | El Paso | 2 | ST | 81,600 | NG | 1963 | | Cooling Tower | Reuse, Groundwater | |
| E | | Newman | El Paso | 3 | ST | 115,175 | NG | 1966 | | Cooling Tower | Reuse, Groundwater | |
| E | | Newman | El Paso | 4 | CA | 120,000 | NG | 1975 | 2,540,400 | Cooling Tower | Reuse, Groundwater | 0.23 |
| E | AEP WTU | Fort Davis | Jeff Davis | 1 | PV | 1,000 | SUN | 1993 | 8,760 | | | 0 |
| E | AEP - WTU | Fort Davis | Jeff Davis | | WT | 6,600 | WIND | 1996 | 57,816 | | | 0 |
| E | AEP WTU | Presidio | Presidio | 5 | IC | 1,136 | DFO | 1967 | 19,903 | | | 0 |
| E | | Presidio | Presidio | 6 | IC | 1,136 | DFO | 1967 | | | | |
| | | | | | | | | | | | | |
| F | AEP WTU | Oak Creek | Coke | 1 | ST | 75,000 | NG | 1962 | 657,000 | Once Through | Lake | 0.35 |
| F | Coleman | Coleman | Coleman | IC1 | IC | 1,500 | NG | 1955 | 147,694 | | | 0 |
| F | | Coleman | Coleman | IC2 | IC | 1,000 | NG | 1959 | | | | |
| F | | Coleman | Coleman | IC3 | IC | 1,300 | NG | 1951 | | | | |
| F | | Coleman | Coleman | IC4 | IC | 1,500 | NG | 1963 | | | | |
| F | | Coleman | Coleman | IC5 | IC | 2,200 | NG | 1968 | | | | |
| F | | Coleman | Coleman | IC6 | IC | 2,500 | NG | 1973 | | | | |
| F | | Coleman | Coleman | IC7 | IC | 1,500 | NG | 1978 | | | | |
| F | | Coleman | Coleman | IC8 | IC | 1,360 | NG | 1980 | | | | |

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# Electric Utility and Independent Power Producer Generating Units in Texas

| Region | Company | Plant | County | Unit | Prime Mover | Nameplate (kW) | Fuel Source | Year in Service | Annual Capability at 100% Load Factor (MWhrs) | Cooling Type | Water Source | Water Use Factor (gal/kWhr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| F | | Coleman | Coleman | IC9 | IC | 4,000 | NG | 1986 | | | | |
| F | AEP WTU | Rio Pecos | Crockett | 4A | GT | 5,000 | NG | 1998 | 43,800 | | | 0 |
| F | | Rio Pecos | Crockett | 5 | ST | 33,000 | NG | 1959 | | Cooling Tower | Groundwater | |
| F | | Rio Pecos | Crockett | 6 | ST | 88,968 | NG | 1969 | 1,068,440 | Cooling Tower | Groundwater | 0.75 |
| F | Panda | Odessa-Ector Generating Station | Ector | | CT | 147,000 | NG | 2001 | 1,287,720 | | | 0.05 |
| F | | Odessa-Ector Generating Station | Ector | | CT | 147,000 | NG | 2001 | 1,287,720 | | | 0.05 |
| F | | Odessa-Ector Generating Station | Ector | | CA | 223,000 | NG | 2001 | 1,953,480 | | | 0.6 |
| F | | Odessa-Ector Generating Station | Ector | | CT | 147,000 | NG | 2001 | 1,287,720 | | | 0.05 |
| F | | Odessa-Ector Generating Station | Ector | | CT | 147,000 | NG | 2001 | 1,287,720 | | | 0.05 |
| F | | Odessa-Ector Generating Station | Ector | | CA | 223,000 | NG | 2001 | 1,953,480 | | | 0.6 |
| F | York Research | Big Spring Wind Power Facility | Howard | | WT | 40,920 | WIND | 1999 | 358,459 | | | 0 |
| F | TXU | Morgan Creek | Mitchell | CT1 | GT | 89,478 | NG | 1988 | 4,702,964 | | | 0.05 |
| F | | Morgan Creek | Mitchell | CT2 | GT | 89,478 | NG | 1988 | | | | |
| F | | Morgan Creek | Mitchell | CT3 | GT | 89,478 | NG | 1988 | | | | |
| F | | Morgan Creek | Mitchell | CT4 | GT | 89,478 | NG | 1988 | | | | |
| F | | Morgan Creek | Mitchell | CT5 | GT | 89,478 | NG | 1988 | | | | |
| F | | Morgan Creek | Mitchell | CT6 | GT | 89,478 | NG | 1988 | | | | |
| F | | Morgan Creek | Mitchell | 2 | ST | 18,400 | NG | 1950 | 7,247,630 | Once Through | Lake | 0.35 |
| F | | Morgan Creek | Mitchell | 3 | ST | 46,000 | NG | 1952 | | Once Through | Lake | |
| F | | Morgan Creek | Mitchell | 4 | ST | 75,000 | NG | 1954 | | Once Through | Lake | |
| F | | Morgan Creek | Mitchell | 5 | ST | 170,455 | NG | 1959 | | Once Through | Lake | |
| F | | Morgan Creek | Mitchell | 6 | ST | 517,500 | NG | 1966 | | Once Through | Lake | |
| F | AEP | Desert Sky | Pecos | | WT | 150,000 | WIND | 2001 | 1,314,000 | | | 0 |
| F | AEP WTU | Fort Stockton | Pecos | 2 | GT | 5,000 | NG | 1958 | 43,800 | | | 0 |
| F | Cielo | Capital Hill | Pecos | | WT | 100,000 | WIND | 2003 | 876,000 | | | 0 |
| F | FP&L | Woodward Mountain Wind Ranch | Pecos | | WT | 160,000 | WIND | 2001 | 1,401,600 | | | 0 |
| F | Orion | Indian Mesa Wind Farm | Pecos | | WT | 82,500 | WIND | 2001 | 722,700 | | | 0 |
| F | AEP WTU | San Angelo | Tom Green | 1 | CT | 25,000 | NG | 1965 | | | | |
| F | | San Angelo | Tom Green | 2 | CA | 85,000 | NG | 1966 | 963,600 | Once Through | Lake | 0.23 |
| F | FP&L | King Mountain Wind Ranch | Upton | | WT | 76,000 | WIND | 2001 | 665,760 | | | 0 |
| F | FP&L | King Mountain Wind Ranch 1 | Upton | | WT | 200,000 | WIND | 2001 | 1,752,000 | | | 0 |
| F | FP&L | King Mountain Wind Ranch 2 | Upton | | WT | 2,600 | WIND | 2001 | 22,776 | | | 0 |
| F | FP&L | West Texas Wind Energy LLC - SW Mesa | Upton | 01 | WT | 75,000 | WIND | 1999 | 657,000 | | | 0 |
| F | TXU Energy / Cielo Wind | Noelke Hill | Upton | | WT | 240,000 | WIND | 2003 | 2,102,400 | | | 0 |
| F | TXU | Permian Basin | Ward | CT1 | GT | 89,478 | NG | 1988 | 3,919,136 | | | 0.05 |
| F | | Permian Basin | Ward | CT2 | GT | 89,478 | NG | 1988 | | | | |
| F | | Permian Basin | Ward | CT3 | GT | 89,478 | NG | 1988 | | | | |
| F | | Permian Basin | Ward | CT4 | GT | 89,478 | NG | 1990 | | | | |
| F | | Permian Basin | Ward | CT5 | GT | 89,478 | NG | 1990 | | | | |
| F | | Permian Basin | Ward | 5 | ST | 114,954 | NG | 1958 | 5,697,977 | Cooling Tower | Groundwater | 0.56 |
| F | | Permian Basin | Ward | 6 | ST | 535,500 | NG | 1973 | | Cooling Tower | Groundwater | |
| F | York Research | Notrees | Winkler | | WT | 80,000 | WIND | delayed | 700,800 | | | 0 |
| G | Duke | Bell Energy Facility | Bell | | CC | 520,000 | NG | delayed | 4,555,200 | | | 0.23 |
| G | Mirant | Mirant Texas LP Bosque County Plant | Bosque | GT-1 | CT | 170,000 | NG | 2000 | 1,489,200 | | | 0.05 |
| G | | Mirant Texas LP Bosque County Plant | Bosque | GT-2 | CT | 170,000 | NG | 2000 | 1,489,200 | | | 0.05 |
| G | | Mirant Texas LP Bosque County Plant | Bosque | GT-3 | CT | 170,000 | NG | 2000 | 1,489,200 | | | 0.05 |
| G | | Mirant Texas LP Bosque County Plant | Bosque | ST | CA | 100,000 | NG | 2001 | 876,000 | | Brazos River | 0.6 |
| G | | Mirant Texas LP Bosque County Plant | Bosque | | CC | 504,000 | NG | 2001 | 4,415,040 | | | 0.23 |
| G | USCE | Whitney | Bosque | 1 | HY | 15,000 | WAT | 1953 | 262,800 | | | 0 |
| G | | Whitney | Bosque | 2 | HY | 15,000 | WAT | 1953 | | | | |
| G | Bryan | Atkins | Brazos | 3 | ST | 13,000 | NG | 1955 | 1,016,160 | Cooling Tower | Groundwater | 0.75 |
| G | | Atkins | Brazos | 4 | ST | 24,000 | NG | 1958 | | Cooling Tower | Groundwater | |
| G | | Atkins | Brazos | 5 | ST | 25,000 | NG | 1966 | | Cooling Tower | Groundwater | |
| G | | Atkins | Brazos | 6 | ST | 54,000 | NG | 1969 | | Cooling Tower | Groundwater | |
| G | | Atkins | Brazos | 7 | GT | 22,000 | NG | 1975 | 192,720 | | | 0 |

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# Electric Utility and Independent Power Producer Generating Units in Texas

| Region | Company | Plant | County | Unit | Prime Mover | Nameplate (kW) | Fuel Source | Year in Service | Annual Capability at 100% Load Factor (MWhrs) | Cooling Type | Water Source | Water Use Factor (gal/kWhr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | Bryan | Dansby | Brazos | 1 | ST | 105,000 | NG | 1978 | 919,800 | Once Through | Lake | 0.27 |
| G | TMPA | Gibbons Creek | Grimes | 1 | ST | 443,970 | SUB | 1983 | 3,889,177 | Once Through | Lake | 0.35 |
| G | Tenaska | Frontier Generation Station | Grimes | STG1 | CA | 390,101 | NG | 2000 | 3,417,285 | | Lake Livingston | 0.6 |
| G | | Frontier Generation Station | Grimes | GTG3 | CT | 183,200 | NG | 2000 | 1,604,832 | | | 0.05 |
| G | | Frontier Generation Station | Grimes | GTG1 | CT | 183,200 | NG | 2000 | 1,604,832 | | | 0.05 |
| G | | Frontier Generation Station | Grimes | GTG2 | CT | 183,200 | NG | 2000 | 1,604,832 | | | 0.05 |
| G | AEP WTU | Paint Creek | Haskell | 1 | ST | 30,000 | NG | 1953 | 1,910,950 | Once Through | Lake | 0.35 |
| G | | Paint Creek | Haskell | 2 | ST | 33,000 | NG | 1955 | | Once Through | Lake | |
| G | | Paint Creek | Haskell | 3 | ST | 50,000 | NG | 1959 | | Once Through | Lake | |
| G | | Paint Creek | Haskell | 4 | ST | 105,145 | NG | 1971 | | Once Through | Lake | |
| G | AES | Wolf Hollow LP | Hood | | CC | 829,600 | NG | 2002 | 7,267,296 | | | 0.23 |
| G | TXU | DeCordova | Hood | CT1 | GT | 89,478 | NG | 1990 | 3,135,309 | | | 0.05 |
| G | | DeCordova | Hood | CT2 | GT | 89,478 | NG | 1990 | | | | |
| G | | DeCordova | Hood | CT3 | GT | 89,478 | NG | 1990 | | | | |
| G | | DeCordova | Hood | CT4 | GT | 89,478 | NG | 1990 | | | | |
| G | | DeCordova | Hood | 1 | ST | 799,200 | NG | 1975 | 7,000,992 | Once Through | Lake | 0.2 |
| G | AEP WTU | Fort Phantom | Jones | 1 | ST | 146,460 | NG | 1974 | 2,954,941 | Once Through | Lake | 0.35 |
| G | | Fort Phantom | Jones | 2 | ST | 190,862 | NG | 1977 | | Once Through | Lake | |
| G | Reliant | Limestone | Limestone | 1 | ST | 813,400 | LIG | 1985 | 14,250,768 | Cooling Tower | Surface | 0.6 |
| G | | Limestone | Limestone | 2 | ST | 813,400 | LIG | 1986 | | Cooling Tower | Surface | |
| G | TXU | Lake Creek | McLennan | D1 | IC | 2,000 | DFO | 1966 | 52,560 | | | 0 |
| G | | Lake Creek | McLennan | D2 | IC | 2,000 | DFO | 1966 | | | | |
| G | | Lake Creek | McLennan | D3 | IC | 2,000 | DFO | 1966 | | | | |
| G | | Lake Creek | McLennan | ST1 | ST | 79,625 | NG | 1953 | 2,764,875 | Once Through | Lake | 0.35 |
| G | | Lake Creek | McLennan | ST2 | ST | 236,000 | NG | 1959 | | Once Through | Lake | |
| G | TXU | Tradinghouse | McLennan | 1 | ST | 580,500 | NG | 1970 | 12,086,172 | Once Through | Lake | 0.2 |
| G | | Tradinghouse | McLennan | 2 | ST | 799,200 | NG | 1972 | | Once Through | Lake | |
| G | TXU | Sandow | Milam | 4 | ST | 590,640 | LIG | 1981 | 5,174,006 | Once Through | Lake | 0.35 |
| G | AEP | Trent Mesa | Nolan | | WT | 150,000 | WIND | 2001 | 1,314,000 | | | 0 |
| G | Enron | Enron Wind | Nolan | | WT | 400,000 | WIND | delayed | 3,504,000 | | | 0 |
| G | TXU | Encogen One | Nolan | GT01 | CT | 33,250 | NG | 1989 | 291,270 | | | 0.05 |
| G | | Encogen One | Nolan | GT02 | CT | 72,760 | NG | 1989 | 637,378 | | | 0.05 |
| G | | Encogen One | Nolan | GT03 | CT | 72,760 | NG | 1989 | 637,378 | | | 0.05 |
| G | | Encogen One | Nolan | STG1 | CA | 87,200 | NG | 1989 | 763,872 | | | 0.6 |
| G | BRA | Morris Sheppard | Palo Pinto | 1 | HY | 12,500 | WAT | 1942 | 219,000 | | | 0 |
| G | | Morris Sheppard | Palo Pinto | 2 | HY | 12,500 | WAT | 1942 | | | | |
| G | Brazos Electric | RW Miller | Palo Pinto | 1 | ST | 66,000 | NG | 1968 | 3,206,160 | Once Through | Lake | 0.27 |
| G | | RW Miller | Palo Pinto | 2 | ST | 100,000 | NG | 1972 | | Once Through | Lake | |
| G | | RW Miller | Palo Pinto | 3 | ST | 200,000 | NG | 1975 | | Once Through | Lake | |
| G | | RW Miller | Palo Pinto | 4 | GT | 118,818 | NG | 1994 | 2,081,691 | | | 0.05 |
| G | | RW Miller | Palo Pinto | 5 | GT | 118,818 | NG | 1994 | | | | |
| G | TNM | TNP One | Robertson | 1 | ST | 174,600 | LIG | 1990 | 3,058,992 | Cooling Tower | Groundwater | 0.6 |
| G | | TNP One | Robertson | 2 | ST | 174,600 | LIG | 1991 | | Cooling Tower | Groundwater | |
| G | TXU | Comanche Peak | Somervell | 1 | ST | 1,215,000 | NUC | 1990 | 21,286,800 | Once Through | Lake | 0.58 |
| G | | Comanche Peak | Somervell | 2 | ST | 1,215,000 | NUC | 1993 | | Once Through | Lake | 0.58 |
| G | AEP WTU | Abilene | Taylor | 4 | ST | 15,000 | NG | 1949 | 131,400 | Cooling Tower | Surface | 0.98 |
| G | TXU | Graham | Young | 1 | ST | 247,775 | NG | 1960 | 5,560,629 | Once Through | Lake | 0.35 |
| G | | Graham | Young | 2 | ST | 387,000 | NG | 1969 | | Once Through | Lake | |
| | | | | | | | | | | | | |
| H | Reliant Energy Renewables | Coastal Plains | Brazoria | | OT | 5,432 | LFG | 2002 | 47,584 | | | 0 |
| H | Energy Developments, Inc | Alta Loma | Chambers | | OT | 5,000 | LFG | unknown | 43,800 | | | 0 |
| H | Reliant | Cedar Bayou | Chambers | 1 | ST | 765,000 | NG | 1970 | 20,104,200 | Once Through | Salt | 0.2 |
| H | | Cedar Bayou | Chambers | 2 | ST | 765,000 | NG | 1972 | | Once Through | Salt | |
| H | | Cedar Bayou | Chambers | 3 | ST | 765,000 | NG | 1974 | | Once Through | Salt | |
| H | Avista / NRG Energy | Brazos Valley Generating Facility | Fort Bend | | CC | 800,000 | NG | 2003 | 7,008,000 | | | 0.23 |
| H | Reliant | WA Parish | Fort Bend | GT1 | GT | 16,320 | NG | 1967 | 142,963 | | | 0 |

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# Electric Utility and Independent Power Producer Generating Units in Texas

| Region | Company | Plant | County | Unit | Prime Mover | Nameplate (kW) | Fuel Source | Year in Service | Annual Capability at 100% Load Factor (MWhrs) | Cooling Type | Water Source | Water Use Factor (gal/kWhr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| H | | WA Parish | Fort Bend | 1 | ST | 187,850 | NG | 1958 | 10,997,304 | Once Through | Lake | 0.27 |
| H | | WA Parish | Fort Bend | 2 | ST | 187,850 | NG | 1958 | | Once Through | Lake | |
| H | | WA Parish | Fort Bend | 3 | ST | 299,200 | NG | 1961 | | Once Through | Lake | |
| H | | WA Parish | Fort Bend | 4 | ST | 580,500 | NG | 1968 | | Once Through | Lake | |
| H | | WA Parish | Fort Bend | 5 | ST | 734,100 | SUB | 1977 | 12,861,432 | Once Through | Lake | 0.35 |
| H | | WA Parish | Fort Bend | 6 | ST | 734,100 | SUB | 1978 | | Once Through | Lake | |
| H | | WA Parish | Fort Bend | 7 | ST | 614,600 | SUB | 1980 | 10,767,792 | Cooling Tower | Surface | 0.6 |
| H | | WA Parish | Fort Bend | 8 | ST | 614,600 | SUB | 1982 | | Cooling Tower | Surface | |
| H | Reliant | PH Robinson | Galveston | 1 | ST | 484,500 | NG | 1966 | 20,275,020 | Once Through | Salt | 0.2 |
| H | | PH Robinson | Galveston | 2 | ST | 484,500 | NG | 1967 | | Once Through | Salt | |
| H | | PH Robinson | Galveston | 3 | ST | 580,500 | NG | 1968 | | Once Through | Salt | |
| H | | PH Robinson | Galveston | 4 | ST | 765,000 | NG | 1973 | | Once Through | Salt | |
| H | ANP | Harris Energy Facility | Harris | | CC | 2,200,000 | NG | delayed | 19,272,000 | | | 0.23 |
| H | Energy Developments, Inc | Whispering Pines | Harris | | OT | 2,700 | LFG | unknown | 23,652 | | | 0 |
| H | Exelon | LaPorte Generating Station | Harris | | GT | 40,000 | NG | 2001 | 350,400 | | | 0.05 |
| H | | LaPorte Generating Station | Harris | | GT | 40,000 | NG | 2001 | 350,400 | | | 0.05 |
| H | | LaPorte Generating Station | Harris | | GT | 40,000 | NG | 2001 | 350,400 | | | 0.05 |
| H | | LaPorte Generating Station | Harris | | GT | 40,000 | NG | 2001 | 350,400 | | | 0.05 |
| H | Reliant | Deepwater | Harris | 7 | ST | 187,850 | NG | 1955 | 1,645,566 | Once Through | Salt | 0.35 |
| H | Reliant | Greens Bayou | Harris | 5 | ST | 446,400 | NG | 1973 | 3,910,464 | Cooling Tower | Surface | 0.56 |
| H | | Greens Bayou | Harris | 73 | GT | 72,000 | NG | 1976 | 3,784,320 | | | 0 |
| H | | Greens Bayou | Harris | 74 | GT | 72,000 | NG | 1976 | | | | |
| H | | Greens Bayou | Harris | 81 | GT | 72,000 | NG | 1976 | | | | |
| H | | Greens Bayou | Harris | 82 | GT | 72,000 | NG | 1976 | | | | |
| H | | Greens Bayou | Harris | 83 | GT | 72,000 | NG | 1976 | | | | |
| H | | Greens Bayou | Harris | 84 | GT | 72,000 | NG | 1976 | | | | |
| H | Reliant | Hiram Clark | Harris | GT1 | GT | 16,000 | NG | 1968 | 840,960 | | Groundwater | 0 |
| H | | Hiram Clark | Harris | GT2 | GT | 16,000 | NG | 1968 | | | | |
| H | | Hiram Clark | Harris | GT3 | GT | 16,000 | NG | 1968 | | | | |
| H | | Hiram Clark | Harris | GT4 | GT | 16,000 | NG | 1968 | | | | |
| H | | Hiram Clark | Harris | 5 | GT | 16,000 | NG | 1968 | | | | |
| H | | Hiram Clark | Harris | 6 | GT | 16,000 | NG | 1968 | | | | |
| H | Reliant | Sam Bertron | Harris | GT1 | GT | 32,640 | NG | 1967 | 571,853 | | | 0 |
| H | | Sam Bertron | Harris | GT2 | GT | 16,320 | NG | 1967 | | | | |
| H | | Sam Bertron | Harris | ST1 | ST | 187,850 | NG | 1958 | 7,238,388 | Once Through | Salt | 0.27 |
| H | | Sam Bertron | Harris | ST2 | ST | 187,850 | NG | 1956 | | Once Through | Salt | |
| H | | Sam Bertron | Harris | 3 | ST | 225,300 | NG | 1959 | | Once Through | Salt | |
| H | | Sam Bertron | Harris | 4 | ST | 225,300 | NG | 1960 | | Once Through | Salt | |
| H | | Sam Bertron | Harris | G1 | GT | 16,320 | NG | 1967 | | | | |
| H | Reliant | San Jacinto SES | Harris | SJS1 | GT | 88,200 | NG | 1995 | 1,545,264 | | | 0.05 |
| H | | San Jacinto SES | Harris | SJS2 | GT | 88,200 | NG | 1995 | | | | |
| H | Reliant | TH Wharton | Harris | 2 | ST | 247,800 | NG | 1960 | 2,170,728 | Cooling Tower | Groundwater | 0.75 |
| H | | TH Wharton | Harris | 3 | CA | 113,100 | WH | 1974 | 5,671,224 | Cooling Tower | Groundwater | 0.23 |
| H | | TH Wharton | Harris | 31 | CT | 51,300 | NG | 1972 | | | | |
| H | | TH Wharton | Harris | 32 | CT | 51,300 | NG | 1972 | | | | |
| H | | TH Wharton | Harris | 33 | CT | 51,300 | NG | 1972 | | | | |
| H | | TH Wharton | Harris | 34 | CT | 51,300 | NG | 1972 | | | | |
| H | | TH Wharton | Harris | 4 | CA | 113,100 | WH | 1974 | | Cooling Tower | Groundwater | |
| H | | TH Wharton | Harris | 41 | CT | 51,300 | NG | 1972 | | | | |
| H | | TH Wharton | Harris | 42 | CT | 51,300 | NG | 1972 | | | | |
| H | | TH Wharton | Harris | 43 | CT | 56,700 | NG | 1974 | | | | |
| H | | TH Wharton | Harris | 44 | CT | 56,700 | NG | 1974 | | | | |
| H | | TH Wharton | Harris | 51 | GT | 85,000 | NG | 1975 | 4,610,563 | | | 0 |
| H | | TH Wharton | Harris | 52 | GT | 85,000 | NG | 1975 | | | | |
| H | | TH Wharton | Harris | 53 | GT | 85,000 | NG | 1975 | | | | |
| H | | TH Wharton | Harris | 54 | GT | 85,000 | NG | 1975 | | | | |
| H | | TH Wharton | Harris | 55 | GT | 85,000 | NG | 1975 | | | | |

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# Electric Utility and Independent Power Producer Generating Units in Texas

| Region | Company | Plant | County | Unit | Prime Mover | Nameplate (kW) | Fuel Source | Year in Service | Annual Capability at 100% Load Factor (MWhrs) | Cooling Type | Water Source | Water Use Factor (gal/kWhr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| H | | TH Wharton | Harris | 56 | GT | 85,000 | NG | 1975 | | | | |
| H | | TH Wharton | Harris | GT1 | GT | 16,320 | NG | 1967 | | | | |
| H | Reliant | Webster | Harris | GT1 | GT | 16,320 | NG | 1967 | 142,963 | | | 0 |
| H | | Webster | Harris | 3 | ST | 410,040 | NG | 1965 | 3,591,950 | Once Through | Salt | 0.27 |
| H | Reliant Energy Renewables | Atascosita LP | Harris | | OT | 5,432 | LFG | 2003 | 47,584 | | | 0 |
| H | Reliant Energy Renewables | Baytown | Harris | | OT | 5,432 | LFG | 2003 | 47,584 | | | 0 |
| H | Reliant Energy Renewables | Blue Bonnet | Harris | | OT | 2,038 | LFG | 2003 | 17,853 | | | 0 |
| H | HNG | Dayton Storage Co | Liberty | | OT | 240,000 | OTH | unknown | 2,102,400 | | | 0 |
| H | Reliant Energy Renewables | Security | Liberty | | OT | 4,074 | LFG | 2003 | 35,688 | | | 0 |
| H | Sempra | Cedar Bluff Power Project | Liberty | | CC | 600,000 | NG | 2005 | 5,256,000 | | | 0.23 |
| H | Entergy Gulf States | Lewis Creek | Montgomery | 1 | ST | 271,400 | NG | 1970 | 4,754,928 | Once Through | Lake | 0.27 |
| H | | Lewis Creek | Montgomery | 2 | ST | 271,400 | NG | 1971 | | Once Through | Lake | |
| H | Reliant Energy Renewables | Conroe | Mongomery | | OT | 3,057 | LFG | 2003 | 26,779 | | | 0 |
| H | Sempra | Montgomery County Energy Project | Montgomery | | CC | 600,000 | NG | 2006 | 5,256,000 | | | 0.23 |
| H | Warren | Warren Peaking Power Facility | Mongomery | | CC | 373,000 | NG | unknown | 3,267,480 | | | 0.23 |
| | | | | | | | | | | | | |
| I | Newport | Palestine Power Project | Anderson | | CC | 1,600,000 | NG | delayed | 14,016,000 | | | 0.23 |
| I | TXU | Stryker Creek | Cherokee | D1 | IC | 2,000 | DFO | 1966 | 87,600 | | | 0 |
| I | | Stryker Creek | Cherokee | D2 | IC | 2,000 | DFO | 1966 | | | | |
| I | | Stryker Creek | Cherokee | D3 | IC | 2,000 | DFO | 1966 | | | | |
| I | | Stryker Creek | Cherokee | D4 | IC | 2,000 | DFO | 1966 | | | | |
| I | | Stryker Creek | Cherokee | D5 | IC | 2,000 | DFO | 1966 | | | | |
| I | | Stryker Creek | Cherokee | ST1 | ST | 176,800 | NG | 1958 | 6,162,485 | Once Through | Lake | 0.35 |
| I | | Stryker Creek | Cherokee | ST2 | ST | 526,680 | NG | 1965 | | Once Through | Lake | |
| I | USCE | Robert D Willis | Jasper | 1 | HY | 3,600 | WAT | 1989 | 63,072 | | | 0 |
| I | | Robert D Willis | Jasper | 2 | HY | 3,600 | WAT | 1989 | | | | |
| I | USCE | Sam Rayburn | Jasper | 1 | HY | 26,000 | WAT | 1965 | 455,520 | | | 0 |
| I | | Sam Rayburn | Jasper | 2 | HY | 26,000 | WAT | 1965 | | | | |
| I | Calpine | Amelia Energy Center | Jefferson | | CC | 900,000 | NG | delayed | 7,884,000 | | | 0.23 |
| I | Port of Port Arthur | Sabine Power | Jefferson | | CC | 1,000,000 | NG | delayed | 8,760,000 | | | 0.23 |
| I | Steag Power | Sterne Electric Generating Facility | Nacogdoches | | CC | 978,000 | NG | 2006 | 8,567,280 | | Angelina River | 0.23 |
| I | Entergy Gulf States | Toledo Bend | Newton | 1 | HY | 40,500 | WAT | 1969 | 709,560 | | | 0 |
| I | | Toledo Bend | Newton | 2 | HY | 40,500 | WAT | 1969 | | | | |
| I | Hartburg | Hartburg Power LP | Newton | | CC | 800,000 | NG | delayed | 7,008,000 | | | 0.23 |
| I | Intergen | Cottonwood Energy Project | Newton | | CC | 1,200,000 | NG | 2003 | 10,512,000 | | | 0.23 |
| I | Entergy Gulf States | Sabine | Orange | 1 | ST | 239,400 | NG | 1962 | 17,968,512 | Once Through | Salt | 0.27 |
| I | | Sabine | Orange | 2 | ST | 239,400 | NG | 1962 | | Once Through | Salt | |
| I | | Sabine | Orange | 3 | ST | 473,400 | NG | 1962 | | Once Through | Salt | |
| I | | Sabine | Orange | 4 | ST | 591,600 | NG | 1974 | | Once Through | Salt | |
| I | | Sabine | Orange | 5 | ST | 507,400 | NG | 1979 | | Once Through | Salt | |
| I | TXU | Martin Lake | Rusk | 1 | ST | 793,250 | LIG | 1977 | 20,846,610 | Once Through | Lake | 0.35 |
| I | | Martin Lake | Rusk | 2 | ST | 793,250 | LIG | 1978 | | Once Through | Lake | |
| I | | Martin Lake | Rusk | 3 | ST | 793,250 | LIG | 1979 | | Once Through | Lake | |
| I | Tenaska | Gateway Generating Station | Rusk | | CT | 179,000 | NG | 2001 | 1,568,040 | | Toledo Bend | 0.05 |
| I | | Gateway Generating Station | Rusk | | CT | 179,000 | NG | 2001 | 1,568,040 | | Toledo Bend | 0.05 |
| I | | Gateway Generating Station | Rusk | | CT | 179,000 | NG | 2001 | 1,568,040 | | Toledo Bend | 0.05 |
| I | | Gateway Generating Station | Rusk | | CA | 400,000 | NG | 2001 | 3,504,000 | | Toledo Bend | 0.6 |
| | | | | | | | | | | | | |
| J | IBWC | Amistad | Val Verde | 1 | HY | 33,000 | WAT | 1983 | 578,160 | | | 0 |
| J | | Amistad | Val Verde | 2 | HY | 33,000 | WAT | 1983 | | | | |
| | | | | | | | | | | | | |
| K | FP&L | Bastrop Energy Center | Bastrop | | CC | 540,000 | NG | 2002 | 4,730,400 | | | 0.23 |
| K | Gentex / Calpine | Lost Pines I Power Project | Bastrop | | CT | 195,500 | NG | 2001 | 1,712,580 | | | 0.05 |
| K | | Lost Pines I Power Project | Bastrop | | CT | 195,500 | NG | 2001 | 1,712,580 | | | 0.05 |

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# Electric Utility and Independent Power Producer Generating Units in Texas

| Region | Company | Plant | County | Unit | Prime Mover | Nameplate (kW) | Fuel Source | Year in Service | Annual Capability at 100% Load Factor (MWhrs) | Cooling Type | Water Source | Water Use Factor (gal/kWhr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| K | | Lost Pines I Power Project | Bastrop | | CA | 199,400 | NG | 2001 | 1,746,744 | | | 0.6 |
| K | LCRA | Sim Gideon | Bastrop | 1 | ST | 144,000 | NG | 1965 | 5,597,640 | Once Through | Lake | 0.27 |
| K | | Sim Gideon | Bastrop | 2 | ST | 144,000 | NG | 1968 | | Once Through | Lake | |
| K | | Sim Gideon | Bastrop | 3 | ST | 351,000 | NG | 1972 | | Once Through | Lake | |
| K | LCRA | Buchanan | Burnet | 1 | HY | 18,300 | WAT | 1938 | 419,166 | | | 0 |
| K | | Buchanan | Burnet | 2 | HY | 18,300 | WAT | 1938 | | | | |
| K | | Buchanan | Burnet | 3 | HY | 11,250 | WAT | 1938 | | | | |
| K | LCRA | Granite Shoals | Burnet | 1 | HY | 22,500 | WAT | 1951 | 394,200 | | | 0 |
| K | | Granite Shoals | Burnet | 2 | HY | 22,500 | WAT | 1951 | | | | |
| K | LCRA | Inks | Burnet | 1 | HY | 15,000 | WAT | 1938 | 131,400 | | | 0 |
| K | LCRA | Marble Falls | Burnet | 1 | HY | 15,000 | WAT | 1951 | 262,800 | | | 0 |
| K | | Marble Falls | Burnet | 2 | HY | 15,000 | WAT | 1951 | | | | |
| K | LCRA | Fayette | Fayette | 1 | ST | 615,000 | SUB | 1979 | 14,804,400 | Once Through | Lake | 0.35 |
| K | | Fayette | Fayette | 2 | ST | 615,000 | SUB | 1980 | | Once Through | Lake | |
| K | | Fayette | Fayette | 3 | ST | 460,000 | SUB | 1988 | | Once Through | Lake | |
| K | LCRA | Thomas C Ferguson | Llano | 1 | ST | 446,000 | NG | 1974 | 3,906,960 | Once Through | Lake | 0.27 |
| K | Ridge Energy Storage | Markham Energy Storage Center | Matagorda | | OT | 270,000 | OTH | 2004 | 2,365,200 | | | 0 |
| K | Reliant | STP | Matagorda | 1 | ST | 1,354,320 | NUC | 1988 | 23,727,686 | Once Through | Lake | 0.58 |
| K | | STP | Matagorda | 2 | ST | 1,354,320 | NUC | 1989 | | Once Through | Lake | 0.58 |
| K | LCRA | Austin | Travis | 1 | HY | 8,068 | WAT | 1941 | 141,351 | | | 0 |
| K | | Austin | Travis | 2 | HY | 8,068 | WAT | 1941 | | | | |
| K | Austin | Decker | Travis | GT1 | GT | 51,570 | NG | 1988 | 1,807,013 | | | 0.05 |
| K | | Decker | Travis | GT2 | GT | 51,570 | NG | 1988 | | | | |
| K | | Decker | Travis | GT3 | GT | 51,570 | NG | 1988 | | | | |
| K | | Decker | Travis | GT4 | GT | 51,570 | NG | 1988 | | | | |
| K | | Decker | Travis | PV3 | PV | 300 | SUN | 1987 | 2,628 | | | 0 |
| K | | Decker | Travis | 1 | ST | 321,000 | NG | 1971 | 6,359,760 | Once Through | Lake | 0.27 |
| K | | Decker | Travis | 2 | ST | 405,000 | NG | 1978 | | Once Through | Lake | |
| K | Austin | Holly | Travis | 1 | ST | 100,000 | NG | 1960 | 4,888,080 | Once Through | Lake | 0.35 |
| K | | Holly | Travis | 2 | ST | 100,000 | NG | 1964 | | Once Through | Lake | |
| K | | Holly | Travis | 3 | ST | 165,000 | NG | 1967 | | Once Through | Lake | |
| K | | Holly | Travis | 4 | ST | 193,000 | NG | 1974 | | Once Through | Lake | |
| K | Austin | Sand Hill | Travis | 1 | GT | 60,500 | NG | 2001 | 2,119,920 | | | 0.05 |
| K | | Sand Hill | Travis | 2 | GT | 60,500 | NG | 2001 | | | | |
| K | | Sand Hill | Travis | 3 | GT | 60,500 | NG | 2001 | | | | |
| K | | Sand Hill | Travis | 4 | GT | 60,500 | NG | 2001 | | | | |
| K | Austin Energy | Sand Hill | Travis | | CC | 300,000 | NG | 2003 | 2,628,000 | Cooling Tower | Reuse | 0.23 |
| K | | Sand Hill | Travis | | CC | 250,000 | NG | 2007 | 2,190,000 | | | 0.23 |
| K | Ecogas | Ecogas | Travis | | OT | 5,000 | LFG | unknown | 43,800 | | | 0 |
| K | LCRA | Marshall Ford | Travis | 1 | HY | 34,000 | WAT | 1941 | 898,294 | | | 0 |
| K | | Marshall Ford | Travis | 2 | HY | 34,545 | WAT | 1941 | | | | |
| K | | Marshall Ford | Travis | 3 | HY | 34,000 | WAT | 1941 | | | | |
| K | AEP | Newgulf | Wharton | GEN1 | CT | 78,750 | NG | 1984 | 689,850 | | | 0.05 |
| K | | Newgulf | Wharton | GEN2 | CA | 12,500 | NG | 1988 | 109,500 | | | 0.6 |
| | | | | | | | | | | | | |
| L | San Miguel | San Miguel | Atascosa | 1 | ST | 410,000 | LIG | 1982 | 3,591,600 | Cooling Tower | Groundwater | 0.6 |
| L | CPS San Antonio | A Von Rosenberg | Bexar | 1 | CT | 174,690 | NG | 2000 | | | | |
| L | | A Von Rosenberg | Bexar | 2 | CT | 174,690 | NG | 2000 | | | | |
| L | | A Von Rosenberg | Bexar | 3 | CA | 200,250 | NG | 2000 | 4,814,759 | Once Through | Reuse | 0.15 |
| L | CPS San Antonio | JK Spruce | Bexar | 1 | ST | 546,000 | SUB | 1992 | 4,782,960 | Once Through | Reuse | 0.35 |
| L | CPS San Antonio | JT Deely | Bexar | 1 | ST | 446,000 | SUB | 1977 | 7,813,920 | Once Through | Reuse | 0.35 |
| L | | JT Deely | Bexar | 2 | ST | 446,000 | SUB | 1978 | | Once Through | Reuse | |
| L | CPS San Antonio | Leon Creek | Bexar | 3 | ST | 75,000 | NG | 1953 | 1,655,640 | Cooling Tower | Groundwater | 0.75 |
| L | | Leon Creek | Bexar | 4 | ST | 114,000 | NG | 1959 | | Cooling Tower | Groundwater | |
| L | CPS San Antonio | Mission Road | Bexar | 3 | ST | 114,000 | NG | 1958 | 998,640 | Cooling Tower | Groundwater | 0.75 |
| L | CPS San Antonio | OW Summers | Bexar | 1 | ST | 446,000 | NG | 1972 | 7,813,920 | Once Through | Reuse | 0.27 |

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# Electric Utility and Independent Power Producer Generating Units in Texas

| Region | Company | Plant | County | Unit | Prime Mover | Nameplate (kW) | Fuel Source | Year in Service | Annual Capability at 100% Load Factor (MWhrs) | Cooling Type | Water Source | Water Use Factor (gal/kWhr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | | OW Summers | Bexar | 2 | ST | 446,000 | NG | 1974 | | Once Through | Reuse | |
| L | | OW Summers | Bexar | A | IC | 2,500 | DFO | 1974 | 87,600 | Once Through | Reuse | 0 |
| L | | OW Summers | Bexar | B | IC | 2,500 | DFO | 1974 | | Once Through | Reuse | |
| L | | OW Summers | Bexar | C | IC | 2,500 | DFO | 1974 | | Once Through | Reuse | |
| L | | OW Summers | Bexar | D | IC | 2,500 | DFO | 1974 | | Once Through | Reuse | |
| L | CPS San Antonio | VH Braunig | Bexar | 1 | ST | 225,000 | NG | 1966 | 7,831,440 | Once Through | Reuse | 0.35 |
| L | | VH Braunig | Bexar | 2 | ST | 252,000 | NG | 1968 | | Once Through | Reuse | |
| L | | VH Braunig | Bexar | 3 | ST | 417,000 | NG | 1970 | | Once Through | Reuse | |
| L | CPS San Antonio | WB Tuttle | Bexar | 1 | ST | 75,000 | NG | 1954 | 4,336,200 | Cooling Tower | Groundwater | 0.75 |
| L | | WB Tuttle | Bexar | 2 | ST | 114,000 | NG | 1956 | | Cooling Tower | Groundwater | |
| L | | WB Tuttle | Bexar | 3 | ST | 114,000 | NG | 1961 | | Cooling Tower | Groundwater | |
| L | | WB Tuttle | Bexar | 4 | ST | 192,000 | NG | 1963 | | Cooling Tower | Groundwater | |
| L | Energy Developments, Inc | Hutchins | Bexar | | OT | 2,700 | LFG | unknown | 23,652 | | | 0 |
| L | Energy Developments, Inc | Tessman Road | Bexar | | OT | 5,200 | LFG | unknown | 45,552 | | | 0 |
| L | AEP CPL | ES Joslin | Calhoun | 1 | ST | 234,874 | NG | 1971 | 2,057,496 | Once Through | Salt | 0.35 |
| L | GBRA | Canyon | Comal | 1 | HY | 3,000 | WAT | 1989 | 52,560 | | | 0 |
| L | | Canyon | Comal | 2 | HY | 3,000 | WAT | 1989 | | | | |
| L | Small Hydro of Texas Inc | Small Hydro of Texas Inc | DeWitt | 01 | HY | 589 | WAT | 1992 | 5,160 | | | 0 |
| L | | Small Hydro of Texas Inc | DeWitt | 02 | HY | 589 | WAT | 1993 | 5,160 | | | 0 |
| L | | Small Hydro of Texas Inc | DeWitt | 03 | HY | 589 | WAT | 1993 | 5,160 | | | 0 |
| L | Pearsall | Pearsall | Frio | 1 | ST | 22,000 | NG | 1961 | 578,160 | Cooling Tower | Groundwater | 0.75 |
| L | | Pearsall | Frio | 2 | ST | 22,000 | NG | 1961 | | Cooling Tower | Groundwater | |
| L | | Pearsall | Frio | 3 | ST | 22,000 | NG | 1961 | | Cooling Tower | Groundwater | |
| L | AEP CPL | Coleto Creek | Goliad | 1 | ST | 570,057 | BIT | 1980 | 4,993,699 | Once Through | Lake | 0.35 |
| L | Gonzales | Gonzales | Gonzales | 1 | HY | 500 | WAT | 1984 | 13,140 | | | 0 |
| L | | Gonzales | Gonzales | 2 | HY | 500 | WAT | 1984 | | | | |
| L | | Gonzales | Gonzales | 3 | HY | 500 | WAT | 1984 | | | | |
| L | GBRA | H 4 | Gonzales | 1 | HY | 2,400 | WAT | 1931 | 21,024 | | | 0 |
| L | GBRA | H 5 | Gonzales | 1 | HY | 2,400 | WAT | 1931 | 21,024 | | | 0 |
| L | GBRA | Abbott TP 3 | Guadalupe | 1 | HY | 1,400 | WAT | 1927 | 24,528 | | | 0 |
| L | | Abbott TP 3 | Guadalupe | 2 | HY | 1,400 | WAT | 1927 | | | | |
| L | GBRA | Dunlap TP 1 | Guadalupe | 1 | HY | 1,800 | WAT | 1927 | 31,536 | | | 0 |
| L | | Dunlap TP 1 | Guadalupe | 2 | HY | 1,800 | WAT | 1927 | | | | |
| L | GBRA | Nolte | Guadalupe | 1 | HY | 1,200 | WAT | 1927 | 21,024 | | | 0 |
| L | | Nolte | Guadalupe | 2 | HY | 1,200 | WAT | 1927 | | | | |
| L | Seguin | Seguin | Guadalupe | HY1 | HY | 250 | WAT | 1926 | 2,190 | | | 0 |
| L | | Seguin | Guadalupe | I-1 | IC | 250 | DFO | 1900 | 2,190 | | | 0 |
| L | GBRA | TP 4 | Guadalupe | 1 | HY | 2,400 | WAT | 1932 | 21,024 | | | 0 |
| L | Constellation | Rio Nogales Power Project | Guadalupe | | CC | 825,000 | NG | 2002 | 7,227,000 | | | 0.23 |
| L | Panda | Guadalupe Generating Station | Guadalupe | STG1 | CA | 201,900 | NG | 2000 | 1,768,644 | | | 0.6 |
| L | | Guadalupe Generating Station | Guadalupe | STG2 | CA | 201,900 | NG | 2000 | 1,768,644 | | | 0.6 |
| L | | Guadalupe Generating Station | Guadalupe | CTG1 | CT | 184,600 | NG | 2000 | 1,617,096 | | | 0.05 |
| L | | Guadalupe Generating Station | Guadalupe | CTG2 | CT | 184,600 | NG | 2000 | 1,617,096 | | | 0.05 |
| L | | Guadalupe Generating Station | Guadalupe | CTG3 | CT | 184,600 | NG | 2000 | 1,617,096 | | | 0.05 |
| L | | Guadalupe Generating Station | Guadalupe | CTG4 | CT | 184,600 | NG | 2000 | 1,617,096 | | | 0.05 |
| L | ANP | Hays Energy Project | Hays | | CC | 1,080,000 | NG | 2002 | 9,460,800 | | | 0.23 |
| L | AEP CPL | Victoria | Victoria | 4 | ST | 66,000 | NG | 1955 | 4,037,256 | Once Through, Cooling Tower | River, Groundwater | 0.75 |
| L | | Victoria | Victoria | 5 | ST | 160,000 | NG | 1963 | | Once Through, Cooling Tower | River, Groundwater | |
| L | | Victoria | Victoria | 6 | ST | 234,874 | NG | 1968 | | Cooling Tower | Groundwater | |
| L | STEC | Sam Rayburn | Victoria | 1 | GT | 11,250 | NG | 1964 | 197,100 | | | 0 |
| L | | Sam Rayburn | Victoria | 2 | GT | 11,250 | NG | 1964 | | | | |
| L | | Sam Rayburn | Victoria | 3 | ST | 22,000 | NG | 1965 | 192,720 | Once Through | River | 0.35 |
| L | | Sam Rayburn | Victoria | 4 | IC | 1,600 | DFO | 1991 | 28,032 | | | 0 |
| L | | Sam Rayburn | Victoria | 5 | IC | 1,600 | DFO | 1991 | | | | |
| L | | Sam Rayburn | Victoria | | CC | 185,000 | NG | 2003 | 1,620,600 | | | 0.05 |

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# Electric Utility and Independent Power Producer Generating Units in Texas

| Region | Company | Plant | County | Unit | Prime Mover | Nameplate (kW) | Fuel Source | Year in Service | Annual Capability at 100% Load Factor (MWhrs) | Cooling Type | Water Source | Water Use Factor (gal/kWhr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M | AEP CPL | La Palma | Cameron | 4 | ST | 20,000 | NG | 1947 | 1,692,651 | Cooling Tower | Surface | 0.75 |
| M | | La Palma | Cameron | 5 | ST | 20,000 | NG | 1949 | | Cooling Tower | Surface | |
| M | | La Palma | Cameron | 6 | ST | 153,225 | NG | 1970 | | Cooling Tower | Surface | |
| M | | La Palma | Cameron | 7 | GT | 49,100 | NG | 1975 | 430,116 | | | 0 |
| M | PUB Brownsville | Silas Ray | Cameron | 5 | ST | 25,000 | NG | 1952 | 219,000 | Cooling Tower | Surface | 0.75 |
| M | | Silas Ray | Cameron | 6 | CA | 22,000 | NG | 1959 | 657,000 | Cooling Tower | Surface | 0.23 |
| M | | Silas Ray | Cameron | 8 | GT | 45,000 | NG | 1973 | 394,200 | | | 0 |
| M | | Silas Ray | Cameron | 9 | CT | 53,000 | NG | 1996 | | | | |
| M | AEP CPL | JL Bates | Hidalgo | 1 | ST | 66,000 | NG | 1958 | 1,454,160 | Cooling Tower | Surface, Groundwater | 0.75 |
| M | | JL Bates | Hidalgo | 2 | ST | 100,000 | NG | 1960 | | Cooling Tower | Surface, Groundwater | |
| M | Calpine | Hidalgo Energy Center | Hidalgo | CTG1 | CT | 162,300 | NG | 2000 | 1,421,748 | | | 0.05 |
| M | | Hidalgo Energy Center | Hidalgo | CTG2 | CT | 162,300 | NG | 2000 | 1,421,748 | | | 0.05 |
| M | | Hidalgo Energy Center | Hidalgo | STG1 | CA | 175,400 | NG | 2000 | 1,536,504 | | | 0.6 |
| M | Calpine | Magic Valley Generating Station | Hidalgo | | CT | 265,000 | NG | 2001 | 2,321,400 | | | 0.05 |
| M | | Magic Valley Generating Station | Hidalgo | | CT | 265,000 | NG | 2001 | 2,321,400 | | | 0.05 |
| M | | Magic Valley Generating Station | Hidalgo | | CA | 265,000 | NG | 2001 | 2,321,400 | | | 0.6 |
| M | TECO | Frontera Generation Facility | Hidalgo | GEN1 | CT | 164,000 | NG | 1999 | 1,436,640 | | | 0.05 |
| M | | Frontera Generation Facility | Hidalgo | GEN2 | CT | 164,000 | NG | 1999 | 1,436,640 | | | 0.05 |
| M | | Frontera Generation Facility | Hidalgo | GEN3 | CA | 183,000 | NG | 2000 | 1,603,080 | | | 0.6 |
| M | AEP CPL | Eagle Pass | Maverick | 1 | HY | 4,000 | WAT | 1932 | 105,120 | | | 0 |
| M | | Eagle Pass | Maverick | 2 | HY | 4,000 | WAT | 1932 | | | | |
| M | | Eagle Pass | Maverick | 3 | HY | 4,000 | WAT | 1932 | | | | |
| M | IBWC | Falcon | Starr | 1 | HY | 10,500 | WAT | 1954 | 275,940 | | | 0 |
| M | | Falcon | Starr | 2 | HY | 10,500 | WAT | 1954 | | | | |
| M | | Falcon | Starr | 3 | HY | 10,500 | WAT | 1954 | | | | |
| M | AEP CPL | Laredo | Webb | 1 | ST | 30,000 | NG | 1951 | 1,474,220 | Cooling Tower | Surface | 0.75 |
| M | | Laredo. | Webb | 2 | ST | 33,000 | NG | 1955 | | Cooling Tower | Surface | |
| M | | Laredo | Webb | 3 | ST | 105,290 | NG | 1975 | | Cooling Tower | Surface | |
| | | | | | | | | | | | | |
| N | Crosstex | Duval | Duval | | OT | 310,000 | OTH | 2005 | 2,715,600 | | | 0 |
| N | AEP CPL | Barney M Davis | Nueces | 1 | ST | 323,449 | NG | 1974 | 5,668,973 | Once Through | Salt | 0.27 |
| N | | Barney M Davis | Nueces | 2 | ST | 323,694 | NG | 1976 | | Once Through | Salt | |
| N | AEP CPL | Lon C Hill | Nueces | 1 | ST | 60,000 | NG | 1954 | 4,475,256 | Cooling Tower | Surface | 0.75 |
| N | | Lon C Hill | Nueces | 2 | ST | 66,000 | NG | 1956 | | Cooling Tower | Surface | |
| N | | Lon C Hill | Nueces | 3 | ST | 150,000 | NG | 1959 | | Cooling Tower | Surface | |
| N | | Lon C Hill | Nueces | 4 | ST | 234,874 | NG | 1969 | | Cooling Tower | Surface | |
| N | AEP CPL | Nueces Bay | Nueces | 5 | ST | 30,000 | NG | 1949 | 4,499,959 | Once Through | Salt | 0.27 |
| N | | Nueces Bay | Nueces | 6 | ST | 160,000 | NG | 1965 | | Once Through | Salt | |
| N | | Nueces Bay | Nueces | 7 | ST | 323,694 | NG | 1972 | | Once Through | Salt | |
| N | Avista | Nueces Energy Project | Nueces | | CC | 1,200,000 | NG | unknown | 10,512,000 | | | 0.23 |
| N | Robstown | Robstown | Nueces | 10 | IC | 4,150 | NG | 1967 | 184,582 | | | 0 |
| N | | Robstown | Nueces | 11 | IC | 5,000 | NG | 1972 | | | | |
| N | | Robstown | Nueces | 3 | IC | 2,450 | NG | 1958 | | | | |
| N | | Robstown | Nueces | 4 | IC | 2,428 | NG | 1979 | | | | |
| N | | Robstown | Nueces | 5 | IC | 2,428 | NG | 1979 | | | | |
| N | | Robstown | Nueces | 7 | IC | 1,000 | NG | 1955 | | | | |
| N | | Robstown | Nueces | 8 | IC | 1,000 | NG | 1956 | | | | |
| N | | Robstown | Nueces | 9 | IC | 2,615 | NG | 1962 | | | | |
| | | | | | | | | | | | | |
| O | Floydada | Floydada | Floyd | 2 | IC | 1,250 | NG | 1952 | 61,320 | | | 0 |
| O | | Floydada | Floyd | 3 | IC | 1,250 | NG | 1958 | | | | |
| O | | Floydada | Floyd | 4 | IC | 1,250 | NG | 1974 | | | | |
| O | | Floydada | Floyd | 5 | IC | 1,250 | NG | 1974 | | | | |
| O | | Floydada | Floyd | 6 | IC | 2,000 | NG | 1976 | | | | |
| O | Xcel SPS | Plant X | Lamb | 1 | ST | 48,000 | NG | 1952 | 3,805,344 | Cooling Tower | Groundwater | 0.75 |

Data from US DOE Energy Information Administration's Forms EIA-806A, EIA-806B, EIA-906, and PUCT Report on New Electric Generating Plants in Texas

# Electric Utility and Independent Power Producer Generating Units in Texas

| Region | Company | Plant | County | Unit | Prime Mover | Nameplate (kW) | Fuel Source | Year in Service | Annual Capability at 100% Load Factor (MWhrs) | Cooling Type | Water Source | Water Use Factor (gal/kWhr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| O | | Plant X | Lamb | 2 | ST | 98,000 | NG | 1953 | | Cooling Tower | Groundwater | |
| O | | Plant X | Lamb | 3 | ST | 98,000 | NG | 1955 | | Cooling Tower | Groundwater | |
| O | | Plant X | Lamb | 4 | ST | 190,400 | NG | 1964 | | Cooling Tower | Groundwater | |
| O | Xcel SPS | Tolk | Lamb | 1 | ST | 568,000 | SUB | 1982 | 9,951,360 | Cooling Tower | Groundwater | 0.6 |
| O | | Tolk | Lamb | 2 | ST | 568,000 | SUB | 1985 | | Cooling Tower | Groundwater | |
| O | Cielo / Lubbock P&L | Llano Estacado Wind Ranch | Lubbock | | WT | 2,640 | WIND | 2002 | 23,126 | | | 0 |
| O | Lubbock | Brandon | Lubbock | 1 | GT | 21,000 | NG | 1990 | 183,960 | | | 0.05 |
| O | Lubbock | J Robert Massengale | Lubbock | 4 | ST | 11,500 | NG | 1952 | 201,480 | Cooling Tower | Reuse | 0.75 |
| O | | J Robert Massengale | Lubbock | 5 | ST | 11,500 | NG | 1953 | | Cooling Tower | Reuse | |
| O | | J Robert Massengale | Lubbock | 6A | CA | 22,000 | NG | 1997 | 735,840 | Cooling Tower | Reuse | 0.23 |
| O | | J Robert Massengale | Lubbock | 7 | CA | 22,000 | NG | 1959 | | Cooling Tower | Reuse | 0.23 |
| O | | J Robert Massengale | Lubbock | 8 | CT | 40,000 | NG | 2000 | | | | |
| O | Xcel SPS | Jones | Lubbock | 1 | ST | 248,000 | NG | 1971 | 4,344,960 | Cooling Tower | Reuse | 0.6 |
| O | | Jones | Lubbock | 2 | ST | 248,000 | NG | 1974 | | Cooling Tower | Reuse | |
| O | Lubbock | Ty Cooke (Holly Ave.) | Lubbock | GT1 | GT | 12,500 | NG | 1964 | 464,280 | | | 0 |
| O | | Ty Cooke (Holly Ave.) | Lubbock | GT2 | GT | 18,500 | NG | 1971 | | | | |
| O | | Ty Cooke (Holly Ave.) | Lubbock | GT3 | GT | 22,000 | NG | 1974 | | | | |
| O | | Ty Cooke (Holly Ave.) | Lubbock | 1 | ST | 44,000 | NG | 1965 | 855,414 | Cooling Tower | Reuse | 0.75 |
| O | | Ty Cooke (Holly Ave.) | Lubbock | 2 | ST | 53,650 | NG | 1978 | | Cooling Tower | Reuse | |
| O | Tulia | Tulia | Swisher | 10 | IC | 1,700 | NG | 1971 | 146,292 | | | 0 |
| O | | Tulia | Swisher | 11 | IC | 4,800 | NG | 1974 | | | | |
| O | | Tulia | Swisher | 12 | IC | 3,000 | NG | 1979 | | | | |
| O | | Tulia | Swisher | 2 | IC | 400 | NG | 1949 | | | | |
| O | | Tulia | Swisher | 5 | IC | 1,000 | NG | 1953 | | | | |
| O | | Tulia | Swisher | 6 | IC | 1,100 | NG | 1957 | | | | |
| O | | Tulia | Swisher | 7 | IC | 1,100 | NG | 1957 | | | | |
| O | | Tulia | Swisher | 8 | IC | 1,800 | NG | 1963 | | | | |
| O | | Tulia | Swisher | 9 | IC | 1,800 | NG | 1963 | | | | |
| O | Brownfield | Brownfield | Terry | GT1 | GT | 6,500 | NG | 1973 | 56,940 | | | 0 |
| O | | Brownfield | Terry | 1 | IC | 2,000 | NG | 1951 | 117,559 | | | 0 |
| O | | Brownfield | Terry | 3 | IC | 3,100 | NG | 1964 | | | | |
| O | | Brownfield | Terry | 4 | IC | 2,700 | NG | 1954 | | | | |
| O | | Brownfield | Terry | 5 | IC | 3,620 | NG | 1957 | | | | |
| O | | Brownfield | Terry | 6 | IC | 4,000 | NG | 1961 | | | | |
| O | Golden Spread Coop | Mustang Station | Yoakum | GEN1 | CT | 174,204 | NG | 1999 | 1,526,027 | | | 0.05 |
| O | | Mustang Station | Yoakum | GEN2 | CT | 174,204 | NG | 1999 | 1,526,027 | | | 0.05 |
| O | | Mustang Station | Yoakum | GEN3 | CA | 172,647 | NG | 1999 | 1,512,388 | | | 0.6 |
| | **Cancelled Projects per PUCT** | | | | | | | | | | | |
| C | Steag | Watermill Electric Generating Facility - Avista | Ellis | | CC | 1,200,000 | | | | | | |
| C | KM Power | KM Power | Wise | | CC | 510,000 | | | | | | |
| D | Constellation | Gateway Power Project | Upshur | | CC | 825,000 | | | | | | |
| H | BP | Cinergy / BP - Texas City | Galveston | | CT | 70,000 | | | | | | |
| H | KM Power | KM Power | Harris | | CC | 1,070,000 | | | | | | |
| H | Celanese | Pasedena | Harris | | CC | 284,000 | | | | | | |
| M | ANP | Edinburg | Hidalgo | | CC | 550,000 | | | | | | |

Data from US DOE Energy Information Administration's Forms EIA-806A, EIA-806B, EIA-906, and PUCT Report on New Electric Generating Plants in Texas

# 2000 Electric Generation from Electric Utility and Independent Power Producer Plants in Texas

| Region | Company | Plant | County | Unit | 2000 Net Generation (MWh) Coal | Lignite | Natural Gas | Nuclear | Fuel Oil | Combined Cycle | Hydro and Renewable | 2000 Total Generation for Plant / Region (MWh) | Percent of State Total Generation for 2000 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Cielo / LPL | Llano Estacado Wind Ranch - White Deer | Carson | | | | | | | | 0 | 0 | 0 |
| A | Xcel SPS | Celanese | Gray | 1 | | | | | | | | 0 | 0.00% |
| A | | Celanese | Gray | 2 | | | | | | | | 0 | |
| A | Xcel SPS | Riverview | Hutchinson | 6 | | | 6,176 | | | | | 6,176 | 0.00% |
| A | Xcel SPS | Moore County | Moore | 3 | | | 52,260 | | | | | 52,260 | 0.02% |
| A | Xcel SPS | Harrington | Potter | 1 | 8,019,390 | | 9,556 | | | | | 8,028,946 | 2.59% |
| A | | Harrington | Potter | 2 | | | | | | | | 0 | |
| A | | Harrington | Potter | 3 | | | | | | | | 0 | |
| A | Xcel SPS | Nichols | Potter | 1 | | | 993,701 | | | | | 993,701 | 0.32% |
| A | | Nichols | Potter | 2 | | | | | | | | 0 | |
| A | | Nichols | Potter | 3 | | | | | | | | 0 | |
| **A** | **Total** | | | | | | | | | | | **9,081,083** | 2.93% |
| B | Panda | Archer Power Partners | Archer | | | | | | | 0 | | 0 | |
| B | AEP WTU | Lake Pauline | Hardeman | 1 | | | 23,719 | | | | | 23,719 | 0.01% |
| B | | Lake Pauline | Hardeman | 2 | | | | | | | | 0 | |
| B | Electra | Electra | Wichita | 3 | | | | | | | | 0 | |
| B | | Electra | Wichita | 4 | | | | | | | | 0 | |
| B | | Electra | Wichita | 5 | | | | | | | | 0 | |
| B | | Electra | Wichita | 6 | | | | | | | | 0 | |
| B | | Electra | Wichita | 7 | | | | | | | | 0 | |
| B | | Electra | Wichita | 8 | | | | | | | | 0 | |
| B | Mirant | Southern Energy Wichita Falls LP | Wichita | GTA | | | | | | 137,834 | | 137,834 | 0.04% |
| B | | Southern Energy Wichita Falls LP | Wichita | GTB | | | | | | 125,681 | | 125,681 | 0.04% |
| B | | Southern Energy Wichita Falls LP | Wichita | GTC | | | | | | 131,478 | | 131,478 | 0.04% |
| B | | Southern Energy Wichita Falls LP | Wichita | STD | | | | | | 101,276 | | 101,276 | 0.03% |
| B | AEP WTU | Oklaunion | Wilbarger | 1 | 4,449,860 | | | | 9,183 | | | 4,459,043 | 1.44% |
| B | AEP WTU | Vernon | Wilbarger | 1 | | | | | 3 | | | 3 | 0.00% |
| B | | Vernon | Wilbarger | 2 | | | | | | | | 0 | |
| B | | Vernon | Wilbarger | 3 | | | | | | | | 0 | |
| B | | Vernon | Wilbarger | 4 | | | | | | | | 0 | |
| B | | Vernon | Wilbarger | 7 | | | | | | | | 0 | |
| **B** | **Total** | | | | | | | | | | | **4,979,034** | 1.60% |
| C | TXU | Collin | Collin | 1 | | | 296,614 | | 650 | | | 297,264 | 0.10% |
| C | Garland | Ray Olinger | Collin | 1 | | | 1,078,894 | | 7,306 | | | 1,086,200 | 0.35% |
| C | | Ray Olinger | Collin | 2 | | | | | | | | 0 | |
| C | | Ray Olinger | Collin | 3 | | | | | | | | 0 | |
| C | | Ray Olinger | Collin | 4 | | | | | | | | 0 | |
| C | Garland | CE Newman | Dallas | 1 | | | 51,717 | | 380 | | | 52,097 | 0.02% |
| C | | CE Newman | Dallas | 2 | | | | | | | | 0 | |
| C | | CE Newman | Dallas | 3 | | | | | | | | 0 | |
| C | | CE Newman | Dallas | 4 | | | | | | | | 0 | |
| C | | CE Newman | Dallas | 5 | | | | | | | | 0 | |
| C | TXU | Lake Hubbard | Dallas | 1 | | | 2,605,752 | | 60,030 | | | 2,665,782 | 0.86% |
| C | | Lake Hubbard | Dallas | 2 | | | | | | | | 0 | |
| C | Exelon | Mountain Creek | Dallas | 2 | | | 2,271,587 | | 11,600 | | | 2,283,187 | 0.74% |
| C | | Mountain Creek | Dallas | 3 | | | | | | | | 0 | |
| C | | Mountain Creek | Dallas | 6 | | | | | | | | 0 | |
| C | | Mountain Creek | Dallas | 7 | | | | | | | | 0 | |
| C | | Mountain Creek | Dallas | 8 | | | | | | | | 0 | |
| C | TXU | North Lake | Dallas | 1 | | | 1,878,535 | | 41,380 | | | 1,919,915 | 0.62% |
| C | | North Lake | Dallas | 2 | | | | | | | | 0 | |
| C | | North Lake | Dallas | 3 | | | | | | | | 0 | |
| C | TXU | Parkdale | Dallas | 1 | | | 613,856 | | | | | 613,856 | 0.20% |
| C | | Parkdale | Dallas | 2 | | | | | | | | 0 | |
| C | | Parkdale | Dallas | 3 | | | | | | | | 0 | |
| C | Bio-Energy Partners | DFW Gas Recovery | Denton | GEN1 | | | | | | | 21,212 | 21,212 | 0.01% |
| C | | DFW Gas Recovery | Denton | GEN2 | | | | | | | 22,379 | 22,379 | 0.01% |
| C | Lewisville | Lewisville | Denton | 1 | | | | | | | 2,389 | 2,389 | 0.00% |
| C | Lewisville | Ray Roberts | Denton | 1 | | | | | | | 2,236 | 2,236 | 0.00% |

Data from US DOE Energy Information Administration's Forms EIA-860A, EIA-860B, and EIA-906

# 2000 Electric Generation from Electric Utility and Independent Power Producer Plants in Texas

| Region | Company | Plant | County | Unit | Coal (2000 Net Generation (MWh)) | Lignite | Natural Gas | Nuclear | Fuel Oil | Combined Cycle | Hydro and Renewable | 2000 Total Generation for Plant / Region (MWh) | Percent of State Total Generation for 2000 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C | Lewisville | Spencer | Denton | 1 | | | 258,291 | | 247 | | | 258,538 | 0.08% |
| C | | Spencer | Denton | 2 | | | | | | | | 0 | |
| C | | Spencer | Denton | 3 | | | | | | | | 0 | |
| C | | Spencer | Denton | 4 | | | | | | | | 0 | |
| C | | Spencer | Denton | 5 | | | | | | | | 0 | |
| C | ANP | Midlothian Energy Facility | Ellis | STK1 | | | | | | 387,003 | | 387,003 | 0.12% |
| C | | Midlothian Energy Facility | Ellis | STK2 | | | | | | 387,570 | | 387,570 | 0.12% |
| C | | Midlothian Energy Facility | Ellis | STK3 | | | | | | 132,599 | | 132,599 | 0.04% |
| C | | Midlothian Energy Facility | Ellis | STK4 | | | | | | 87,819 | | 87,819 | 0.03% |
| C | | Midlothian Energy Facility | Ellis | STK5 | | | | | | 0 | | 0 | |
| C | | Midlothian Energy Facility | Ellis | STK6 | | | | | | 0 | | 0 | |
| C | Tractebel | Ennis Tractebel Power Co LP | Ellis | | | | | | | 0 | | 0 | |
| C | Tractebel | Ennis Tractebel Power Co LP | Ellis | | | | | | | 0 | | 0 | |
| C | TXU | Valley | Fannin | 1 | | | 3,153,961 | | 39,750 | | | 3,193,711 | 1.03% |
| C | | Valley | Fannin | 2 | | | | | | | | 0 | |
| C | | Valley | Fannin | 3 | | | | | | | | 0 | |
| C | Calpine | Freestone Power Generation LP | Freestone | | | | | | | 0 | | 0 | |
| C | TXU | Big Brown | Freestone | 1 | 3,554,856 | 4,953,295 | 36,832 | | | | | 8,544,983 | 2.75% |
| C | | Big Brown | Freestone | 2 | | | | | | | | 0 | |
| C | USCE | Denison | Grayson | 1 | | | | | | | 194,075 | 194,075 | 0.06% |
| C | | Denison | Grayson | 2 | | | | | | | | 0 | |
| C | Whitesboro | Whitesboro | Grayson | 1 | | | | | | | | 0 | |
| C | | Whitesboro | Grayson | 2 | | | | | | | | 0 | |
| C | | Whitesboro | Grayson | 3 | | | | | | | | 0 | |
| C | | Whitesboro | Grayson | 4 | | | | | | | | 0 | |
| C | TXU | Trinidad | Henderson | D1 | | | | | 445 | | | 445 | 0.00% |
| C | | Trinidad | Henderson | D2 | | | | | | | | 0 | |
| C | | Trinidad | Henderson | 6 | | | 395,911 | | 1,570 | | | 397,481 | 0.13% |
| C | Duke Energy | Jack Energy Facility | Jack | | | | | | | 0 | | 0 | |
| C | Cobisa / FP&L | Forney Power Plant | Kaufman | | | | | | | 0 | | 0 | |
| C | Duke Energy | Kaufman LP Facility | Kaufman | | | | | | | 0 | | 0 | |
| C | Brazos Electric | North Texas | Parker | 1 | | | 30,740 | | 484 | | | 31,224 | 0.01% |
| C | | North Texas | Parker | 2 | | | | | | | | 0 | |
| C | | North Texas | Parker | 3 | | | | | | | | 0 | |
| C | Mirant | Mirant | Parker | | | | | | | 0 | | 0 | |
| C | Weatherford | Weatherford | Parker | 1 | | | | | | | | 0 | |
| C | | Weatherford | Parker | 2 | | | | | | | | 0 | |
| C | | Weatherford | Parker | 3 | | | | | | | | 0 | |
| C | | Weatherford | Parker | 4 | | | | | | | | 0 | |
| C | | Weatherford | Parker | 6 | | | | | | | | 0 | |
| C | | Weatherford | Parker | 7 | | | | | | | | 0 | |
| C | | Weatherford | Parker | 8 | | | | | | | | 0 | |
| C | TXU | Eagle Mountain | Tarrant | 1 | | | 930,045 | | 5,642 | | | 935,687 | 0.30% |
| C | | Eagle Mountain | Tarrant | 2 | | | | | | | | 0 | |
| C | | Eagle Mountain | Tarrant | 3 | | | | | | | | 0 | |
| C | Exelon | Handley | Tarrant | 1 | | | 2,923,870 | | 84,520 | | | 3,008,390 | 0.97% |
| C | | Handley | Tarrant | 2 | | | | | | | | 0 | |
| C | | Handley | Tarrant | 3 | | | | | | | | 0 | |
| C | | Handley | Tarrant | 4 | | | | | | | | 0 | |
| C | | Handley | Tarrant | 5 | | | | | | | | 0 | |
| C | TXU | North Main | Tarrant | 4 | | | 145,506 | | | | | 145,506 | 0.05% |
| C | Tractebel | Wise County Power Co LP | Wise | | | | | | | 0 | | 0 | |
| **C** | **Total** | | | | | | | | | | | **26,671,548** | 8.59% |
| D | AEP SWEPCO | Knox Lee | Gregg | 2 | | | 1,265,314 | | 30,880 | | | 1,296,194 | 0.42% |
| D | | Knox Lee | Gregg | 3 | | | | | | | | 0 | |
| D | | Knox Lee | Gregg | 4 | | | | | | | | 0 | |
| D | | Knox Lee | Gregg | 5 | | | | | | | | 0 | |
| D | AEP SWEPCO | Pirkey | Harrison | 1 | | 4,330,807 | 24,191 | | | | | 4,354,998 | 1.40% |
| D | Entergy / NE TX Coop | Harrison County Power Project | Harrison | | | | | | | 0 | | 0 | |
| D | Cobisa | Greenville | Hunt | | | | | | | 0 | | 0 | |

Data from US DOE Energy Information Administration's Forms EIA-860A, EIA-860B, and EIA-906

# 2000 Electric Generation from Electric Utility and Independent Power Producer Plants in Texas

| | | | | | 2000 Net Generation (MWh) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Region | Company | Plant | County | Unit | Coal | Lignite | Natural Gas | Nuclear | Fuel Oil | Combined Cycle | Hydro and Renewable | 2000 Total Generation for Plant / Region (MWh) | Percent of State Total Generation for 2000 |
| D | Greenville | Powerlane | Hunt | ST1 | | | | | | | | 0 | |
| D | | Powerlane | Hunt | ST2 | | | | | | | | 0 | |
| D | | Powerlane | Hunt | ST3 | | | | | | | | 0 | |
| D | Panda | Lamar Power Project | Lamar | CTG2 | | | | | | 631,048 | | 631,048 | 0.20% |
| D | | Lamar Power Project | Lamar | CTG1 | | | | | | 660,299 | | 660,299 | 0.21% |
| D | | Lamar Power Project | Lamar | STG1 | | | | | | 736,257 | | 736,257 | 0.24% |
| D | | Lamar Power Project | Lamar | STG2 | | | | | | 59,584 | | 59,584 | 0.02% |
| D | | Lamar Power Project | Lamar | CTG3 | | | | | | 65,391 | | 65,391 | 0.02% |
| D | | Lamar Power Project | Lamar | CTG4 | | | | | | 61,912 | | 61,912 | 0.02% |
| D | AEP SWEPCO | Wilkes | Marion | 1 | | | 2,378,797 | | 10,239 | | | 2,389,036 | 0.77% |
| D | | Wilkes | Marion | 2 | | | | | | | | 0 | |
| D | | Wilkes | Marion | 3 | | | | | | | | 0 | |
| D | AEP SWEPCO | Lone Star | Morris | 1 | | | 56,442 | | | | | 56,442 | 0.02% |
| D | TXU | River Crest | Red River | 1 | | | 183,042 | | | | | 183,042 | 0.06% |
| D | TXU | Monticello | Titus | 1 | 3,147,809 | 9,195,971 | | | 26,482 | | | 12,370,262 | 3.99% |
| D | | Monticello | Titus | 2 | | | | | | | | 0 | |
| D | | Monticello | Titus | 3 | | | | | | | | 0 | |
| D | AEP SWEPCO | Welsh | Titus | 1 | 10,808,875 | | | | 10,437 | | | 10,819,312 | 3.49% |
| D | | Welsh | Titus | 2 | | | | | | | | 0 | |
| D | | Welsh | Titus | 3 | | | | | | | | 0 | |
| **D** | **Total** | | | | | | | | | | | **33,683,778** | 10.85% |
| E | LCRA | West Texas Windplant | Culberson | WIND | | | | | | | 81,834 | 81,834 | 0.03% |
| E | National Wind Power | Delaware Mountain Windfarm | Culberson | WIND | | | | | | | 75,993 | 75,993 | 0.02% |
| E | Orion Energy | Orion | Culberson | | | | | | | | 0 | 0 | |
| E | ANP | West Texas Energy Facility | El Paso | | | | | | | 0 | | 0 | |
| E | Cielo / El Paso Electric | Hueco Moutain Wind Ranch | El Paso | | | | | | | | 0 | 0 | |
| E | El Paso | Copper | El Paso | 1 | | | 85,962 | | | | | 85,962 | 0.03% |
| E | El Paso | Newman | El Paso | CT1 | | | | | | | | 0 | |
| E | | Newman | El Paso | CT2 | | | | | | | | 0 | |
| E | | Newman | El Paso | 1 | | | 838,291 | | | | | 838,291 | 0.27% |
| E | | Newman | El Paso | 2 | | | | | | | | 0 | |
| E | | Newman | El Paso | 3 | | | | | | | | 0 | |
| E | | Newman | El Paso | 4 | | | | | 3,008 | 1,223,804 | | 1,226,812 | 0.40% |
| E | AEP WTU | Fort Davis | Jeff Davis | 1 | | | | | | | 0 | 0 | |
| E | AEP - WTU | Fort Davis | Jeff Davis | | | | | | | | 0 | 0 | |
| E | AEP WTU | Presidio | Presidio | 5 | | | | | 15 | | | 15 | 0.00% |
| E | | Presidio | Presidio | 6 | | | | | | | | 0 | |
| **E** | **Total** | | | | | | | | | | | **2,308,908** | 0.74% |
| F | AEP WTU | Oak Creek | Coke | 1 | | | 327,109 | | | | | 327,109 | 0.11% |
| F | Coleman | Coleman | Coleman | IC1 | | | 423 | | 150 | | | 573 | 0.00% |
| F | | Coleman | Coleman | IC2 | | | | | | | | 0 | |
| F | | Coleman | Coleman | IC3 | | | | | | | | 0 | |
| F | | Coleman | Coleman | IC4 | | | | | | | | 0 | |
| F | | Coleman | Coleman | IC5 | | | | | | | | 0 | |
| F | | Coleman | Coleman | IC6 | | | | | | | | 0 | |
| F | | Coleman | Coleman | IC7 | | | | | | | | 0 | |
| F | | Coleman | Coleman | IC8 | | | | | | | | 0 | |
| F | | Coleman | Coleman | IC9 | | | | | | | | 0 | |
| F | AEP WTU | Rio Pecos | Crockett | 4A | | | | | | | | 0 | 0.00% |
| F | | Rio Pecos | Crockett | 5 | | | | | | 0 | | 0 | |
| F | | Rio Pecos | Crockett | 6 | | | 479,695 | | 330 | | | 480,025 | 0.15% |
| F | Panda | Odessa-Ector Generating Station | Ector | | | | | | | 0 | | 0 | |
| F | | Odessa-Ector Generating Station | Ector | | | | | | | 0 | | 0 | |
| F | | Odessa-Ector Generating Station | Ector | | | | | | | 0 | | 0 | |
| F | | Odessa-Ector Generating Station | Ector | | | | | | | 0 | | 0 | |
| F | | Odessa-Ector Generating Station | Ector | | | | | | | 0 | | 0 | |
| F | | Odessa-Ector Generating Station | Ector | | | | | | | 0 | | 0 | |
| F | York Research | Big Spring Wind Power Facility | Howard | | | | | | | | 101,197 | 101,197 | 0.03% |
| F | TXU | Morgan Creek | Mitchell | CT1 | | | 137,274 | | 37,320 | | | 174,594 | 0.06% |

Data from US DOE Energy Information Administration's Forms EIA-860A, EIA-860B, and EIA-906

# 2000 Electric Generation from Electric Utility and Independent Power Producer Plants in Texas

| Region | Company | Plant | County | Unit | 2000 Net Generation (MWh) Coal | Lignite | Natural Gas | Nuclear | Fuel Oil | Combined Cycle | Hydro and Renewable | 2000 Total Generation for Plant / Region (MWh) | Percent of State Total Generation for 2000 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| F | | Morgan Creek | Mitchell | CT2 | | | | | | | | 0 | |
| F | | Morgan Creek | Mitchell | CT3 | | | | | | | | 0 | |
| F | | Morgan Creek | Mitchell | CT4 | | | | | | | | 0 | |
| F | | Morgan Creek | Mitchell | CT5 | | | | | | | | 0 | |
| F | | Morgan Creek | Mitchell | CT6 | | | | | | | | 0 | |
| F | | Morgan Creek | Mitchell | 2 | | | 3,422,062 | | | | | 3,422,062 | 1.10% |
| F | | Morgan Creek | Mitchell | 3 | | | | | | | | 0 | |
| F | | Morgan Creek | Mitchell | 4 | | | | | | | | 0 | |
| F | | Morgan Creek | Mitchell | 5 | | | | | | | | 0 | |
| F | | Morgan Creek | Mitchell | 6 | | | | | | | | 0 | |
| F | AEP | Desert Sky | Pecos | | | | | | | | 0 | 0 | |
| F | AEP WTU | Fort Stockton | Pecos | 2 | | | 18 | | | | | 18 | 0.00% |
| F | Cielo | Capital Hill | Pecos | | | | | | | | 0 | 0 | |
| F | FP&L | Woodward Mountain Wind Ranch | Pecos | | | | | | | | 0 | 0 | |
| F | Orion | Indian Mesa Wind Farm | Pecos | | | | | | | | 0 | 0 | |
| F | AEP WTU | San Angelo | Tom Green | 1 | | | | | | | | 0 | |
| F | | San Angelo | Tom Green | 2 | | | | | | 757,421 | | 757,421 | 0.24% |
| F | FP&L | King Mountain Wind Ranch | Upton | | | | | | | | 0 | 0 | |
| F | FP&L | King Mountain Wind Ranch 1 | Upton | | | | | | | | 0 | 0 | |
| F | FP&L | King Mountain Wind Ranch 2 | Upton | | | | | | | | 0 | 0 | |
| F | FP&L | West Texas Wind Energy LLC - SW Mesa | Upton | 01 | | | | | | | 238,092 | 238,092 | 0.08% |
| F | TXU Energy / Cielo Wind | Noelke Hill | Upton | | | | | | | | | | |
| F | TXU | Permian Basin | Ward | CT1 | | | 153,181 | | 12,375 | | | 165,556 | 0.05% |
| F | | Permian Basin | Ward | CT2 | | | | | | | | 0 | |
| F | | Permian Basin | Ward | CT3 | | | | | | | | 0 | |
| F | | Permian Basin | Ward | CT4 | | | | | | | | 0 | |
| F | | Permian Basin | Ward | CT5 | | | | | | | | 0 | |
| F | | Permian Basin | Ward | 5 | | | 2,919,605 | | 9,210 | | | 2,928,815 | 0.94% |
| F | | Permian Basin | Ward | 6 | | | | | | | | 0 | |
| F | York Research | Notrees | Winkler | | | | | | | | 0 | 0 | |
| **F** | **Total** | | | | | | | | | | | **8,595,462** | 2.77% |
| G | Duke | Bell Energy Facility | Bell | | | | | | | 0 | | 0 | |
| G | Mirant | Mirant Texas LP Bosque County Plant | Bosque | GT-1 | | | | | | 265,443 | | 265,443 | 0.09% |
| G | | Mirant Texas LP Bosque County Plant | Bosque | GT-2 | | | | | | 209,826 | | 209,826 | 0.07% |
| G | | Mirant Texas LP Bosque County Plant | Bosque | GT-3 | | | | | | 209,826 | | 209,826 | 0.07% |
| G | | Mirant Texas LP Bosque County Plant | Bosque | ST | | | | | | 209,826 | | 209,826 | 0.07% |
| G | | Mirant Texas LP Bosque County Plant | Bosque | | | | | | | 0 | | 0 | |
| G | USCE | Whitney | Bosque | 1 | | | | | | | 11,437 | 11,437 | 0.00% |
| G | | Whitney | Bosque | 2 | | | | | | | | 0 | |
| G | Bryan | Atkins | Brazos | 3 | | | 97,198 | | 1,845 | | | 99,043 | 0.03% |
| G | | Atkins | Brazos | 4 | | | | | | | | 0 | |
| G | | Atkins | Brazos | 5 | | | | | | | | 0 | |
| G | | Atkins | Brazos | 6 | | | | | | | | 0 | |
| G | | Atkins | Brazos | 7 | | | 3,301 | | | | | 3,301 | 0.00% |
| G | Bryan | Dansby | Brazos | 1 | | | 335,075 | | 10,447 | | | 345,522 | 0.11% |
| G | TMPA | Gibbons Creek | Grimes | 1 | 3,197,470 | | 4,768 | | | | | 3,202,238 | 1.03% |
| G | Tenaska | Frontier Generation Station | Grimes | STG1 | | | | | | 345,744 | | 345,744 | 0.11% |
| G | | Frontier Generation Station | Grimes | GTG3 | | | | | | 157,530 | | 157,530 | 0.05% |
| G | | Frontier Generation Station | Grimes | GTG1 | | | | | | 199,195 | | 199,195 | 0.06% |
| G | | Frontier Generation Station | Grimes | GTG2 | | | | | | 174,128 | | 174,128 | 0.06% |
| G | AEP WTU | Paint Creek | Haskell | 1 | | | 429,943 | | 15,763 | | | 445,706 | 0.14% |
| G | | Paint Creek | Haskell | 2 | | | | | | | | 0 | |
| G | | Paint Creek | Haskell | 3 | | | | | | | | 0 | |
| G | | Paint Creek | Haskell | 4 | | | | | | | | 0 | |
| G | AES | Wolf Hollow LP | Hood | | | | | | | 0 | | 0 | |
| G | TXU | DeCordova | Hood | CT1 | | | 178,255 | | 3,599 | | | 181,854 | 0.06% |
| G | | DeCordova | Hood | CT2 | | | | | | | | 0 | |
| G | | DeCordova | Hood | CT3 | | | | | | | | 0 | |
| G | | DeCordova | Hood | CT4 | | | | | | | | 0 | |
| G | | DeCordova | Hood | 1 | | | 3,865,808 | | 45,210 | | | 3,911,018 | 1.26% |

Data from US DOE Energy Information Administration's Forms EIA-860A, EIA-860B, and EIA-906

# 2000 Electric Generation from Electric Utility and Independent Power Producer Plants in Texas

| | | | | | | 2000 Net Generation (MWh) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Region** | **Company** | **Plant** | **County** | **Unit** | **Coal** | **Lignite** | **Natural Gas** | **Nuclear** | **Fuel Oil** | **Combined Cycle** | **Hydro and Renewable** | **2000 Total Generation for Plant / Region (MWh)** | **Percent of State Total Generation for 2000** |
| G | AEP WTU | Fort Phantom | Jones | 1 | | | 1,267,324 | | 59,275 | | | 1,326,599 | 0.43% |
| G | | Fort Phantom | Jones | 2 | | | | | | | | 0 | |
| G | Reliant | Limestone | Limestone | 1 | | 11,230,931 | 78,834 | | | | | 11,309,765 | 3.64% |
| G | | Limestone | Limestone | 2 | | | | | | | | 0 | |
| G | TXU | Lake Creek | McLennan | D1 | | | | | 740 | | | 740 | 0.00% |
| G | | Lake Creek | McLennan | D2 | | | | | | | | 0 | |
| G | | Lake Creek | McLennan | D3 | | | | | | | | 0 | |
| G | | Lake Creek | McLennan | ST1 | | | 894,222 | | 6,122 | | | 900,344 | 0.29% |
| G | | Lake Creek | McLennan | ST2 | | | | | | | | 0 | |
| G | TXU | Tradinghouse | McLennan | 1 | | | 5,331,118 | | 70,235 | | | 5,401,353 | 1.74% |
| G | | Tradinghouse | McLennan | 2 | | | | | | | | 0 | |
| G | TXU | Sandow | Milam | 4 | | 3,547,822 | | | 8,888 | | | 3,556,710 | 1.15% |
| G | AEP | Trent Mesa | Nolan | | | | | | | | 0 | 0 | |
| G | Enron | Enron Wind | Nolan | | | | | | | | 0 | 0 | |
| G | TXU | Encogen One | Nolan | GT01 | | | | | | 257,411 | | 257,411 | 0.08% |
| G | | Encogen One | Nolan | GT02 | | | | | | 551,532 | | 551,532 | 0.18% |
| G | | Encogen One | Nolan | GT03 | | | | | | 427,824 | | 427,824 | 0.14% |
| G | | Encogen One | Nolan | STG1 | | | | | | 456,911 | | 456,911 | 0.15% |
| G | BRA | Morris Sheppard | Palo Pinto | 1 | | | | | | | 3,520 | 3,520 | 0.00% |
| G | | Morris Sheppard | Palo Pinto | 2 | | | | | | | | 0 | |
| G | Brazos Electric | RW Miller | Palo Pinto | 1 | | | 1,520,085 | | 59 | | | 1,520,144 | 0.49% |
| G | | RW Miller | Palo Pinto | 2 | | | | | | | | 0 | |
| G | | RW Miller | Palo Pinto | 3 | | | | | | | | 0 | |
| G | | RW Miller | Palo Pinto | 4 | | | 256,166 | | 8,284 | | | 264,450 | 0.09% |
| G | | RW Miller | Palo Pinto | 5 | | | | | | | | 0 | |
| G | TNM | TNP One | Robertson | 1 | | 2,182,885 | 32,330 | | | | | 2,215,215 | 0.71% |
| G | | TNP One | Robertson | 2 | | | | | | | | 0 | |
| G | TXU | Comanche Peak | Somervell | 1 | | | | 9,599,797 | | | | 9,599,797 | 3.09% |
| G | | Comanche Peak | Somervell | 2 | | | | 8,857,071 | | | | 8,857,071 | 2.85% |
| G | AEP WTU | Abilene | Taylor | 4 | | | 9,573 | | | | | 9,573 | 0.00% |
| G | TXU | Graham | Young | 1 | | | 2,271,415 | | 21,909 | | | 2,293,324 | 0.74% |
| G | | Graham | Young | 2 | | | | | | | | 0 | |
| G | **Total** | | | | | | | | | | | **58,923,920** | 18.99% |
| H | Reliant Energy Renewables | Coastal Plains | Brazoria | | | | | | | | 0 | 0 | |
| H | Energy Developments, Inc | Alta Loma | Chambers | | | | | | | | 0 | 0 | |
| H | Reliant | Cedar Bayou | Chambers | 1 | | | 7,993,623 | | 207,696 | | | 8,201,319 | 2.64% |
| H | | Cedar Bayou | Chambers | 2 | | | | | | | | 0 | |
| H | | Cedar Bayou | Chambers | 3 | | | | | | | | 0 | |
| H | Avista / NRG Energy | Brazos Valley Generating Facility | Fort Bend | | | | | | | 0 | | 0 | |
| H | Reliant | WA Parish | Fort Bend | GT1 | | | 2,897 | | | | | 2,897 | 0.00% |
| H | | WA Parish | Fort Bend | 1 | | | 2,712,837 | | | | | 2,712,837 | 0.87% |
| H | | WA Parish | Fort Bend | 2 | | | | | | | | 0 | |
| H | | WA Parish | Fort Bend | 3 | | | | | | | | 0 | |
| H | | WA Parish | Fort Bend | 4 | | | | | | | | 0 | |
| H | | WA Parish | Fort Bend | 5 | 7,731,899 | | | | | | | 7,731,899 | 2.49% |
| H | | WA Parish | Fort Bend | 6 | | | | | | | | 0 | |
| H | | WA Parish | Fort Bend | 7 | 7,731,899 | | | | | | | 7,731,899 | 2.49% |
| H | | WA Parish | Fort Bend | 8 | | | | | | | | 0 | |
| H | Reliant | PH Robinson | Galveston | 1 | | | 9,308,940 | | | | | 9,308,940 | 3.00% |
| H | | PH Robinson | Galveston | 2 | | | | | | | | 0 | |
| H | | PH Robinson | Galveston | 3 | | | | | | | | 0 | |
| H | | PH Robinson | Galveston | 4 | | | | | | | | 0 | |
| H | ANP | Harris Energy Facility | Harris | | | | | | | 0 | | 0 | |
| H | Energy Developments, Inc | Whispering Pines | Harris | | | | | | | | 0 | 0 | |
| H | Exelon | LaPorte Generating Station | Harris | | | | 0 | | | | | 0 | |
| H | | LaPorte Generating Station | Harris | | | | | | | | | 0 | |
| H | | LaPorte Generating Station | Harris | | | | | | | | | 0 | |
| H | | LaPorte Generating Station | Harris | | | | | | | | | 0 | |
| H | Reliant | Deepwater | Harris | 7 | | | 191,096 | | | | | 191,096 | 0.06% |
| H | Reliant | Greens Bayou | Harris | 5 | | | 687,984 | | 14,349 | | | 702,333 | 0.23% |

Data from US DOE Energy Information Administration's Forms EIA-860A, EIA-860B, and EIA-906

# 2000 Electric Generation from Electric Utility and Independent Power Producer Plants in Texas

| | | | | | 2000 Net Generation (MWh) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Region | Company | Plant | County | Unit | Coal | Lignite | Natural Gas | Nuclear | Fuel Oil | Combined Cycle | Hydro and Renewable | 2000 Total Generation for Plant / Region (MWh) | Percent of State Total Generation for 2000 |
| H | | Greens Bayou | Harris | 73 | | | 179,031 | | 12,859 | | | 191,890 | 0.06% |
| H | | Greens Bayou | Harris | 74 | | | | | | | | 0 | |
| H | | Greens Bayou | Harris | 81 | | | | | | | | 0 | |
| H | | Greens Bayou | Harris | 82 | | | | | | | | 0 | |
| H | | Greens Bayou | Harris | 83 | | | | | | | | 0 | |
| H | | Greens Bayou | Harris | 84 | | | | | | | | 0 | |
| H | Reliant | Hiram Clark | Harris | GT1 | | | 19,810 | | | | | 19,810 | 0.01% |
| H | | Hiram Clark | Harris | GT2 | | | | | | | | 0 | |
| H | | Hiram Clark | Harris | GT3 | | | | | | | | 0 | |
| H | | Hiram Clark | Harris | GT4 | | | | | | | | 0 | |
| H | | Hiram Clark | Harris | 5 | | | | | | | | 0 | |
| H | | Hiram Clark | Harris | 6 | | | | | | | | 0 | |
| H | Reliant | Sam Bertron | Harris | GT1 | | | 5,115 | | | | | 5,115 | 0.00% |
| H | | Sam Bertron | Harris | GT2 | | | | | | | | 0 | |
| H | | Sam Bertron | Harris | ST1 | | | 1,863,287 | | | | | 1,863,287 | 0.60% |
| H | | Sam Bertron | Harris | ST2 | | | | | | | | 0 | |
| H | | Sam Bertron | Harris | 3 | | | | | | | | 0 | |
| H | | Sam Bertron | Harris | 4 | | | | | | | | 0 | |
| H | | Sam Bertron | Harris | G1 | | | | | | | | 0 | |
| H | Reliant | San Jacinto SES | Harris | SJS1 | | | 1,367,335 | | | | | 1,367,335 | 0.44% |
| H | | San Jacinto SES | Harris | SJS2 | | | | | | | | 0 | |
| H | Reliant | TH Wharton | Harris | 2 | | | 593,524 | | | | | 593,524 | 0.19% |
| H | | TH Wharton | Harris | 3 | | | | | | 3,165,392 | | 3,165,392 | 1.02% |
| H | | TH Wharton | Harris | 31 | | | | | | | | 0 | |
| H | | TH Wharton | Harris | 32 | | | | | | | | 0 | |
| H | | TH Wharton | Harris | 33 | | | | | | | | 0 | |
| H | | TH Wharton | Harris | 34 | | | | | | | | 0 | |
| H | | TH Wharton | Harris | 4 | | | | | | | | 0 | |
| H | | TH Wharton | Harris | 41 | | | | | | | | 0 | |
| H | | TH Wharton | Harris | 42 | | | | | | | | 0 | |
| H | | TH Wharton | Harris | 43 | | | | | | | | 0 | |
| H | | TH Wharton | Harris | 44 | | | | | | | | 0 | |
| H | | TH Wharton | Harris | 51 | | | 265,853 | | | | | 265,853 | 0.09% |
| H | | TH Wharton | Harris | 52 | | | | | | | | 0 | |
| H | | TH Wharton | Harris | 53 | | | | | | | | 0 | |
| H | | TH Wharton | Harris | 54 | | | | | | | | 0 | |
| H | | TH Wharton | Harris | 55 | | | | | | | | 0 | |
| H | | TH Wharton | Harris | 56 | | | | | | | | 0 | |
| H | | TH Wharton | Harris | GT1 | | | | | | | | 0 | |
| H | Reliant | Webster | Harris | GT1 | | | 2,231 | | | | | 2,231 | 0.00% |
| H | | Webster | Harris | 3 | | | 497,488 | | | | | 497,488 | 0.16% |
| H | Reliant Energy Renewables | Atascosita LP | Harris | | | | | | | | 0 | 0 | |
| H | Reliant Energy Renewables | Baytown | Harris | | | | | | | | 0 | 0 | |
| H | Reliant Energy Renewables | Blue Bonnet | Harris | | | | | | | | 0 | 0 | |
| H | HNG | Dayton Storage Co | Liberty | | | | | | | | 0 | 0 | |
| H | Reliant Energy Renewables | Security | Liberty | | | | | | | | 0 | 0 | |
| H | Sempra | Cedar Bluff Power Project | Liberty | | | | | | | 0 | | 0 | |
| H | Entergy Gulf States | Lewis Creek | Montgomery | 1 | | | 2,855,245 | | | | | 2,855,245 | 0.92% |
| H | | Lewis Creek | Montgomery | 2 | | | | | | | | 0 | |
| H | Reliant Energy Renewables | Conroe | Mongomery | | | | | | | | 0 | 0 | |
| H | Sempra | Montgomery County Energy Project | Montgomery | | | | | | | 0 | | 0 | |
| H | Warren | Warren Peaking Power Facility | Mongomery | | | | | | | 0 | | 0 | |
| **H** | **Total** | | | | | | | | | | | **47,410,390** | 15.28% |
| I | Newport | Palestine Power Project | Anderson | | | | | | | 0 | | 0 | |
| I | TXU | Stryker Creek | Cherokee | D1 | | | | | 1,280 | | | 1,280 | 0.00% |
| I | | Stryker Creek | Cherokee | D2 | | | | | | | | 0 | |
| I | | Stryker Creek | Cherokee | D3 | | | | | | | | 0 | |
| I | | Stryker Creek | Cherokee | D4 | | | | | | | | 0 | |
| I | | Stryker Creek | Cherokee | D5 | | | | | | | | 0 | |
| I | | Stryker Creek | Cherokee | ST1 | | | 2,364,301 | | 8,540 | | | 2,372,841 | 0.76% |

Data from US DOE Energy Information Administration's Forms EIA-860A, EIA-860B, and EIA-906

# 2000 Electric Generation from Electric Utility and Independent Power Producer Plants in Texas

| Region | Company | Plant | County | Unit | 2000 Net Generation (MWh) Coal | Lignite | Natural Gas | Nuclear | Fuel Oil | Combined Cycle | Hydro and Renewable | 2000 Total Generation for Plant / Region (MWh) | Percent of State Total Generation for 2000 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| I | | Stryker Creek | Cherokee | ST2 | | | | | | | | 0 | |
| I | USCE | Robert D Willis | Jasper | 1 | | | | | | | 31,270 | 31,270 | 0.01% |
| I | | Robert D Willis | Jasper | 2 | | | | | | | | 0 | |
| I | USCE | Sam Rayburn | Jasper | 1 | | | | | | | 37,035 | 37,035 | 0.01% |
| I | | Sam Rayburn | Jasper | 2 | | | | | | | | 0 | |
| I | Calpine | Amelia Energy Center | Jefferson | | | | | | | 0 | | 0 | |
| I | Port of Port Arthur | Sabine Power | Jefferson | | | | | | | 0 | | 0 | |
| I | Steag Power | Sterne Electric Generating Facility | Nacogdoches | | | | | | | 0 | | 0 | |
| I | Entergy Gulf States | Toledo Bend | Newton | 1 | | | | | | | 102,942 | 102,942 | 0.03% |
| I | | Toledo Bend | Newton | 2 | | | | | | | | 0 | |
| I | Hartburg | Hartburg Power LP | Newton | | | | | | | 0 | | 0 | |
| I | Intergen | Cottonwood Energy Project | Newton | | | | | | | 0 | | 0 | |
| I | Entergy Gulf States | Sabine | Orange | 1 | | | 8,531,873 | | 75 | | | 8,531,948 | 2.75% |
| I | | Sabine | Orange | 2 | | | | | | | | 0 | |
| I | | Sabine | Orange | 3 | | | | | | | | 0 | |
| I | | Sabine | Orange | 4 | | | | | | | | 0 | |
| I | | Sabine | Orange | 5 | | | | | | | | 0 | |
| I | TXU | Martin Lake | Rusk | 1 | 863,636 | 15,632,555 | | | 27,698 | | | 16,523,889 | 5.32% |
| I | | Martin Lake | Rusk | 2 | | | | | | | | 0 | |
| I | | Martin Lake | Rusk | 3 | | | | | | | | 0 | |
| I | Tenaska | Gateway Generating Station | Rusk | | | | | | | 0 | | 0 | |
| I | | Gateway Generating Station | Rusk | | | | | | | 0 | | 0 | |
| I | | Gateway Generating Station | Rusk | | | | | | | 0 | | 0 | |
| I | | Gateway Generating Station | Rusk | | | | | | | 0 | | 0 | |
| **I** | **Total** | | | | | | | | | | | **27,601,205** | 8.89% |
| J | IBWC | Amistad | Val Verde | 1 | | | | | | | 86,024 | 86,024 | 0.03% |
| J | | Amistad | Val Verde | 2 | | | | | | | | 0 | |
| **J** | **Total** | | | | | | | | | | | **86,024** | 0.03% |
| K | FP&L | Bastrop Energy Center | Bastrop | | | | | | | 0 | | 0 | |
| K | Gentex / Calpine | Lost Pines I Power Project | Bastrop | | | | | | | 0 | | 0 | |
| K | | Lost Pines I Power Project | Bastrop | | | | | | | 0 | | 0 | |
| K | | Lost Pines I Power Project | Bastrop | | | | | | | 0 | | 0 | |
| K | LCRA | Sim Gideon | Bastrop | 1 | | | 2,214,828 | | | | | 2,214,828 | 0.71% |
| K | | Sim Gideon | Bastrop | 2 | | | | | | | | 0 | |
| K | | Sim Gideon | Bastrop | 3 | | | | | | | | 0 | |
| K | LCRA | Buchanan | Burnet | 1 | | | | | | | 26,710 | 26,710 | 0.01% |
| K | | Buchanan | Burnet | 2 | | | | | | | | 0 | |
| K | | Buchanan | Burnet | 3 | | | | | | | | 0 | |
| K | LCRA | Granite Shoals | Burnet | 1 | | | | | | | 40,644 | 40,644 | 0.01% |
| K | | Granite Shoals | Burnet | 2 | | | | | | | | 0 | |
| K | LCRA | Inks | Burnet | 1 | | | | | | | 13,625 | 13,625 | 0.00% |
| K | LCRA | Marble Falls | Burnet | 1 | | | | | | | 25,386 | 25,386 | 0.01% |
| K | | Marble Falls | Burnet | 2 | | | | | | | | 0 | |
| K | LCRA | Fayette | Fayette | 1 | 11,860,743 | | | | 11,245 | | | 11,871,988 | 3.83% |
| K | | Fayette | Fayette | 2 | | | | | | | | 0 | |
| K | | Fayette | Fayette | 3 | | | | | | | | 0 | |
| K | LCRA | Thomas C Ferguson | Llano | 1 | | | 1,448,162 | | | | | 1,448,162 | 0.47% |
| K | Ridge Energy Storage | Markham Energy Storage Center | Matagorda | | | | | | | | 0 | 0 | |
| K | Reliant | STP | Matagorda | 1 | | | | 8,556,165 | | | | 8,556,165 | 2.76% |
| K | | STP | Matagorda | 2 | | | | 10,542,774 | | | | 10,542,774 | 3.40% |
| K | LCRA | Austin | Travis | 1 | | | | | | | 27,773 | 27,773 | 0.01% |
| K | | Austin | Travis | 2 | | | | | | | | 0 | |
| K | Austin | Decker | Travis | GT1 | | | 64,102 | | 70 | | | 64,172 | 0.02% |
| K | | Decker | Travis | GT2 | | | | | | | | 0 | |
| K | | Decker | Travis | GT3 | | | | | | | | 0 | |
| K | | Decker | Travis | GT4 | | | | | | | | 0 | |
| K | | Decker | Travis | PV3 | | | | | | | 41 | 41 | 0.00% |
| K | | Decker | Travis | 1 | | | 2,160,089 | | 2,488 | | | 2,162,577 | 0.70% |
| K | | Decker | Travis | 2 | | | | | | | | 0 | |

Data from US DOE Energy Information Administration's Forms EIA-860A, EIA-860B, and EIA-906

# 2000 Electric Generation from Electric Utility and Independent Power Producer Plants in Texas

| Region | Company | Plant | County | Unit | Coal | Lignite | Natural Gas | Nuclear | Fuel Oil | Combined Cycle | Hydro and Renewable | 2000 Total Generation for Plant / Region (MWh) | Percent of State Total Generation for 2000 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 2000 Net Generation (MWh) | | | | | | | | |
| K | Austin | Holly | Travis | 1 | | | 1,244,904 | | | | | 1,244,904 | 0.40% |
| K | | Holly | Travis | 2 | | | | | | | | 0 | |
| K | | Holly | Travis | 3 | | | | | | | | 0 | |
| K | | Holly | Travis | 4 | | | | | | | | 0 | |
| K | Austin | Sand Hill | Travis | 1 | | | 0 | | | | | 0 | |
| K | | Sand Hill | Travis | 2 | | | | | | | | 0 | |
| K | | Sand Hill | Travis | 3 | | | | | | | | 0 | |
| K | | Sand Hill | Travis | 4 | | | | | | | | 0 | |
| K | Austin Energy | Sand Hill | Travis | | | | | | | 0 | | 0 | |
| K | | Sand Hill | Travis | | | | | | | 0 | | 0 | |
| K | Ecogas | Ecogas | Travis | | | | | | | | 0 | 0 | |
| K | LCRA | Marshall Ford | Travis | 1 | | | | | | | 83,074 | 83,074 | 0.03% |
| K | | Marshall Ford | Travis | 2 | | | | | | | | 0 | |
| K | | Marshall Ford | Travis | 3 | | | | | | | | 0 | |
| K | AEP | Newgulf | Wharton | GEN1 | | | | | | 26,921 | | 26,921 | 0.01% |
| K | | Newgulf | Wharton | GEN2 | | | | | | 2,992 | | 2,992 | 0.00% |
| **K** | **Total** | | | | | | | | | | | **38,352,736** | 12.36% |
| L | San Miguel | San Miguel | Atascosa | 1 | | 2,976,019 | | | 4,022 | | | 2,980,041 | 0.96% |
| L | CPS San Antonio | A Von Rosenberg | Bexar | 1 | | | | | | | | 0 | |
| L | | A Von Rosenberg | Bexar | 2 | | | | | | | | 0 | |
| L | | A Von Rosenberg | Bexar | 3 | | | | | | 2,176,014 | | 2,176,014 | 0.70% |
| L | CPS San Antonio | JK Spruce | Bexar | 1 | 3,975,221 | | | | 4,090 | | | 3,979,311 | 1.28% |
| L | CPS San Antonio | JT Deely | Bexar | 1 | 5,531,703 | | | | 3,139 | | | 5,534,842 | 1.78% |
| L | | JT Deely | Bexar | 2 | | | | | | | | 0 | |
| L | CPS San Antonio | Leon Creek | Bexar | 3 | | | 90,621 | | | | | 90,621 | 0.03% |
| L | | Leon Creek | Bexar | 4 | | | | | | | | 0 | |
| L | CPS San Antonio | Mission Road | Bexar | 3 | | | 55,598 | | | | | 55,598 | 0.02% |
| L | CPS San Antonio | OW Summers | Bexar | 1 | | | 2,564,120 | | 320 | | | 2,564,440 | 0.83% |
| L | | OW Summers | Bexar | 2 | | | | | | | | 0 | |
| L | | OW Summers | Bexar | A | | | | | | | | 0 | |
| L | | OW Summers | Bexar | B | | | | | | | | 0 | |
| L | | OW Summers | Bexar | C | | | | | | | | 0 | |
| L | | OW Summers | Bexar | D | | | | | | | | 0 | |
| L | CPS San Antonio | VH Braunig | Bexar | 1 | | | 1,756,515 | | 21,919 | | | 1,778,434 | 0.57% |
| L | | VH Braunig | Bexar | 2 | | | | | | | | 0 | |
| L | | VH Braunig | Bexar | 3 | | | | | | | | 0 | |
| L | CPS San Antonio | WB Tuttle | Bexar | 1 | | | 359,784 | | | | | 359,784 | 0.12% |
| L | | WB Tuttle | Bexar | 2 | | | | | | | | 0 | |
| L | | WB Tuttle | Bexar | 3 | | | | | | | | 0 | |
| L | | WB Tuttle | Bexar | 4 | | | | | | | | 0 | |
| L | Energy Developments, Inc | Hutchins | Bexar | | | | | | | | 0 | 0 | |
| L | Energy Developments, Inc | Tessman Road | Bexar | | | | | | | | 0 | 0 | |
| L | AEP CPL | ES Joslin | Calhoun | 1 | | | 572,417 | | 28,825 | | | 601,242 | 0.19% |
| L | GBRA | Canyon | Comal | 1 | | | | | | | 7,555 | 7,555 | 0.00% |
| L | | Canyon | Comal | 2 | | | | | | | | 0 | |
| L | Small Hydro of Texas Inc | Small Hydro of Texas Inc | DeWitt | 01 | | | | | | | 1,808 | 1,808 | 0.00% |
| L | | Small Hydro of Texas Inc | DeWitt | 02 | | | | | | | 1,042 | 1,042 | 0.00% |
| L | | Small Hydro of Texas Inc | DeWitt | 03 | | | | | | | 695 | 695 | 0.00% |
| L | Pearsall | Pearsall | Frio | 1 | | | 52,309 | | 405 | | | 52,714 | 0.02% |
| L | | Pearsall | Frio | 2 | | | | | | | | 0 | |
| L | | Pearsall | Frio | 3 | | | | | | | | 0 | |
| L | AEP CPL | Coleto Creek | Goliad | 1 | 4,820,148 | | | | 3,586 | | | 4,823,734 | 1.55% |
| L | Gonzales | Gonzales | Gonzales | 1 | | | | | | | | 0 | 0 |
| L | | Gonzales | Gonzales | 2 | | | | | | | | 0 | |
| L | | Gonzales | Gonzales | 3 | | | | | | | | 0 | |
| L | GBRA | H 4 | Gonzales | 1 | | | | | | | 6,714 | 6,714 | 0.00% |
| L | GBRA | H 5 | Gonzales | 1 | | | | | | | 278 | 278 | 0.00% |
| L | GBRA | Abbott TP 3 | Guadalupe | 1 | | | | | | | 7,582 | 7,582 | 0.00% |
| L | | Abbott TP 3 | Guadalupe | 2 | | | | | | | | 0 | |
| L | GBRA | Dunlap TP 1 | Guadalupe | 1 | | | | | | | 11,601 | 11,601 | 0.00% |

Data from US DOE Energy Information Administration's Forms EIA-860A, EIA-860B, and EIA-906

# 2000 Electric Generation from Electric Utility and Independent Power Producer Plants in Texas

| | | | | | 2000 Net Generation (MWh) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Region | Company | Plant | County | Unit | Coal | Lignite | Natural Gas | Nuclear | Fuel Oil | Combined Cycle | Hydro and Renewable | 2000 Total Generation for Plant / Region (MWh) | Percent of State Total Generation for 2000 |
| L | | Dunlap TP 1 | Guadalupe | 2 | | | | | | | | 0 | |
| L | GBRA | Nolte | Guadalupe | 1 | | | | | | | 6,232 | 6,232 | 0.00% |
| L | | Nolte | Guadalupe | 2 | | | | | | | | 0 | |
| L | Seguin | Seguin | Guadalupe | HY1 | | | | | | | | 0 | |
| L | | Seguin | Guadalupe | I-1 | | | | | | | | 0 | |
| L | GBRA | TP 4 | Guadalupe | 1 | | | | | | | 7,264 | 7,264 | 0.00% |
| L | Constellation | Rio Nogales Power Project | Guadalupe | | | | | | | 0 | | 0 | |
| L | Panda | Guadalupe Generating Station | Guadalupe | STG1 | | | | | | 38,646 | | 38,646 | 0.01% |
| L | | Guadalupe Generating Station | Guadalupe | STG2 | | | | | | 19,909 | | 19,909 | 0.01% |
| L | | Guadalupe Generating Station | Guadalupe | CTG1 | | | | | | 27,228 | | 27,228 | 0.01% |
| L | | Guadalupe Generating Station | Guadalupe | CTG2 | | | | | | 30,741 | | 30,741 | 0.01% |
| L | | Guadalupe Generating Station | Guadalupe | CTG3 | | | | | | 18,445 | | 18,445 | 0.01% |
| L | | Guadalupe Generating Station | Guadalupe | CTG4 | | | | | | 11,418 | | 11,418 | 0.00% |
| L | ANP | Hays Energy Project | Hays | | | | | | | 0 | | 0 | |
| L | AEP CPL | Victoria | Victoria | 4 | | | 882,886 | | 9,390 | | | 892,276 | 0.29% |
| L | | Victoria | Victoria | 5 | | | | | | | | 0 | |
| L | | Victoria | Victoria | 6 | | | | | | | | 0 | |
| L | STEC | Sam Rayburn | Victoria | 1 | | | 2,383 | | | | | 2,383 | 0.00% |
| L | | Sam Rayburn | Victoria | 2 | | | | | | | | 0 | |
| L | | Sam Rayburn | Victoria | 3 | | | 18,821 | | 1 | | | 18,822 | 0.01% |
| L | | Sam Rayburn | Victoria | 4 | | | | | 199 | | | 199 | 0.00% |
| L | | Sam Rayburn | Victoria | 5 | | | | | | | | 0 | |
| L | | Sam Rayburn | Victoria | | | | | | | 0 | | 0 | |
| L | **Total** | | | | | | | | | | | **26,107,613** | 8.41% |
| M | AEP CPL | La Palma | Cameron | 4 | | | 587,356 | | 25,684 | | | 613,040 | 0.20% |
| M | | La Palma | Cameron | 5 | | | | | | | | 0 | |
| M | | La Palma | Cameron | 6 | | | | | | | | 0 | |
| M | | La Palma | Cameron | 7 | | | 0 | | | | | 0 | |
| M | PUB Brownsville | Silas Ray | Cameron | 5 | | | 1,160 | | | | | 1,160 | 0.00% |
| M | | Silas Ray | Cameron | 6 | | | | | | | | 0 | |
| M | | Silas Ray | Cameron | 8 | | | 109,108 | | | | | 109,108 | 0.04% |
| M | | Silas Ray | Cameron | 9 | | | | | | | | 0 | |
| M | AEP CPL | JL Bates | Hidalgo | 1 | | | 496,880 | | 24,806 | | | 521,686 | 0.17% |
| M | | JL Bates | Hidalgo | 2 | | | | | | | | 0 | |
| M | Calpine | Hidalgo Energy Center | Hidalgo | CTG1 | | | | | | 329,566 | | 329,566 | 0.11% |
| M | | Hidalgo Energy Center | Hidalgo | CTG2 | | | | | | 376,476 | | 376,476 | 0.12% |
| M | | Hidalgo Energy Center | Hidalgo | STG1 | | | | | | 409,994 | | 409,994 | 0.13% |
| M | Calpine | Magic Valley Generating Station | Hidalgo | | | | | | | 0 | | 0 | |
| M | | Magic Valley Generating Station | Hidalgo | | | | | | | 0 | | 0 | |
| M | | Magic Valley Generating Station | Hidalgo | | | | | | | 0 | | 0 | |
| M | TECO | Frontera Generation Facility | Hidalgo | GEN1 | | | | | | 465,202 | | 465,202 | 0.15% |
| M | | Frontera Generation Facility | Hidalgo | GEN2 | | | | | | 498,606 | | 498,606 | 0.16% |
| M | | Frontera Generation Facility | Hidalgo | GEN3 | | | | | | 586,246 | | 586,246 | 0.19% |
| M | AEP CPL | Eagle Pass | Maverick | 1 | | | | | | | 48,593 | 48,593 | 0.02% |
| M | | Eagle Pass | Maverick | 2 | | | | | | | | 0 | |
| M | | Eagle Pass | Maverick | 3 | | | | | | | | 0 | |
| M | IBWC | Falcon | Starr | 1 | | | | | | | 41,494 | 41,494 | 0.01% |
| M | | Falcon | Starr | 2 | | | | | | | | 0 | |
| M | | Falcon | Starr | 3 | | | | | | | | 0 | |
| M | AEP CPL | Laredo | Webb | 1 | | | 734,372 | | 1,604 | | | 735,976 | 0.24% |
| M | | Laredo | Webb | 2 | | | | | | | | 0 | |
| M | | Laredo | Webb | 3 | | | | | | | | 0 | |
| M | **Total** | | | | | | | | | | | **4,737,147** | 1.53% |
| N | Crosstex | Duval | Duval | | | | | | | | 0 | 0 | |
| N | AEP CPL | Barney M Davis | Nueces | 1 | | | 3,400,993 | | 54,941 | | | 3,455,934 | 1.11% |
| N | | Barney M Davis | Nueces | 2 | | | | | | | | 0 | |
| N | AEP CPL | Lon C Hill | Nueces | 1 | | | 1,515,097 | | 29,962 | | | 1,545,059 | 0.50% |
| N | | Lon C Hill | Nueces | 2 | | | | | | | | 0 | |
| N | | Lon C Hill | Nueces | 3 | | | | | | | | 0 | |

Data from US DOE Energy Information Administration's Forms EIA-860A, EIA-860B, and EIA-906

# 2000 Electric Generation from Electric Utility and Independent Power Producer Plants in Texas

| Region | Company | Plant | County | Unit | 2000 Net Generation (MWh) Coal | Lignite | Natural Gas | Nuclear | Fuel Oil | Combined Cycle | Hydro and Renewable | 2000 Total Generation for Plant / Region (MWh) | Percent of State Total Generation for 2000 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| N | | Lon C Hill | Nueces | 4 | | | | | | | | 0 | |
| N | AEP CPL | Nueces Bay | Nueces | 5 | | | 2,260,823 | | 13,450 | | | 2,274,273 | 0.73% |
| N | | Nueces Bay | Nueces | 6 | | | | | | | | 0 | |
| N | | Nueces Bay | Nueces | 7 | | | | | | | | 0 | |
| N | Avista | Nueces Energy Project | Nueces | | | | | | | 0 | | 0 | |
| N | Robstown | Robstown | Nueces | 10 | | | 27,554 | | 3,534 | | | 31,088 | 0.01% |
| N | | Robstown | Nueces | 11 | | | | | | | | 0 | |
| N | | Robstown | Nueces | 3 | | | | | | | | 0 | |
| N | | Robstown | Nueces | 4 | | | | | | | | 0 | |
| N | | Robstown | Nueces | 5 | | | | | | | | 0 | |
| N | | Robstown | Nueces | 7 | | | | | | | | 0 | |
| N | | Robstown | Nueces | 8 | | | | | | | | 0 | |
| N | | Robstown | Nueces | 9 | | | | | | | | 0 | |
| **N** | **Total** | | | | | | | | | | | **7,306,354** | 2.35% |
| O | Floydada | Floydada | Floyd | 2 | | | | | | | | 0 | |
| O | | Floydada | Floyd | 3 | | | | | | | | 0 | |
| O | | Floydada | Floyd | 4 | | | | | | | | 0 | |
| O | | Floydada | Floyd | 5 | | | | | | | | 0 | |
| O | | Floydada | Floyd | 6 | | | | | | | | 0 | |
| O | Xcel SPS | Plant X | Lamb | 1 | | | 841,563 | | 23,020 | | | 864,583 | 0.28% |
| O | | Plant X | Lamb | 2 | | | | | | | | 0 | |
| O | | Plant X | Lamb | 3 | | | | | | | | 0 | |
| O | | Plant X | Lamb | 4 | | | | | | | | 0 | |
| O | Xcel SPS | Tolk | Lamb | 1 | [illegible] | | 7,558 | | | | | 8,140,435 | 2.62% |
| O | | Tolk | Lamb | 2 | | | | | | | | 0 | |
| O | Cielo / Lubbock P&L | Llano Estacado Wind Ranch | Lubbock | | | | | | | | 0 | 0 | |
| O | Lubbock | Brandon | Lubbock | 1 | | | 137,668 | | | | | 137,668 | 0.04% |
| O | Lubbock | J Robert Massengale | Lubbock | 4 | | | 76,566 | | | | | 76,566 | 0.02% |
| O | | J Robert Massengale | Lubbock | 5 | | | | | | | | 0 | |
| O | | J Robert Massengale | Lubbock | 6A | | | | | | 0 | | 0 | |
| O | | J Robert Massengale | Lubbock | 7 | | | | | | 0 | | 0 | |
| O | | J Robert Massengale | Lubbock | 8 | | | | | | | | 0 | |
| O | Xcel SPS | Jones | Lubbock | 1 | | | 2,363,065 | | 9,210 | | | 2,372,275 | 0.76% |
| O | | Jones | Lubbock | 2 | | | | | | | | 0 | |
| O | Lubbock | Ty Cooke (Holly Ave.) | Lubbock | GT1 | | | 33,834 | | | | | 33,834 | 0.01% |
| O | | Ty Cooke (Holly Ave.) | Lubbock | GT2 | | | | | | | | 0 | |
| O | | Ty Cooke (Holly Ave.) | Lubbock | GT3 | | | | | | | | 0 | |
| O | | Ty Cooke (Holly Ave.) | Lubbock | 1 | | | 384,819 | | | | | 384,819 | 0.12% |
| O | | Ty Cooke (Holly Ave.) | Lubbock | 2 | | | | | | | | 0 | |
| O | Tulia | Tulia | Swisher | 10 | | | | | | | | 0 | |
| O | | Tulia | Swisher | 11 | | | | | | | | 0 | |
| O | | Tulia | Swisher | 12 | | | | | | | | 0 | |
| O | | Tulia | Swisher | 2 | | | | | | | | 0 | |
| O | | Tulia | Swisher | 5 | | | | | | | | 0 | |
| O | | Tulia | Swisher | 6 | | | | | | | | 0 | |
| O | | Tulia | Swisher | 7 | | | | | | | | 0 | |
| O | | Tulia | Swisher | 8 | | | | | | | | 0 | |
| O | | Tulia | Swisher | 9 | | | | | | | | 0 | |
| O | Brownfield | Brownfield | Terry | GT1 | | | -8 | | | | | -8 | 0.00% |
| O | | Brownfield | Terry | 1 | | | 734 | | 117 | | | 851 | 0.00% |
| O | | Brownfield | Terry | 3 | | | | | | | | 0 | |
| O | | Brownfield | Terry | 4 | | | | | | | | 0 | |
| O | | Brownfield | Terry | 5 | | | | | | | | 0 | |
| O | | Brownfield | Terry | 6 | | | | | | | | 0 | |
| O | Golden Spread Coop | Mustang Station | Yoakum | GEN1 | | | | | | 841,272 | | 841,272 | 0.27% |
| O | | Mustang Station | Yoakum | GEN2 | | | | | | 824,092 | | 824,092 | 0.27% |
| O | | Mustang Station | Yoakum | GEN3 | | | | | | 810,671 | | 810,671 | 0.26% |
| **O** | **Total** | | | | | | | | | | | **14,487,058** | 4.67% |
| **P** | **Total** | | | | | | | | | | | | |

Data from US DOE Energy Information Administration's Forms EIA-860A, EIA-860B, and EIA-906

# 2000 Electric Generation from Electric Utility and Independent Power Producer Plants in Texas

| Region | Company | Plant | County | Unit | Coal | Lignite | Natural Gas | Nuclear | Fuel Oil | Combined Cycle | Hydro and Renewable | 2000 Total Generation for Plant / Region (MWh) | Percent of State Total Generation for 2000 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 2000 Net Generation (MWh) | | | | | | | | |
| | | | | | | 2000 Generation by Fuel Type Statewide | | | | | | | |
| | | | | | 83,826,386 | 54,050,285 | 112,513,495 | 37,555,807 | 1,204,536 | 19,812,003 | 1,369,747 | 310,332,260 | 100.00% |
| | | | | | 27.01% | 17.42% | 36.26% | 12.10% | 0.39% | 6.38% | 0.44% | | |

Data from US DOE Energy Information Administration's Forms EIA-860A, EIA-860B, and EIA-906

# Future Water Demand for Steam Electric Generation in Texas by Plant or Unit

| | | | | | | | | | | | 621,601 | 724,814 | 841,572 | 983,900 | 1,157,396 | 1,368,887 | 1,626,692 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Region | Company | Plant | County | Unit | Water Use Factor (gal/kWhr) | 2000 Estimated Water Use Using Water Use Factor and Cooling Pond Makeup (acre feet) | 2000 Water Diverted to Cooling Ponds (acre feet) | 1990 Water Use per TDWB 2002 State Water Plan (acre feet) | 2000 Water Use per TDWB 2002 State Water Plan (acre feet) | Annual Water Use at 100% Load Factor Using Water Use Factor (acre feet) | Estimated Water Use for 2000 (acre feet) | Estimated Water Use for 2010 (acre feet) | Estimated Water Use for 2020 (acre feet) | Estimated Water Use for 2030 (acre feet) | Estimated Water Use for 2040 (acre feet) | Estimated Water Use for 2050 (acre feet) | Estimated Water Use for 2060 (acre feet) |
| A | Cielo / LPL | Llano Estacado Wind Ranch - White Deer | Carson | | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| A | Xcel SPS | Celanese | Gray | 1 | 0.98 | 0 | | | | 1,317 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| A | | Celanese | Gray | 2 | | | | | | | | | | | | | |
| A | Xcel SPS | Riverview | Hutchinson | 6 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| A | Xcel SPS | Moore County | Moore | 3 | 0.98 | 157 | | 359 | 200 | 1,291 | 167 | 138 | 110 | 129 | 152 | 180 | 213 |
| A | Xcel SPS | Harrington | Potter | 1 | 0.6 | 14,784 | | 3,528 | 18,300 | 17,420 | 15,664 | 15,854 | 16,043 | 18,756 | 22,063 | 26,095 | 31,009 |
| A | | Harrington | Potter | 2 | | | | | | | | | | | | | |
| A | | Harrington | Potter | 3 | | | | | | | | | | | | | |
| A | Xcel SPS | Nichols | Potter | 1 | 0.75 | 2,287 | | | | 9,597 | 2,423 | 2,015 | 1,606 | 1,878 | 2,209 | 2,613 | 3,105 |
| A | | Nichols | Potter | 2 | | | | | | | | | | | | | |
| A | | Nichols | Potter | 3 | | | | | | | | | | | | | |
| **A** | **Total** | | | | | **17,228** | | **3,887** | **18,500** | **29,626** | **18,254** | **18,007** | **17,760** | **20,763** | **24,424** | **28,888** | **34,328** |
| B | Panda | Archer Power Partners | Archer | | 0.23 | 0 | | | | 3,092 | 0 | 0 | 3,533 | 4,131 | 4,859 | 5,747 | 6,829 |
| B | AEP WTU | Lake Pauline | Hardeman | 1 | 0.41 | 830 | 800 | 2,856 | 1,000 | 441 | 879 | 731 | 583 | 681 | 802 | 948 | 1,127 |
| B | | Lake Pauline | Hardeman | 2 | | | | | | | | | | | | | |
| B | Electra | Electra | Wichita | 3 | 0 | 0 | | | 360 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B | | Electra | Wichita | 4 | | | | | | | | | | | | | |
| B | | Electra | Wichita | 5 | | | | | | | | | | | | | |
| B | | Electra | Wichita | 6 | | | | | | | | | | | | | |
| B | | Electra | Wichita | 7 | | | | | | | | | | | | | |
| B | | Electra | Wichita | 8 | | | | | | | | | | | | | |
| B | Mirant | Southern Energy Wichita Falls LP | Wichita | GTA | 0.05 | 21 | | | | 27 | 22 | 21 | 31 | 36 | 42 | 50 | 59 |
| B | | Southern Energy Wichita Falls LP | Wichita | GTB | 0.05 | 19 | | | | 27 | 20 | 21 | 31 | 36 | 42 | 50 | 59 |
| B | | Southern Energy Wichita Falls LP | Wichita | GTC | 0.05 | 20 | | | | 27 | 21 | 21 | 31 | 36 | 42 | 50 | 59 |
| B | | Southern Energy Wichita Falls LP | Wichita | STD | 0.6 | 188 | | | | 323 | 198 | 258 | 369 | 431 | 507 | 600 | 713 |
| B | AEP WTU | Oklaunion | Wilbarger | 1 | 0.6 | 8,211 | | 7,876 | 8,100 | 10,709 | 8,700 | 8,805 | 8,910 | 10,417 | 12,253 | 14,492 | 17,222 |
| B | AEP WTU | Vernon | Wilbarger | 1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B | | Vernon | Wilbarger | 2 | | | | | | | | | | | | | |
| B | | Vernon | Wilbarger | 3 | | | | | | | | | | | | | |
| B | | Vernon | Wilbarger | 4 | | | | | | | | | | | | | |
| B | | Vernon | Wilbarger | 7 | | | | | | | | | | | | | |
| **B** | **Total** | | | | | **9,288** | | **10,732** | **9,460** | **14,645** | **9,841** | **9,858** | **13,486** | **15,767** | **18,548** | **21,937** | **26,068** |
| C | TXU | Collin | Collin | 1 | 0.98 | 894 | | 1,635 | 2,000 | 4,117 | 947 | 788 | 628 | 734 | 864 | 1,021 | 1,214 |
| C | Garland | Ray Olinger | Collin | 1 | 0.27 | 900 | | | | 3,194 | 954 | 793 | 632 | 739 | 869 | 1,028 | 1,222 |
| C | | Ray Olinger | Collin | 2 | | | | | | | | | | | | | |
| C | | Ray Olinger | Collin | 3 | | | | | | | | | | | | | |
| C | | Ray Olinger | Collin | 4 | | | | | | | | | | | | | |
| C | Garland | CE Newman | Dallas | 1 | 0.75 | 120 | | 18,214 | 18,000 | 1,946 | 127 | 106 | 84 | 98 | 116 | 137 | 163 |
| C | | CE Newman | Dallas | 2 | | | | | | | | | | | | | |
| C | | CE Newman | Dallas | 3 | | | | | | | | | | | | | |
| C | | CE Newman | Dallas | 4 | | | | | | | | | | | | | |
| C | | CE Newman | Dallas | 5 | | | | | | | | | | | | | |
| C | TXU | Lake Hubbard | Dallas | 1 | 0.27 | 2,209 | | | | 6,732 | 2,340 | 1,946 | 1,551 | 1,814 | 2,134 | 2,524 | 2,999 |
| C | | Lake Hubbard | Dallas | 2 | | | | | | | | | | | | | |
| C | Exelon | Mountain Creek | Dallas | 2 | 0.35 | 2,452 | | | | 9,019 | 2,598 | 2,160 | 1,723 | 2,014 | 2,369 | 2,802 | 3,329 |
| C | | Mountain Creek | Dallas | 3 | | | | | | | | | | | | | |
| C | | Mountain Creek | Dallas | 6 | | | | | | | | | | | | | |
| C | | Mountain Creek | Dallas | 7 | | | | | | | | | | | | | |
| C | | Mountain Creek | Dallas | 8 | | | | | | | | | | | | | |
| C | TXU | North Lake | Dallas | 1 | 0.35 | 9,062 | 7,000 | | | 6,667 | 9,602 | 7,984 | 6,365 | 7,442 | 8,754 | 10,353 | 12,303 |
| C | | North Lake | Dallas | 2 | | | | | | | | | | | | | |
| C | | North Lake | Dallas | 3 | | | | | | | | | | | | | |
| C | TXU | Parkdale | Dallas | 1 | 0.75 | 1,413 | | | | 6,868 | 1,497 | 1,245 | 992 | 1,160 | 1,365 | 1,614 | 1,918 |
| C | | Parkdale | Dallas | 2 | | | | | | | | | | | | | |
| C | | Parkdale | Dallas | 3 | | | | | | | | | | | | | |
| C | Bio-Energy Partners | DFW Gas Recovery | Denton | GEN1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | | DFW Gas Recovery | Denton | GEN2 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | Lewisville | Lewisville | Denton | 1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | Lewisville | Ray Roberts | Denton | 1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | Lewisville | Spencer | Denton | 1 | 0.75 | 595 | | 0 | 0 | 3,507 | 631 | 524 | 418 | 489 | 575 | 680 | 808 |
| C | | Spencer | Denton | 2 | | | | | | | | | | | | | |
| C | | Spencer | Denton | 3 | | | | | | | | | | | | | |
| C | | Spencer | Denton | 4 | | | | | | | | | | | | | |
| C | | Spencer | Denton | 5 | | | | | | | | | | | | | |
| C | ANP | Midlothian Energy Facility | Ellis | STK1 | 0.23 | 273 | | | | 1,787 | 289 | 1,427 | 2,042 | 2,387 | 2,808 | 3,322 | 3,947 |
| C | | Midlothian Energy Facility | Ellis | STK2 | 0.23 | 274 | | | | 1,787 | 290 | 1,427 | 2,042 | 2,387 | 2,808 | 3,322 | 3,947 |
| C | | Midlothian Energy Facility | Ellis | STK3 | 0.23 | 94 | | | | 1,787 | 99 | 1,427 | 2,042 | 2,387 | 2,808 | 3,322 | 3,947 |
| C | | Midlothian Energy Facility | Ellis | STK4 | 0.23 | 62 | | | | 1,787 | 66 | 1,427 | 2,042 | 2,387 | 2,808 | 3,322 | 3,947 |
| C | | Midlothian Energy Facility | Ellis | STK5 | 0.23 | 0 | | | | 1,787 | 0 | 1,427 | 2,042 | 2,387 | 2,808 | 3,322 | 3,947 |
| C | | Midlothian Energy Facility | Ellis | STK6 | 0.23 | 0 | | | | 1,787 | 0 | 1,427 | 2,042 | 2,387 | 2,808 | 3,322 | 3,947 |
| C | Tractebel | Ennis Tractebel Power Co LP | Ellis | | 0.23 | 0 | | | | 2,164 | 0 | 1,728 | 2,473 | 2,891 | 3,401 | 4,023 | 4,780 |
| C | Tractebel | Ennis Tractebel Power Co LP | Ellis | | 0.23 | 0 | | | | 4,947 | 0 | 3,949 | 5,653 | 6,609 | 7,774 | 9,195 | 10,927 |
| C | TXU | Valley | Fannin | 1 | 0.27 | 8,046 | 5,400 | 6,726 | 5,000 | 8,532 | 8,525 | 7,089 | 5,652 | 6,607 | 7,773 | 9,193 | 10,924 |
| C | | Valley | Fannin | 2 | | | | | | | | | | | | | |
| C | | Valley | Fannin | 3 | | | | | | | | | | | | | |
| C | Calpine | Freestone Power Generation LP | Freestone | | 0.23 | 0 | | | | 6,369 | 0 | 5,085 | 7,278 | 8,509 | 10,009 | 11,839 | 14,068 |
| C | TXU | Big Brown | Freestone | 1 | 0.35 | 18,998 | 9,820 | 13,834 | 16,000 | 11,167 | 20,130 | 20,373 | 20,616 | 24,103 | 28,353 | 33,533 | 39,849 |
| C | | Big Brown | Freestone | 2 | | | | | | | | | | | | | |
| C | USCE | Denison | Grayson | 1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | | Denison | Grayson | 2 | | | | | | | | | | | | | |
| C | Whitesboro | Whitesboro | Grayson | 1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | | Whitesboro | Grayson | 2 | | | | | | | | | | | | | |

Data Original to this Report with Supporting Documentation from US DOE Energy Information Administration Forms EIA-860A, EIA-860B, and EIA-906
1/27/2003

# Future Water Demand for Steam Electric Generation in Texas by Plant or Unit

| Region | Company | Plant | County | Unit | Water Use Factor (gal/kWhr) | 2000 Estimated Water Use Using Water Use Factor and Cooling Pond Makeup (acre feet) | 2000 Water Diverted to Cooling Ponds (acre feet) | 1990 Water Use per TDWB 2002 State Water Plan (acre feet) | 2000 Water Use per TDWB 2002 State Water Plan (acre feet) | Annual Water Use at 100% Load Factor Using Water Use Factor (acre feet) | Estimated Water Use for 2000 (acre feet) | Estimated Water Use for 2010 (acre feet) | Estimated Water Use for 2020 (acre feet) | Estimated Water Use for 2030 (acre feet) | Estimated Water Use for 2040 (acre feet) | Estimated Water Use for 2050 (acre feet) | Estimated Water Use for 2060 (acre feet) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C | | Whitesboro | Grayson | 3 | | | | | | | | | | | | | |
| C | | Whitesboro | Grayson | 4 | | | | | | | | | | | | | |
| C | TXU | Trinidad | Henderson | D1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | | Trinidad | Henderson | D2 | | | | | | | | | | | | | |
| C | | Trinidad | Henderson | 6 | 0.35 | 4,587 | 4,160 | 2,299 | 4,000 | 2,252 | 4,860 | 4,041 | 3,222 | 3,767 | 4,431 | 5,241 | 6,227 |
| C | Duke Energy | Jack Energy Facility | Jack | | 0.23 | 0 | | | | 3,215 | 0 | 0 | 3,674 | 4,296 | 5,053 | 5,977 | 7,102 |
| C | Cobisa / FP&L | Forney Power Plant | Kaufman | | 0.23 | 0 | | | | 11,246 | 0 | 8,979 | 12,852 | 15,025 | 17,675 | 20,905 | 24,842 |
| C | Duke Energy | Kaufman LP Facility | Kaufman | | 0.23 | 0 | | | | 4,328 | 0 | 0 | 4,946 | 5,783 | 6,803 | 8,046 | 9,561 |
| C | Brazos Electric | North Texas | Parker | 1 | 0.35 | 34 | | 39 | 0 | 668 | 36 | 30 | 24 | 28 | 32 | 38 | 46 |
| C | | North Texas | Parker | 2 | | | | | | | | | | | | | |
| C | | North Texas | Parker | 3 | | | | | | | | | | | | | |
| C | Mirant | Mirant | Parker | | 0.23 | 0 | | | | 4,019 | 0 | 0 | 4,593 | 5,370 | 6,317 | 7,471 | 8,878 |
| C | Weatherford | Weatherford | Parker | 1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | | Weatherford | Parker | 2 | | | | | | | | | | | | | |
| C | | Weatherford | Parker | 3 | | | | | | | | | | | | | |
| C | | Weatherford | Parker | 4 | | | | | | | | | | | | | |
| C | | Weatherford | Parker | 6 | | | | | | | | | | | | | |
| C | | Weatherford | Parker | 7 | | | | | | | | | | | | | |
| C | | Weatherford | Parker | 8 | | | | | | | | | | | | | |
| C | TXU | Eagle Mountain | Tarrant | 1 | 0.35 | 1,005 | | 4,212 | 7,000 | 6,644 | 1,065 | 885 | 706 | 825 | 971 | 1,148 | 1,364 |
| C | | Eagle Mountain | Tarrant | 2 | | | | | | | | | | | | | |
| C | | Eagle Mountain | Tarrant | 3 | | | | | | | | | | | | | |
| C | Exelon | Handley | Tarrant | 1 | 0.27 | 2,493 | | | | 10,404 | 2,641 | 2,196 | 1,751 | 2,047 | 2,408 | 2,848 | 3,384 |
| C | | Handley | Tarrant | 2 | | | | | | | | | | | | | |
| C | | Handley | Tarrant | 3 | | | | | | | | | | | | | |
| C | | Handley | Tarrant | 4 | | | | | | | | | | | | | |
| C | | Handley | Tarrant | 5 | | | | | | | | | | | | | |
| C | TXU | North Main | Tarrant | 4 | 0.35 | 266 | 110 | | | 764 | 282 | 235 | 187 | 219 | 257 | 304 | 362 |
| C | Tractebel | Wise County Power Co LP | Wise | | 0.23 | 0 | | | | 4,947 | 0 | 3,949 | 5,653 | 6,609 | 7,774 | 9,195 | 10,927 |
| C | **Total** | | | | | **53,777** | | **46,950** | **52,000** | **134,438** | **56,979** | **82,642** | **103,926** | **121,502** | **142,927** | **169,044** | **200,881** |
| D | AEP SWEPCO | Knox Lee | Gregg | 2 | 0.35 | 1,392 | | 465 | 1,251 | 4,316 | 1,475 | 1,227 | 978 | 1,143 | 1,345 | 1,591 | 1,890 |
| D | | Knox Lee | Gregg | 3 | | | | | | | | | | | | | |
| D | | Knox Lee | Gregg | 4 | | | | | | | | | | | | | |
| D | | Knox Lee | Gregg | 5 | | | | | | | | | | | | | |
| D | AEP SWEPCO | Pirkey | Harrison | 1 | 0.35 | 14,570 | 9,892 | 4,869 | 5,760 | 6,214 | 15,437 | 15,624 | 15,810 | 18,484 | 21,744 | 25,717 | 30,560 |
| D | Entergy / NE TX Coop | Harrison County Power Project | Harrison | | 0.23 | 0 | | | | 3,524 | 0 | 2,814 | 4,028 | 4,709 | 5,539 | 6,551 | 7,785 |
| D | Cobisa | Greenville | Hunt | | 0.23 | | | | | 10,821 | 0 | 8,639 | 12,366 | 14,457 | 17,006 | 20,114 | 23,902 |
| D | Greenville | Powerlane | Hunt | ST1 | 0.35 | 0 | | 834 | 516 | 797 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | | Powerlane | Hunt | ST2 | | | | | | | | | | | | | |
| D | | Powerlane | Hunt | ST3 | | | | | | | | | | | | | |
| D | Panda | Lamar Power Project | Lamar | CTG2 | 0.05 | 97 | | | | 231 | 103 | 184 | 264 | 308 | 363 | 429 | 510 |
| D | | Lamar Power Project | Lamar | CTG1 | 0.05 | 101 | | | | 231 | 107 | 184 | 264 | 308 | 363 | 429 | 510 |
| D | | Lamar Power Project | Lamar | STG1 | 0.6 | 1,356 | | | | 3,259 | 1,436 | 2,602 | 3,724 | 4,354 | 5,121 | 6,057 | 7,198 |
| D | | Lamar Power Project | Lamar | STG2 | 0.6 | 110 | | | | 3,259 | 116 | 2,602 | 3,724 | 4,354 | 5,121 | 6,057 | 7,198 |
| D | | Lamar Power Project | Lamar | CTG3 | 0.05 | 10 | | | | 231 | 11 | 184 | 264 | 308 | 363 | 429 | 510 |
| D | | Lamar Power Project | Lamar | CTG4 | 0.05 | 10 | | | | 231 | 10 | 184 | 264 | 308 | 363 | 429 | 510 |
| D | AEP SWEPCO | Wilkes | Marion | 1 | 0.27 | 2,637 | 657 | 1,953 | 2,868 | 5,860 | 2,794 | 2,323 | 1,852 | 2,165 | 2,547 | 3,012 | 3,580 |
| D | | Wilkes | Marion | 2 | | | | | | | | | | | | | |
| D | | Wilkes | Marion | 3 | | | | | | | | | | | | | |
| D | AEP SWEPCO | Lone Star | Morris | 1 | 0.35 | 61 | | 8 | 48 | 376 | 64 | 53 | 43 | 50 | 59 | 69 | 82 |
| D | TXU | River Crest | Red River | 1 | 0.35 | 697 | 500 | 1,494 | 1,500 | 1,059 | 738 | 614 | 489 | 572 | 673 | 796 | 946 |
| D | TXU | Monticello | Titus | 1 | 0.35 | 23,660 | 10,373 | 36,406 | 28,260 | 18,631 | 25,069 | 25,372 | 25,675 | 30,017 | 35,310 | 41,762 | 49,627 |
| D | | Monticello | Titus | 2 | | | | | | | | | | | | | |
| D | | Monticello | Titus | 3 | | | | | | | | | | | | | |
| D | AEP SWEPCO | Welsh | Titus | 1 | 0.35 | 24,649 | 13,028 | | | 14,462 | 26,117 | 26,432 | 26,748 | 31,272 | 36,786 | 43,508 | 51,702 |
| D | | Welsh | Titus | 2 | | | | | | | | | | | | | |
| D | | Welsh | Titus | 3 | | | | | | | | | | | | | |
| D | **Total** | | | | | **69,348** | | **46,029** | **40,223** | **73,500** | **73,478** | **89,037** | **96,491** | **112,810** | **132,702** | **156,950** | **186,509** |
| E | LCRA | West Texas Windplant | Culberson | | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| E | National Wind Power | Delaware Mountain Windfarm | Culberson | | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| E | Orion Energy | Orion | Culberson | | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| E | ANP | West Texas Energy Facility | El Paso | | 0.23 | 0 | | | | 3,092 | 0 | 0 | 3,533 | 4,131 | 4,859 | 5,747 | 6,829 |
| E | Cielo / El Paso Electric | Hueco Moutain Wind Ranch | El Paso | | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| E | El Paso | Copper | El Paso | 1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| E | El Paso | Newman | El Paso | CT1 | | | | | | | | | | | | | |
| E | | Newman | El Paso | CT2 | | | | | | | | | | | | | |
| E | | Newman | El Paso | 1 | 0.75 | 1,929 | | 5,517 | 6,000 | 5,613 | 2,044 | 1,700 | 1,355 | 1,584 | 1,864 | 2,204 | 2,620 |
| E | | Newman | El Paso | 2 | | | | | | | | | | | | | |
| E | | Newman | El Paso | 3 | | | | | | | | | | | | | |
| E | | Newman | El Paso | 4 | 0.23 | 866 | | | | 1,793 | 918 | 1,432 | 2,049 | 2,396 | 2,818 | 3,333 | 3,961 |
| E | AEP WTU | Fort Davis | Jeff Davis | 1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| E | AEP - WTU | Fort Davis | Jeff Davis | | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| E | AEP WTU | Presidio | Presidio | 5 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| E | | Presidio | Presidio | 6 | | | | | | | | | | | | | |
| E | **Total** | | | | | **2,795** | | **5,517** | **6,000** | **10,497** | **2,962** | **3,131** | **6,937** | **8,111** | **9,541** | **11,284** | **13,410** |
| F | AEP WTU | Oak Creek | Coke | 1 | 0.35 | 351 | | 445 | 835 | 706 | 372 | 310 | 247 | 289 | 339 | 401 | 477 |
| F | Coleman | Coleman | Coleman | IC1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | | Coleman | Coleman | IC2 | | | | | | | | | | | | | |
| F | | Coleman | Coleman | IC3 | | | | | | | | | | | | | |
| F | | Coleman | Coleman | IC4 | | | | | | | | | | | | | |
| F | | Coleman | Coleman | IC5 | | | | | | | | | | | | | |
| F | | Coleman | Coleman | IC6 | | | | | | | | | | | | | |

# Future Water Demand for Steam Electric Generation in Texas by Plant or Unit

| Region | Company | Plant | County | Unit | Water Use Factor (gal/kWhr) | 2000 Estimated Water Use Using Water Use Factor and Cooling Pond Makeup (acre feet) | 2000 Water Diverted to Cooling Ponds (acre feet) | 1990 Water Use per TDWB 2002 State Water Plan (acre feet) | 2000 Water Use per TDWB 2002 State Water Plan (acre feet) | Annual Water Use at 100% Load Factor Using Water Use Factor (acre feet) | Estimated Water Use for 2000 (acre feet) | Estimated Water Use for 2010 (acre feet) | Estimated Water Use for 2020 (acre feet) | Estimated Water Use for 2030 (acre feet) | Estimated Water Use for 2040 (acre feet) | Estimated Water Use for 2050 (acre feet) | Estimated Water Use for 2060 (acre feet) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| F | | Coleman | Coleman | IC7 | | | | | | | | | | | | | |
| F | | Coleman | Coleman | IC8 | | | | | | | | | | | | | |
| F | | Coleman | Coleman | IC9 | | | | | | | | | | | | | |
| F | AEP WTU | Rio Pecos | Crockett | 4A | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | | Rio Pecos | Crockett | 5 | | | | | | | | | | | | | |
| F | | Rio Pecos | Crockett | 6 | 0.75 | 1,105 | | 1,509 | 1,914 | 2,459 | 1,171 | 973 | 776 | 907 | 1,067 | 1,262 | 1,500 |
| F | Panda | Odessa-Ector Generating Station | Ector | | 0.05 | 0 | | | | 198 | 0 | 158 | 226 | 264 | 311 | 367 | 436 |
| F | | Odessa-Ector Generating Station | Ector | | 0.05 | 0 | | | | 198 | 0 | 158 | 226 | 264 | 311 | 367 | 436 |
| F | | Odessa-Ector Generating Station | Ector | | 0.6 | 0 | | | | 3,597 | 0 | 2,872 | 4,111 | 4,806 | 5,653 | 6,686 | 7,946 |
| F | | Odessa-Ector Generating Station | Ector | | 0.05 | 0 | | | | 198 | 0 | 158 | 226 | 264 | 311 | 367 | 436 |
| F | | Odessa-Ector Generating Station | Ector | | 0.05 | 0 | | | | 198 | 0 | 158 | 226 | 264 | 311 | 367 | 436 |
| F | | Odessa-Ector Generating Station | Ector | | 0.6 | 0 | | | | 3,597 | 0 | 2,872 | 4,111 | 4,806 | 5,653 | 6,686 | 7,946 |
| F | York Research | Big Spring Wind Power Facility | Howard | | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | TXU | Morgan Creek | Mitchell | CT1 | 0.05 | 27 | | 3,682 | 4,000 | 722 | 28 | 576 | 825 | 964 | 1,134 | 1,341 | 1,594 |
| F | | Morgan Creek | Mitchell | CT2 | | | | | | | | | | | | | |
| F | | Morgan Creek | Mitchell | CT3 | | | | | | | | | | | | | |
| F | | Morgan Creek | Mitchell | CT4 | | | | | | | | | | | | | |
| F | | Morgan Creek | Mitchell | CT5 | | | | | | | | | | | | | |
| F | | Morgan Creek | Mitchell | CT6 | | | | | | | | | | | | | |
| F | | Morgan Creek | Mitchell | 2 | 0.35 | 9,676 | 6,000 | | | 7,785 | 10,252 | 8,524 | 6,796 | 7,945 | 9,346 | 11,054 | 13,136 |
| F | | Morgan Creek | Mitchell | 3 | | | | | | | | | | | | | |
| F | | Morgan Creek | Mitchell | 4 | | | | | | | | | | | | | |
| F | | Morgan Creek | Mitchell | 5 | | | | | | | | | | | | | |
| F | | Morgan Creek | Mitchell | 6 | | | | | | | | | | | | | |
| F | AEP | Desert Sky | Pecos | | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | AEP WTU | Fort Stockton | Pecos | 2 | 0 | 0 | | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | Cielo | Capital Hill | Pecos | | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | FP&L | Woodward Mountain Wind Ranch | Pecos | | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | Orion | Indian Mesa Wind Farm | Pecos | | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | AEP WTU | San Angelo | Tom Green | 1 | | | | | | | | | | | | | |
| F | | San Angelo | Tom Green | 2 | 0.23 | 535 | | 869 | 1,020 | 680 | 566 | 543 | 777 | 909 | 1,069 | 1,264 | 1,502 |
| F | FP&L | King Mountain Wind Ranch | Upton | | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | FP&L | King Mountain Wind Ranch 1 | Upton | | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | FP&L | King Mountain Wind Ranch 2 | Upton | | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | FP&L | West Texas Wind Energy LLC - SW Mesa | Upton | 01 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | TXU Energy / Cielo Wind | Noelka Hill | Upton | | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | TXU | Permian Basin | Ward | CT1 | 0.05 | 25 | | 5,570 | 5,500 | 601 | 27 | 480 | 687 | 803 | 945 | 1,118 | 1,328 |
| F | | Permian Basin | Ward | CT2 | | | | | | | | | | | | | |
| F | | Permian Basin | Ward | CT3 | | | | | | | | | | | | | |
| F | | Permian Basin | Ward | CT4 | | | | | | | | | | | | | |
| F | | Permian Basin | Ward | CT5 | | | | | | | | | | | | | |
| F | | Permian Basin | Ward | 5 | 0.56 | 5,033 | | | | 9,792 | 5,333 | 4,434 | 3,535 | 4,133 | 4,862 | 5,751 | 6,834 |
| F | | Permian Basin | Ward | 6 | | | | | | | | | | | | | |
| F | York Research | Notrees | Winkler | | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | **Total** | | | | | **18,752** | | **12,075** | **13,275** | **30,730** | **17,750** | **22,215** | **22,768** | **26,619** | **31,312** | **37,034** | **44,009** |
| G | Duke | Bell Energy Facility | Bell | | 0.23 | 0 | | | | 3,215 | 0 | 0 | 3,674 | 4,296 | 5,053 | 5,977 | 7,102 |
| G | Mirant | Mirant Texas LP Bosque County Plant | Bosque | GT-1 | 0.05 | 41 | | | | 229 | 43 | 182 | 261 | 305 | 359 | 425 | 505 |
| G | | Mirant Texas LP Bosque County Plant | Bosque | GT-2 | 0.05 | 32 | | | | 229 | 34 | 182 | 261 | 305 | 359 | 425 | 505 |
| G | | Mirant Texas LP Bosque County Plant | Bosque | GT-3 | 0.05 | 32 | | | | 229 | 34 | 182 | 261 | 305 | 359 | 425 | 505 |
| G | | Mirant Texas LP Bosque County Plant | Bosque | ST | 0.6 | 386 | | | | 1,613 | 409 | 1,288 | 1,843 | 2,155 | 2,535 | 2,998 | 3,563 |
| G | | Mirant Texas LP Bosque County Plant | Bosque | | 0.23 | 0 | | | | 3,116 | 0 | 2,488 | 3,561 | 4,164 | 4,898 | 5,793 | 6,884 |
| G | USCE | Whitney | Bosque | 1 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| G | | Whitney | Bosque | 2 | | | | | | | | | | | | | |
| G | Bryan | Atkins | Brazos | 3 | 0.75 | 228 | | 3,953 | 5,000 | 2,339 | 242 | 201 | 160 | 187 | 220 | 260 | 309 |
| G | | Atkins | Brazos | 4 | | | | | | | | | | | | | |
| G | | Atkins | Brazos | 5 | | | | | | | | | | | | | |
| G | | Atkins | Brazos | 6 | | | | | | | | | | | | | |
| G | | Atkins | Brazos | 7 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| G | Bryan | Dansby | Brazos | 1 | 0.27 | 286 | | | | 762 | 303 | 252 | 201 | 235 | 277 | 327 | 389 |
| G | TMPA | Gibbons Creek | Grimes | 1 | 0.35 | 3,440 | | 11,088 | 10,000 | 4,177 | 3,644 | 3,688 | 3,732 | 4,364 | 5,133 | 6,071 | 7,214 |
| G | Tenaska | Frontier Generation Station | Grimes | STG1 | 0.6 | 637 | | | | 6,292 | 675 | 5,024 | 7,191 | 8,407 | 9,890 | 11,697 | 13,899 |
| G | | Frontier Generation Station | Grimes | GTG3 | 0.05 | 24 | | | | 246 | 26 | 197 | 281 | 329 | 387 | 458 | 544 |
| G | | Frontier Generation Station | Grimes | GTG1 | 0.05 | 31 | | | | 246 | 32 | 197 | 281 | 329 | 387 | 458 | 544 |
| G | | Frontier Generation Station | Grimes | GTG2 | 0.05 | 27 | | | | 246 | 28 | 197 | 281 | 329 | 387 | 458 | 544 |
| G | AEP WTU | Paint Creek | Haskell | 1 | 0.35 | 479 | | 546 | 700 | 2,053 | 507 | 422 | 336 | 393 | 462 | 547 | 650 |
| G | | Paint Creek | Haskell | 2 | | | | | | | | | | | | | |
| G | | Paint Creek | Haskell | 3 | | | | | | | | | | | | | |
| G | | Paint Creek | Haskell | 4 | | | | | | | | | | | | | |
| G | AES | Wolf Hollow LP | Hood | | 0.23 | 0 | | | | 5,130 | 0 | 4,095 | 5,862 | 6,853 | 8,062 | 9,535 | 11,331 |
| G | TXU | DeCordova | Hood | CT1 | 0.05 | 28 | | | | 481 | 30 | 384 | 550 | 643 | 756 | 894 | 1,063 |
| G | | DeCordova | Hood | CT2 | | | | | | | | | | | | | |
| G | | DeCordova | Hood | CT3 | | | | | | | | | | | | | |
| G | | DeCordova | Hood | CT4 | | | | | | | | | | | | | |
| G | | DeCordova | Hood | 1 | 0.2 | 2,400 | | 4,212 | 4,500 | 4,297 | 2,543 | 2,115 | 1,686 | 1,971 | 2,319 | 2,743 | 3,259 |
| G | AEP WTU | Fort Phantom | Jones | 1 | 0.35 | 1,425 | | 2,041 | 2,340 | 3,174 | 1,510 | 1,255 | 1,001 | 1,170 | 1,376 | 1,628 | 1,935 |
| G | | Fort Phantom | Jones | 2 | | | | | | | | | | | | | |
| G | Reliant | Limestone | Limestone | 1 | 0.6 | 20,825 | | 4,692 | 18,000 | 26,240 | 22,065 | 22,332 | 22,598 | 26,420 | 31,079 | 36,758 | 43,681 |
| G | | Limestone | Limestone | 2 | | | | | | | | | | | | | |
| G | TXU | Lake Creek | McLennan | D1 | 0 | 0 | | 14,366 | 15,000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| G | | Lake Creek | McLennan | D2 | | | | | | | | | | | | | |
| G | | Lake Creek | McLennan | D3 | | | | | | | | | | | | | |
| G | | Lake Creek | McLennan | ST1 | 0.35 | 10,525 | 9,558 | | | 2,970 | 11,152 | 9,272 | 7,393 | 8,643 | 10,167 | 12,025 | 14,289 |
| G | | Lake Creek | McLennan | ST2 | | | | | | | | | | | | | |
| G | TXU | Tradinghouse | McLennan | 1 | 0.2 | 12,515 | 9,200 | | | 7,418 | 13,261 | 11,026 | 8,790 | 10,277 | 12,089 | 14,298 | 16,991 |

# Future Water Demand for Steam Electric Generation in Texas by Plant or Unit

| Region | Company | Plant | County | Unit | Water Use Factor (gal/kWhr) | 2000 Estimated Water Use Using Water Use Factor and Cooling Pond Makeup (acre feet) | 2000 Water Diverted to Cooling Ponds (acre feet) | 1990 Water Use per TDWB 2002 State Water Plan (acre feet) | 2000 Water Use per TDWB 2002 State Water Plan (acre feet) | Annual Water Use at 100% Load Factor Using Water Use Factor (acre feet) | Estimated Water Use for 2000 (acre feet) | Estimated Water Use for 2010 (acre feet) | Estimated Water Use for 2020 (acre feet) | Estimated Water Use for 2030 (acre feet) | Estimated Water Use for 2040 (acre feet) | Estimated Water Use for 2050 (acre feet) | Estimated Water Use for 2060 (acre feet) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G | | Tradinghouse | McLennan | 2 | | | | | | | | | | | | | |
| G | TXU | Sandow | Milam | 4 | 0.35 | 3,820 | | 2,716 | 8,680 | 5,557 | 4,048 | 4,097 | 4,146 | 4,847 | 5,701 | 6,743 | 8,013 |
| G | AEP | Trent Mesa | Nolan | | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| G | Enron | Enron Wind | Nolan | | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| G | TXU | Encogen One | Nolan | GT01 | 0.05 | 39 | | | | 45 | 42 | 36 | 51 | 60 | 70 | 83 | 99 |
| G | | Encogen One | Nolan | GT02 | 0.05 | 85 | | | | 98 | 90 | 78 | 112 | 131 | 154 | 182 | 216 |
| G | | Encogen One | Nolan | GT03 | 0.05 | 66 | | | | 98 | 70 | 78 | 112 | 131 | 154 | 182 | 216 |
| G | | Encogen One | Nolan | STG1 | 0.6 | 841 | | | | 1,407 | 891 | 1,123 | 1,607 | 1,879 | 2,211 | 2,615 | 3,107 |
| G | BRA | Morris Sheppard | Palo Pinto | 1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| G | | Morris Sheppard | Palo Pinto | 2 | | | | | | | | | | | | | |
| G | Brazos Electric | RW Miller | Palo Pinto | 1 | 0.27 | 1,260 | | 1,898 | 2,500 | 2,657 | 1,335 | 1,110 | 885 | 1,034 | 1,217 | 1,439 | 1,710 |
| G | | RW Miller | Palo Pinto | 2 | | | | | | | | | | | | | |
| G | | RW Miller | Palo Pinto | 3 | | | | | | | | | | | | | |
| G | | RW Miller | Palo Pinto | 4 | 0.05 | 41 | | | | 319 | 43 | 255 | 365 | 427 | 502 | 594 | 706 |
| G | | RW Miller | Palo Pinto | 5 | | | | | | | | | | | | | |
| G | TNM | TNP One | Robertson | 1 | 0.6 | 4,079 | | 0 | 15,000 | 5,633 | 4,322 | 4,374 | 4,426 | 5,175 | 6,087 | 7,200 | 8,556 |
| G | | TNP One | Robertson | 2 | | | | | | | | | | | | | |
| G | TXU | Comanche Peak | Somervell | 1 | 0.58 | 36,764 | 39,353 | 9,845 | 18,000 | 18,945 | 38,953 | 38,486 | 38,019 | 44,449 | 52,287 | 61,842 | 73,488 |
| G | | Comanche Peak | Somervell | 2 | 0.58 | 35,442 | | | | 18,945 | 37,552 | 37,102 | 36,652 | 42,851 | 50,407 | 59,618 | 70,846 |
| G | AEP WTU | Abilene | Taylor | 4 | 0.98 | 29 | | | 300 | 395 | 31 | 25 | 20 | 24 | 28 | 33 | 39 |
| G | TXU | Graham | Young | 1 | 0.35 | 2,463 | | 2,300 | 3,000 | 5,973 | 2,610 | 2,170 | 1,730 | 2,023 | 2,379 | 2,814 | 3,344 |
| G | | Graham | Young | 2 | | | | | | | | | | | | | |
| **G** | **Total** | | | | | **138,289** | | **57,657** | **103,020** | **134,773** | **146,524** | **153,913** | **158,333** | **185,111** | **217,752** | **257,542** | **306,046** |
| H | Reliant Energy Renewables | Coastal Plains | Brazoria | | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| H | Energy Developments, Inc | Alta Loma | Chambers | | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| H | Reliant | Cedar Bayou | Chambers | 1 | 0.2 | 5,034 | | 1,103 | 1,100 | 12,340 | 5,334 | 4,435 | 3,536 | 4,134 | 4,863 | 5,751 | 6,834 |
| H | | Cedar Bayou | Chambers | 2 | | | | | | | | | | | | | |
| H | | Cedar Bayou | Chambers | 3 | | | | | | | | | | | | | |
| H | Avista / NRG Energy | Brazos Valley Generating Facility | Fort Bend | | 0.23 | 0 | | | | 4,947 | 0 | 3,949 | 5,653 | 6,609 | 7,774 | 9,195 | 10,927 |
| H | Reliant | WA Parish | Fort Bend | GT1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| H | | WA Parish | Fort Bend | 1 | 0.27 | 2,248 | | 62,805 | 70,000 | 9,112 | 2,382 | 1,980 | 1,579 | 1,846 | 2,171 | 2,568 | 3,052 |
| H | | WA Parish | Fort Bend | 2 | | | | | | | | | | | | | |
| H | | WA Parish | Fort Bend | 3 | | | | | | | | | | | | | |
| H | | WA Parish | Fort Bend | 4 | | | | | | | | | | | | | |
| H | | WA Parish | Fort Bend | 5 | 0.35 | 41,805 | 33,500 | | | 13,815 | 44,294 | 44,829 | 45,364 | 53,037 | 62,389 | 73,789 | 87,686 |
| H | | WA Parish | Fort Bend | 6 | | | | | | | | | | | | | |
| H | | WA Parish | Fort Bend | 7 | 0.6 | 14,237 | | | | 19,827 | 15,085 | 15,267 | 15,449 | 18,062 | 21,247 | 25,129 | 29,862 |
| H | | WA Parish | Fort Bend | 8 | | | | | | | | | | | | | |
| H | Reliant | PH Robinson | Galveston | 1 | 0.2 | 5,714 | | 1,229 | 1,500 | 12,444 | 6,054 | 5,034 | 4,013 | 4,692 | 5,519 | 6,528 | 7,757 |
| H | | PH Robinson | Galveston | 2 | | | | | | | | | | | | | |
| H | | PH Robinson | Galveston | 3 | | | | | | | | | | | | | |
| H | | PH Robinson | Galveston | 4 | | | | | | | | | | | | | |
| H | ANP | Harris Energy Facility | Harris | | 0.23 | 0 | | | | 13,603 | 0 | 0 | 15,546 | 18,175 | 21,379 | 25,286 | 30,048 |
| H | Energy Developments, Inc | Whispering Pines | Harris | | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| H | Exelon | LaPorte Generating Station | Harris | | 0.05 | 0 | | | | 54 | 0 | 43 | 61 | 72 | 85 | 100 | 119 |
| H | | LaPorte Generating Station | Harris | | 0.05 | 0 | | | | 54 | 0 | 43 | 61 | 72 | 85 | 100 | 119 |
| H | | LaPorte Generating Station | Harris | | 0.05 | 0 | | | | 54 | 0 | 43 | 61 | 72 | 85 | 100 | 119 |
| H | | LaPorte Generating Station | Harris | | 0.05 | 0 | | | | 54 | 0 | 43 | 61 | 72 | 85 | 100 | 119 |
| H | Reliant | Deepwater | Harris | 7 | 0.35 | 205 | | 11,660 | 16,500 | 1,768 | 217 | 181 | 144 | 169 | 198 | 235 | 279 |
| H | Reliant | Greens Bayou | Harris | 5 | 0.58 | 1,207 | | | | 6,720 | 1,279 | 1,063 | 848 | 991 | 1,166 | 1,379 | 1,639 |
| H | | Greens Bayou | Harris | 73 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| H | | Greens Bayou | Harris | 74 | | | | | | | | | | | | | |
| H | | Greens Bayou | Harris | 81 | | | | | | | | | | | | | |
| H | | Greens Bayou | Harris | 82 | | | | | | | | | | | | | |
| H | | Greens Bayou | Harris | 83 | | | | | | | | | | | | | |
| H | | Greens Bayou | Harris | 84 | | | | | | | | | | | | | |
| H | Reliant | Hiram Clark | Harris | GT1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| H | | Hiram Clark | Harris | GT2 | | | | | | | | | | | | | |
| H | | Hiram Clark | Harris | GT3 | | | | | | | | | | | | | |
| H | | Hiram Clark | Harris | GT4 | | | | | | | | | | | | | |
| H | | Hiram Clark | Harris | 5 | | | | | | | | | | | | | |
| H | | Hiram Clark | Harris | 6 | | | | | | | | | | | | | |
| H | Reliant | Sam Bertron | Harris | GT1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| H | | Sam Bertron | Harris | GT2 | | | | | | | | | | | | | |
| H | | Sam Bertron | Harris | ST1 | 0.27 | 1,544 | | | | 5,998 | 1,636 | 1,360 | 1,084 | 1,268 | 1,491 | 1,764 | 2,096 |
| H | | Sam Bertron | Harris | ST2 | | | | | | | | | | | | | |
| H | | Sam Bertron | Harris | 3 | | | | | | | | | | | | | |
| H | | Sam Bertron | Harris | 4 | | | | | | | | | | | | | |
| H | | Sam Bertron | Harris | G1 | | | | | | | | | | | | | |
| H | Reliant | San Jacinto SES | Harris | SJS1 | 0.05 | 210 | | | | 237 | 222 | 189 | 271 | 317 | 373 | 441 | 524 |
| H | | San Jacinto SES | Harris | SJS2 | | | | | | | | | | | | | |
| H | Reliant | TH Wharton | Harris | 2 | 0.75 | 1,366 | | | | 4,996 | 1,447 | 1,203 | 960 | 1,122 | 1,320 | 1,561 | 1,855 |
| H | | TH Wharton | Harris | 3 | 0.23 | 2,234 | | | | 4,003 | 2,367 | 3,196 | 4,575 | 5,348 | 6,291 | 7,441 | 8,842 |
| H | | TH Wharton | Harris | 31 | | | | | | | | | | | | | |
| H | | TH Wharton | Harris | 32 | | | | | | | | | | | | | |
| H | | TH Wharton | Harris | 33 | | | | | | | | | | | | | |
| H | | TH Wharton | Harris | 34 | | | | | | | | | | | | | |
| H | | TH Wharton | Harris | 4 | | | | | | | | | | | | | |
| H | | TH Wharton | Harris | 41 | | | | | | | | | | | | | |
| H | | TH Wharton | Harris | 42 | | | | | | | | | | | | | |
| H | | TH Wharton | Harris | 43 | | | | | | | | | | | | | |
| H | | TH Wharton | Harris | 44 | | | | | | | | | | | | | |
| H | | TH Wharton | Harris | 51 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| H | | TH Wharton | Harris | 52 | | | | | | | | | | | | | |

# Future Water Demand for Steam Electric Generation in Texas by Plant or Unit

| Region | Company | Plant | County | Unit | Water Use Factor (gal/kWhr) | 2000 Estimated Water Use Using Water Use Factor and Cooling Pond Makeup (acre feet) | 2000 Water Diverted to Cooling Ponds (acre feet) | 1990 Water Use per TDWB 2002 State Water Plan (acre feet) | 2000 Water Use per TDWB 2002 State Water Plan (acre feet) | Annual Water Use at 100% Load Factor Using Water Use Factor (acre feet) | Estimated Water Use for 2000 (acre feet) | Estimated Water Use for 2010 (acre feet) | Estimated Water Use for 2020 (acre feet) | Estimated Water Use for 2030 (acre feet) | Estimated Water Use for 2040 (acre feet) | Estimated Water Use for 2050 (acre feet) | Estimated Water Use for 2060 (acre feet) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| H | | TH Wharton | Harris | 53 | | | | | | | | | | | | | |
| H | | TH Wharton | Harris | 54 | | | | | | | | | | | | | |
| H | | TH Wharton | Harris | 55 | | | | | | | | | | | | | |
| H | | TH Wharton | Harris | 56 | | | | | | | | | | | | | |
| H | | TH Wharton | Harris | GT1 | | | | | | | | | | | | | |
| H | Reliant | Webster | Harris | GT1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| H | | Webster | Harris | 3 | 0.27 | 412 | | | | 2,976 | 437 | 363 | 290 | 339 | 398 | 471 | 560 |
| H | Reliant Energy Renewables | Atascosita LP | Harris | | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| H | Reliant Energy Renewables | Baytown | Harris | | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| H | Reliant Energy Renewables | Blue Bonnet | Harris | | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| H | HNG | Dayton Storage Co | Liberty | | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| H | Reliant Energy Renewables | Security | Liberty | | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| H | Sempra | Cedar Bluff Power Project | Liberty | | 0.23 | 0 | | | | 3,710 | 0 | 2,962 | 4,240 | 4,957 | 5,831 | 6,896 | 8,195 |
| H | Entergy Gulf States | Lewis Creek | Montgomery | 1 | 0.27 | 2,366 | | 5,921 | 6,000 | 3,940 | 2,507 | 2,084 | 1,662 | 1,943 | 2,285 | 2,703 | 3,212 |
| H | | Lewis Creek | Montgomery | 2 | | | | | | | | | | | | | |
| H | Reliant Energy Renewables | Conroe | Mongomery | | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| H | Sempra | Montgomery County Energy Project | Montgomery | | 0.23 | 0 | | | | 3,710 | 0 | 2,962 | 4,240 | 4,957 | 5,831 | 6,896 | 8,195 |
| H | Warren | Warren Peaking Power Facility | Mongomery | | 0.23 | 0 | | | | 2,306 | 0 | 0 | 2,636 | 3,081 | 3,625 | 4,287 | 5,095 |
| H | Total | | | | | 78,582 | | 82,718 | 96,100 | 128,667 | 83,261 | 91,230 | 112,334 | 131,332 | 154,490 | 182,720 | 217,132 |
| I | Newport | Palestine Power Project | Anderson | | 0.23 | 0 | | | | 9,893 | 0 | 0 | 11,306 | 13,218 | 15,549 | 18,390 | 21,853 |
| I | TXU | Stryker Creek | Cherokee | D1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| I | | Stryker Creek | Cherokee | D2 | | | | | | | | | | | | | |
| I | | Stryker Creek | Cherokee | D3 | | | | | | | | | | | | | |
| I | | Stryker Creek | Cherokee | D4 | | | | | | | | | | | | | |
| I | | Stryker Creek | Cherokee | D5 | | | | | | | | | | | | | |
| I | | Stryker Creek | Cherokee | ST1 | 0.35 | 2,549 | | 4,936 | 5,000 | 6,619 | 2,700 | 2,245 | 1,790 | 2,093 | 2,462 | 2,912 | 3,460 |
| I | | Stryker Creek | Cherokee | ST2 | | | | | | | | | | | | | |
| I | USCE | Robert D Willis | Jasper | 1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| I | | Robert D Willis | Jasper | 2 | | | | | | | | | | | | | |
| I | USCE | Sam Rayburn | Jasper | 1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| I | | Sam Rayburn | Jasper | 2 | | | | | | | | | | | | | |
| I | Calpine | Amelia Energy Center | Jefferson | | 0.23 | 0 | | | | 5,565 | 0 | 0 | 6,360 | 7,435 | 8,746 | 10,344 | 12,292 |
| I | Port of Port Arthur | Sabine Power | Jefferson | | 0.23 | 0 | | | | 6,183 | 0 | 0 | 7,066 | 8,261 | 9,718 | 11,494 | 13,658 |
| I | Steag Power | Sterne Electric Generating Facility | Nacogdoches | | 0.23 | 0 | | | | 6,047 | 0 | 4,828 | 6,911 | 8,079 | 9,504 | 11,241 | 13,358 |
| I | Entergy Gulf States | Toledo Bend | Newton | 1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| I | | Toledo Bend | Newton | 2 | | | | | | | | | | | | | |
| I | Hartburg | Hartburg Power LP | Newton | | 0.23 | 0 | | | | 4,947 | 0 | 0 | 5,653 | 6,609 | 7,774 | 9,195 | 10,927 |
| I | Intergen | Cottonwood Energy Project | Newton | | 0.23 | 0 | | | | 7,420 | 0 | 5,924 | 8,479 | 9,913 | 11,662 | 13,792 | 16,390 |
| I | Entergy Gulf States | Sabine | Orange | 1 | 0.27 | 7,070 | | 5,574 | 6,000 | 14,889 | 7,491 | 6,228 | 4,966 | 5,805 | 6,829 | 8,077 | 9,598 |
| I | | Sabine | Orange | 2 | | | | | | | | | | | | | |
| I | | Sabine | Orange | 3 | | | | | | | | | | | | | |
| I | | Sabine | Orange | 4 | | | | | | | | | | | | | |
| I | | Sabine | Orange | 5 | | | | | | | | | | | | | |
| I | TXU | Martin Lake | Rusk | 1 | 0.35 | 17,749 | | 28,320 | 30,000 | 22,392 | 18,805 | 19,033 | 19,260 | 22,517 | 26,488 | 31,328 | 37,228 |
| I | | Martin Lake | Rusk | 2 | | | | | | | | | | | | | |
| I | | Martin Lake | Rusk | 3 | | | | | | | | | | | | | |
| I | Teneska | Gateway Generating Station | Rusk | | 0.05 | 0 | | | | 241 | 0 | 192 | 275 | 321 | 378 | 447 | 531 |
| I | | Gateway Generating Station | Rusk | | 0.05 | 0 | | | | 241 | 0 | 192 | 275 | 321 | 378 | 447 | 531 |
| I | | Gateway Generating Station | Rusk | | 0.05 | 0 | | | | 241 | 0 | 192 | 275 | 321 | 378 | 447 | 531 |
| I | | Gateway Generating Station | Rusk | | 0.6 | 0 | | | | 6,452 | 0 | 5,151 | 7,373 | 8,620 | 10,140 | 11,993 | 14,252 |
| I | Total | | | | | 27,367 | | 38,830 | 41,000 | 91,128 | 28,997 | 43,965 | 79,968 | 93,516 | 110,006 | 130,108 | 154,611 |
| J | IBWC | Amistad | Val Verde | 1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| J | | Amistad | Val Verde | 2 | | | | | | | | | | | | | |
| J | Total | | | | | 0 | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| K | FP&L | Bastrop Energy Center | Bastrop | | 0.23 | 0 | | | | 3,339 | 0 | 2,666 | 3,816 | 4,461 | 5,248 | 6,207 | 7,375 |
| K | Gentex / Calpine | Lost Pines I Power Project | Bastrop | | 0.05 | 0 | | | | 263 | 0 | 210 | 300 | 351 | 413 | 488 | 580 |
| K | | Lost Pines I Power Project | Bastrop | | 0.05 | 0 | | | | 263 | 0 | 210 | 300 | 351 | 413 | 488 | 580 |
| K | | Lost Pines I Power Project | Bastrop | | 0.6 | 0 | | | | 3,216 | 0 | 2,568 | 3,676 | 4,297 | 5,055 | 5,979 | 7,105 |
| K | LCRA | Sim Gideon | Bastrop | 1 | 0.27 | 1,835 | | 2,967 | 4,500 | 4,638 | 1,944 | 1,617 | 1,289 | 1,507 | 1,773 | 2,097 | 2,492 |
| K | | Sim Gideon | Bastrop | 2 | | | | | | | | | | | | | |
| K | | Sim Gideon | Bastrop | 3 | | | | | | | | | | | | | |
| K | LCRA | Buchanan | Burnet | 1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| K | | Buchanan | Burnet | 2 | | | | | | | | | | | | | |
| K | | Buchanan | Burnet | 3 | | | | | | | | | | | | | |
| K | LCRA | Granite Shoals | Burnet | 1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| K | | Granite Shoals | Burnet | 2 | | | | | | | | | | | | | |
| K | LCRA | Inks | Burnet | 1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| K | LCRA | Marble Falls | Burnet | 1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| K | | Marble Falls | Burnet | 2 | | | | | | | | | | | | | |
| K | LCRA | Fayette | Fayette | 1 | 0.35 | 33,254 | 20,502 | 11,701 | 15,000 | 15,902 | 35,234 | 35,660 | 36,085 | 42,188 | 49,627 | 58,696 | 69,750 |
| K | | Fayette | Fayette | 2 | | | | | | | | | | | | | |
| K | | Fayette | Fayette | 3 | | | | | | | | | | | | | |
| K | LCRA | Thomas C Ferguson | Llano | 1 | 0.27 | 1,200 | | 937 | 1,000 | 3,237 | 1,271 | 1,057 | 843 | 985 | 1,159 | 1,371 | 1,629 |
| K | Ridge Energy Storage | Markham Energy Storage Center | Matagorda | | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| K | Reliant | STP | Matagorda | 1 | 0.58 | 27,030 | 23,600 | 35,915 | 47,000 | 21,117 | 28,639 | 28,296 | 27,953 | 32,680 | 38,443 | 45,468 | 54,031 |
| K | | STP | Matagorda | 2 | 0.58 | 30,566 | | | | 21,117 | 32,386 | 31,998 | 31,610 | 36,956 | 43,472 | 51,416 | 61,099 |
| K | LCRA | Austin | Travis | 1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| K | | Austin | Travis | 2 | | | | | | | | | | | | | |
| K | Austin | Decker | Travis | GT1 | 0.05 | 10 | | | | 277 | 10 | 221 | 317 | 370 | 436 | 515 | 612 |
| K | | Decker | Travis | GT2 | | | | | | | | | | | | | |
| K | | Decker | Travis | GT3 | | | | | | | | | | | | | |
| K | | Decker | Travis | GT4 | | | | | | | | | | | | | |

# Future Water Demand for Steam Electric Generation in Texas by Plant or Unit

| Region | Company | Plant | County | Unit | Water Use Factor (gal/kWhr) | 2000 Estimated Water Use Using Water Use Factor and Cooling Pond Makeup (acre feet) | 2000 Water Diverted to Cooling Ponds (acre feet) | 1990 Water Use per TDWB 2002 State Water Plan (acre feet) | 2000 Water Use per TDWB 2002 State Water Plan (acre feet) | Annual Water Use at 100% Load Factor Using Water Use Factor (acre feet) | Estimated Water Use for 2000 (acre feet) | Estimated Water Use for 2010 (acre feet) | Estimated Water Use for 2020 (acre feet) | Estimated Water Use for 2030 (acre feet) | Estimated Water Use for 2040 (acre feet) | Estimated Water Use for 2050 (acre feet) | Estimated Water Use for 2060 (acre feet) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| K | | Decker | Travis | PV3 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| K | | Decker | Travis | 1 | 0.27 | 5,726 | 3,934 | 4,150 | 13,500 | 5,270 | 6,067 | 5,044 | 4,022 | 4,702 | 5,531 | 6,542 | 7,774 |
| K | | Decker | Travis | 2 | | | | | | | | | | | | | |
| K | Austin | Holly | Travis | 1 | 0.35 | 1,337 | | | | 5,250 | 1,417 | 1,178 | 939 | 1,098 | 1,292 | 1,528 | 1,815 |
| K | | Holly | Travis | 2 | | | | | | | | | | | | | |
| K | | Holly | Travis | 3 | | | | | | | | | | | | | |
| K | | Holly | Travis | 4 | | | | | | | | | | | | | |
| K | Austin | Sand Hill | Travis | 1 | 0.05 | 0 | | | | 325 | 0 | 260 | 372 | 435 | 511 | 605 | 719 |
| K | | Sand Hill | Travis | 2 | | | | | | | | | | | | | |
| K | | Sand Hill | Travis | 3 | | | | | | | | | | | | | |
| K | | Sand Hill | Travis | 4 | | | | | | | | | | | | | |
| K | Austin Energy | Sand Hill | Travis | | 0.23 | 0 | | | | 1,855 | 0 | 1,481 | 2,120 | 2,478 | 2,915 | 3,448 | 4,097 |
| K | | Sand Hill | Travis | | 0.23 | 0 | | | | 1,546 | 0 | 1,234 | 1,767 | 2,065 | 2,429 | 2,873 | 3,415 |
| K | Ecogas | Ecogas | Travis | | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| K | LCRA | Marshall Ford | Travis | 1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| K | | Marshall Ford | Travis | 2 | | | | | | | | | | | | | |
| K | | Marshall Ford | Travis | 3 | | | | | | | | | | | | | |
| K | AEP | Newgulf | Wharton | GEN1 | 0.05 | 4 | | | | 106 | 4 | 85 | 121 | 141 | 166 | 197 | 234 |
| K | | Newgulf | Wharton | GEN2 | 0.6 | 6 | | | | 202 | 6 | 161 | 230 | 269 | 317 | 375 | 445 |
| K | **Total** | | | | | **100,967** | | **55,670** | **81,000** | **87,923** | **106,980** | **113,945** | **115,759** | **135,336** | **159,201** | **188,292** | **223,753** |
| L | San Miguel | San Miguel | Atascosa | 1 | 0.6 | 5,487 | | 6,036 | 12,000 | 6,613 | 5,814 | 5,684 | 5,954 | 6,962 | 8,189 | 9,685 | 11,510 |
| L | CPS San Antonio | A Von Rosenberg | Bexar | 1 | | | | | | | | | | | | | |
| L | | A Von Rosenberg | Bexar | 2 | | | | | | | | | | | | | |
| L | | A Von Rosenberg | Bexar | 3 | 0.15 | 1,002 | | 24,263 | 36,000 | 2,216 | 1,061 | 1,770 | 2,533 | 2,961 | 3,483 | 4,120 | 4,896 |
| L | CPS San Antonio | JK Spruce | Bexar | 1 | 0.35 | 4,274 | | | | 5,137 | 4,529 | 4,583 | 4,638 | 5,423 | 6,379 | 7,544 | 8,965 |
| L | CPS San Antonio | JT Deely | Bexar | 1 | 0.35 | 5,945 | | | | 8,393 | 6,299 | 6,375 | 6,451 | 7,542 | 8,872 | 10,493 | 12,470 |
| L | | JT Deely | Bexar | 2 | | | | | | | | | | | | | |
| L | CPS San Antonio | Leon Creek | Bexar | 3 | 0.75 | 209 | | | | 3,811 | 221 | 184 | 147 | 171 | 201 | 238 | 283 |
| L | | Leon Creek | Bexar | 4 | | | | | | | | | | | | | |
| L | CPS San Antonio | Mission Road | Bexar | 3 | 0.75 | 128 | | | | 2,299 | 136 | 113 | 90 | 105 | 124 | 146 | 174 |
| L | CPS San Antonio | OW Summers | Bexar | 1 | 0.27 | 2,125 | | | | 6,475 | 2,251 | 1,872 | 1,492 | 1,745 | 2,053 | 2,428 | 2,885 |
| L | | OW Summers | Bexar | 2 | | | | | | | | | | | | | |
| L | | OW Summers | Bexar | A | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| L | | OW Summers | Bexar | B | | | | | | | | | | | | | |
| L | | OW Summers | Bexar | C | | | | | | | | | | | | | |
| L | | OW Summers | Bexar | D | | | | | | | | | | | | | |
| L | CPS San Antonio | VH Braunig | Bexar | 1 | 0.35 | 1,910 | | | | 8,412 | 2,024 | 1,683 | 1,342 | 1,569 | 1,845 | 2,182 | 2,593 |
| L | | VH Braunig | Bexar | 2 | | | | | | | | | | | | | |
| L | | VH Braunig | Bexar | 3 | | | | | | | | | | | | | |
| L | CPS San Antonio | WB Tuttle | Bexar | 1 | 0.75 | 828 | | | | 9,980 | 877 | 730 | 582 | 680 | 800 | 946 | 1,124 |
| L | | WB Tuttle | Bexar | 2 | | | | | | | | | | | | | |
| L | | WB Tuttle | Bexar | 3 | | | | | | | | | | | | | |
| L | | WB Tuttle | Bexar | 4 | | | | | | | | | | | | | |
| L | Energy Developments, Inc | Hutchins | Bexar | | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| L | Energy Developments, Inc | Tessman Road | Bexar | | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| L | AEP CPL | ES Joslin | Calhoun | 1 | 0.35 | 646 | | 62 | 100 | 2,210 | 684 | 569 | 454 | 530 | 624 | 738 | 877 |
| L | GBRA | Canyon | Comal | 1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| L | | Canyon | Comal | 2 | | | | | | | | | | | | | |
| L | Small Hydro of Texas Inc | Small Hydro of Texas Inc | DeWitt | 01 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| L | | Small Hydro of Texas Inc | DeWitt | 02 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| L | | Small Hydro of Texas Inc | DeWitt | 03 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| L | Pearsall | Pearsall | Frio | 1 | 0.75 | 121 | | 38 | 400 | 1,331 | 129 | 107 | 85 | 100 | 117 | 139 | 165 |
| L | | Pearsall | Frio | 2 | | | | | | | | | | | | | |
| L | | Pearsall | Frio | 3 | | | | | | | | | | | | | |
| L | AEP CPL | Coleto Creek | Goliad | 1 | 0.35 | 8,520 | 3,338 | 12,165 | 15,000 | 5,364 | 9,027 | 9,136 | 9,245 | 10,808 | 12,714 | 15,038 | 17,870 |
| L | Gonzales | Gonzales | Gonzales | 1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| L | | Gonzales | Gonzales | 2 | | | | | | | | | | | | | |
| L | | Gonzales | Gonzales | 3 | | | | | | | | | | | | | |
| L | GBRA | H 4 | Gonzales | 1 | 0 | 0 | | | 10,760 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| L | GBRA | H 5 | Gonzales | 1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| L | GBRA | Abbott TP 3 | Guadalupe | 1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| L | | Abbott TP 3 | Guadalupe | 2 | | | | | | | | | | | | | |
| L | GBRA | Dunlap TP 1 | Guadalupe | 1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| L | | Dunlap TP 1 | Guadalupe | 2 | | | | | | | | | | | | | |
| L | GBRA | Nolte | Guadalupe | 1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| L | | Nolte | Guadalupe | 2 | | | | | | | | | | | | | |
| L | Seguin | Seguin | Guadalupe | HY1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| L | | Seguin | Guadalupe | I-1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| L | GBRA | TP 4 | Guadalupe | 1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| L | Constellation | Rio Nogales Power Project | Guadalupe | | 0.23 | 0 | | | | 5,101 | 0 | 4,073 | 5,830 | 6,815 | 8,017 | 9,482 | 11,268 |
| L | Panda | Guadalupe Generating Station | Guadalupe | STG1 | 0.6 | 71 | | | | 3,257 | 75 | 2,600 | 3,722 | 4,351 | 5,118 | 6,054 | 7,194 |
| L | | Guadalupe Generating Station | Guadalupe | STG2 | 0.6 | 37 | | | | 3,257 | 39 | 2,600 | 3,722 | 4,351 | 5,118 | 6,054 | 7,194 |
| L | | Guadalupe Generating Station | Guadalupe | CTG1 | 0.05 | 4 | | | | 248 | 4 | 198 | 284 | 332 | 390 | 461 | 548 |
| L | | Guadalupe Generating Station | Guadalupe | CTG2 | 0.05 | 5 | | | | 248 | 5 | 198 | 284 | 332 | 390 | 461 | 548 |
| L | | Guadalupe Generating Station | Guadalupe | CTG3 | 0.05 | 3 | | | | 248 | 3 | 198 | 284 | 332 | 390 | 461 | 548 |
| L | | Guadalupe Generating Station | Guadalupe | CTG4 | 0.05 | 2 | | | | 248 | 2 | 198 | 284 | 332 | 390 | 461 | 548 |
| L | ANP | Hays Energy Project | Hays | | 0.23 | 0 | | | | 6,678 | 0 | 5,331 | 7,631 | 8,922 | 10,495 | 12,413 | 14,751 |
| L | AEP CPL | Victoria | Victoria | 4 | 0.75 | 2,054 | | 887 | 8,000 | 9,292 | 2,176 | 1,809 | 1,442 | 1,686 | 1,984 | 2,346 | 2,788 |
| L | | Victoria | Victoria | 5 | | | | | | | | | | | | | |
| L | | Victoria | Victoria | 6 | | | | | | | | | | | | | |
| L | STEC | Sam Rayburn | Victoria | 1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| L | | Sam Rayburn | Victoria | 2 | | | | | | | | | | | | | |
| L | | Sam Rayburn | Victoria | 3 | 0.35 | 20 | | | | 207 | 21 | 18 | 14 | 17 | 20 | 23 | 27 |
| L | | Sam Rayburn | Victoria | 4 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

# Future Water Demand for Steam Electric Generation in Texas by Plant or Unit

| Region | Company | Plant | County | Unit | Water Use Factor (gal/kWhr) | 2000 Estimated Water Use Using Water Use Factor and Cooling Pond Makeup (acre feet) | 2000 Water Diverted to Cooling Ponds (acre feet) | 1990 Water Use per TDWB 2002 State Water Plan (acre feet) | 2000 Water Use per TDWB 2002 State Water Plan (acre feet) | Annual Water Use at 100% Load Factor Using Water Use Factor (acre feet) | Estimated Water Use for 2000 (acre feet) | Estimated Water Use for 2010 (acre feet) | Estimated Water Use for 2020 (acre feet) | Estimated Water Use for 2030 (acre feet) | Estimated Water Use for 2040 (acre feet) | Estimated Water Use for 2050 (acre feet) | Estimated Water Use for 2060 (acre feet) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | | Sam Rayburn | Victoria | 5 | | | | | | | | | | | | | |
| L | | Sam Rayburn | Victoria | | 0.05 | 0 | | | | 249 | 0 | 199 | 284 | 332 | 391 | 462 | 549 |
| L | Total | | | | | 33,390 | | 43,451 | 82,260 | 81,274 | 35,378 | 50,427 | 56,792 | 66,397 | 78,105 | 92,378 | 109,775 |
| M | AEP CPL | La Palma | Cameron | 4 | 0.75 | 1,411 | | 1,650 | 2,400 | 3,896 | 1,495 | 1,243 | 991 | 1,159 | 1,363 | 1,612 | 1,916 |
| M | | La Palma | Cameron | 5 | | | | | | | | | | | | | |
| M | | La Palma | Cameron | 6 | | | | | | | | | | | | | |
| M | | La Palma | Cameron | 7 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| M | PUB Brownsville | Silas Ray | Cameron | 5 | 0.75 | 3 | | | | 504 | 3 | 2 | 2 | 2 | 3 | 3 | 4 |
| M | | Silas Ray | Cameron | 6 | 0.23 | 0 | | | | 464 | 0 | 370 | 530 | 620 | 729 | 862 | 1,024 |
| M | | Silas Ray | Cameron | 8 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| M | | Silas Ray | Cameron | 9 | | | | | | | | | | | | | |
| M | AEP CPL | JL Bates | Hidalgo | 1 | 0.75 | 1,201 | | 1,539 | 4,700 | 3,347 | 1,272 | 1,058 | 843 | 986 | 1,160 | 1,372 | 1,630 |
| M | | JL Bates | Hidalgo | 2 | | | | | | | | | | | | | |
| M | Calpine | Hidalgo Energy Center | Hidalgo | CTG1 | 0.05 | 51 | | | | 218 | 54 | 174 | 249 | 291 | 343 | 406 | 482 |
| M | | Hidalgo Energy Center | Hidalgo | CTG2 | 0.05 | 58 | | | | 218 | 61 | 174 | 249 | 291 | 343 | 406 | 482 |
| M | | Hidalgo Energy Center | Hidalgo | STG1 | 0.6 | 755 | | | | 2,829 | 800 | 2,259 | 3,233 | 3,780 | 4,447 | 5,259 | 6,250 |
| M | Calpine | Magic Valley Generating Station | Hidalgo | | 0.05 | 0 | | | | 356 | 0 | 284 | 407 | 476 | 560 | 662 | 787 |
| M | | Magic Valley Generating Station | Hidalgo | | 0.05 | 0 | | | | 356 | 0 | 284 | 407 | 476 | 560 | 662 | 787 |
| M | | Magic Valley Generating Station | Hidalgo | | 0.6 | 0 | | | | 4,274 | 0 | 3,413 | 4,885 | 5,711 | 6,718 | 7,946 | 9,442 |
| M | TECO | Frontera Generation Facility | Hidalgo | GEN1 | 0.05 | 71 | | | | 220 | 76 | 176 | 252 | 295 | 346 | 410 | 487 |
| M | | Frontera Generation Facility | Hidalgo | GEN2 | 0.05 | 77 | | | | 220 | 81 | 176 | 252 | 295 | 346 | 410 | 487 |
| M | | Frontera Generation Facility | Hidalgo | GEN3 | 0.6 | 1,079 | | | | 2,952 | 1,144 | 2,357 | 3,373 | 3,944 | 4,639 | 5,487 | 6,520 |
| M | AEP CPL | Eagle Pass | Maverick | 1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| M | | Eagle Pass | Maverick | 2 | | | | | | | | | | | | | |
| M | | Eagle Pass | Maverick | 3 | | | | | | | | | | | | | |
| M | IBWC | Falcon | Starr | 1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| M | | Falcon | Starr | 2 | | | | | | | | | | | | | |
| M | | Falcon | Starr | 3 | | | | | | | | | | | | | |
| M | AEP CPL | Laredo | Webb | 1 | 0.75 | 1,694 | | 1,504 | 2,000 | 3,393 | 1,795 | 1,492 | 1,190 | 1,391 | 1,636 | 1,935 | 2,300 |
| M | | Laredo | Webb | 2 | | | | | | | | | | | | | |
| M | | Laredo | Webb | 3 | | | | | | | | | | | | | |
| M | Total | | | | | 6,399 | | 4,693 | 9,100 | 23,249 | 6,780 | 13,463 | 16,864 | 19,716 | 23,193 | 27,431 | 32,597 |
| N | Crosstex | Duval | Duval | | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| N | AEP CPL | Barney M Davis | Nueces | 1 | 0.27 | 2,864 | | | | 4,697 | 3,034 | 2,523 | 2,011 | 2,351 | 2,766 | 3,272 | 3,888 |
| N | | Barney M Davis | Nueces | 2 | | | | | | | | | | | | | |
| N | AEP CPL | Lon C Hill | Nueces | 1 | 0.75 | 3,556 | | 2,404 | 3,300 | 10,301 | 3,768 | 3,133 | 2,498 | 2,920 | 3,435 | 4,063 | 4,828 |
| N | | Lon C Hill | Nueces | 2 | | | | | | | | | | | | | |
| N | | Lon C Hill | Nueces | 3 | | | | | | | | | | | | | |
| N | | Lon C Hill | Nueces | 4 | | | | | | | | | | | | | |
| N | AEP CPL | Nueces Bay | Nueces | 5 | 0.27 | 1,884 | | | | 3,729 | 1,997 | 1,660 | 1,324 | 1,547 | 1,820 | 2,153 | 2,558 |
| N | | Nueces Bay | Nueces | 6 | | | | | | | | | | | | | |
| N | | Nueces Bay | Nueces | 7 | | | | | | | | | | | | | |
| N | Avista | Nueces Energy Project | Nueces | | 0.23 | 0 | | | | 7,420 | 0 | 0 | 8,479 | 9,913 | 11,662 | 13,792 | 16,390 |
| N | Robstown | Robstown | Nueces | 10 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| N | | Robstown | Nueces | 11 | | | | | | | | | | | | | |
| N | | Robstown | Nueces | 3 | | | | | | | | | | | | | |
| N | | Robstown | Nueces | 4 | | | | | | | | | | | | | |
| N | | Robstown | Nueces | 5 | | | | | | | | | | | | | |
| N | | Robstown | Nueces | 7 | | | | | | | | | | | | | |
| N | | Robstown | Nueces | 8 | | | | | | | | | | | | | |
| N | | Robstown | Nueces | 9 | | | | | | | | | | | | | |
| N | Total | | | | | 8,304 | | 2,404 | 3,300 | 26,146 | 8,799 | 7,316 | 14,312 | 16,733 | 19,683 | 23,280 | 27,664 |
| O | Floydada | Floydada | Floyd | 2 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| O | | Floydada | Floyd | 3 | | | | | | | | | | | | | |
| O | | Floydada | Floyd | 4 | | | | | | | | | | | | | |
| O | | Floydada | Floyd | 5 | | | | | | | | | | | | | |
| O | | Floydada | Floyd | 6 | | | | | | | | | | | | | |
| O | Xcel SPS | Plant X | Lamb | 1 | 0.75 | 1,990 | | | | 8,759 | 2,108 | 1,753 | 1,398 | 1,634 | 1,922 | 2,274 | 2,702 |
| O | | Plant X | Lamb | 2 | | | | | | | | | | | | | |
| O | | Plant X | Lamb | 3 | | | | | | | | | | | | | |
| O | | Plant X | Lamb | 4 | | | | | | | | | | | | | |
| O | Xcel SPS | Tolk | Lamb | 1 | 0.6 | 14,989 | | 12,587 | 18,000 | 18,324 | 15,882 | 16,074 | 16,266 | 19,016 | 22,370 | 26,457 | 31,440 |
| O | | Tolk | Lamb | 2 | | | | | | | | | | | | | |
| O | Cielo / Lubbock P&L | Llano Estacado Wind Ranch | Lubbock | | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| O | Lubbock | Brandon | Lubbock | 1 | 0.05 | 21 | | | | 28 | 22 | 23 | 32 | 38 | 44 | 52 | 62 |
| O | Lubbock | J Robert Massengale | Lubbock | 4 | 0.75 | 176 | | | | 464 | 187 | 155 | 124 | 145 | 170 | 201 | 239 |
| O | | J Robert Massengale | Lubbock | 5 | | | | | | | | | | | | | |
| O | | J Robert Massengale | Lubbock | 6A | 0.23 | 0 | | | | 519 | 0 | 415 | 594 | 694 | 816 | 965 | 1,147 |
| O | | J Robert Massengale | Lubbock | 7 | 0.23 | 0 | | | | | | | | | | | |
| O | | J Robert Massengale | Lubbock | 8 | | | | | | | | | | | | | |
| O | Xcel SPS | Jones | Lubbock | 1 | 0.6 | 4,368 | | 1,715 | 2,000 | 8,001 | 4,628 | 3,848 | 3,068 | 3,587 | 4,220 | 4,991 | 5,930 |
| O | | Jones | Lubbock | 2 | | | | | | | | | | | | | |
| O | Lubbock | Ty Cooke (Holly Ave.) | Lubbock | GT1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| O | | Ty Cooke (Holly Ave.) | Lubbock | GT2 | | | | | | | | | | | | | |
| O | | Ty Cooke (Holly Ave.) | Lubbock | GT3 | | | | | | | | | | | | | |
| O | | Ty Cooke (Holly Ave.) | Lubbock | 1 | 0.75 | 886 | | | | 1,969 | 938 | 780 | 622 | 727 | 856 | 1,012 | 1,203 |
| O | | Ty Cooke (Holly Ave.) | Lubbock | 2 | | | | | | | | | | | | | |
| O | Tulia | Tulia | Swisher | 10 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| O | | Tulia | Swisher | 11 | | | | | | | | | | | | | |
| O | | Tulia | Swisher | 12 | | | | | | | | | | | | | |
| O | | Tulia | Swisher | 2 | | | | | | | | | | | | | |
| O | | Tulia | Swisher | 5 | | | | | | | | | | | | | |

# Future Water Demand for Steam Electric Generation in Texas by Plant or Unit

| Region | Company | Plant | County | Unit | Water Use Factor (gal/kWhr) | 2000 Estimated Water Use Using Water Use Factor and Cooling Pond Makeup (acre feet) | 2000 Water Diverted to Cooling Ponds (acre feet) | 1990 Water Use per TDWB 2002 State Water Plan (acre feet) | 2000 Water Use per TDWB 2002 State Water Plan (acre feet) | Annual Water Use at 100% Load Factor Using Water Use Factor (acre feet) | Estimated Water Use for 2000 (acre feet) | Estimated Water Use for 2010 (acre feet) | Estimated Water Use for 2020 (acre feet) | Estimated Water Use for 2030 (acre feet) | Estimated Water Use for 2040 (acre feet) | Estimated Water Use for 2050 (acre feet) | Estimated Water Use for 2060 (acre feet) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| O | | Tulia | Swisher | 6 | | | | | | | | | | | | | |
| O | | Tulia | Swisher | 7 | | | | | | | | | | | | | |
| O | | Tulia | Swisher | 8 | | | | | | | | | | | | | |
| O | | Tulia | Swisher | 9 | | | | | | | | | | | | | |
| O | Brownfield | Brownfield | Terry | GT1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| O | | Brownfield | Terry | 1 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| O | | Brownfield | Terry | 3 | | | | | | | | | | | | | |
| O | | Brownfield | Terry | 4 | | | | | | | | | | | | | |
| O | | Brownfield | Terry | 5 | | | | | | | | | | | | | |
| O | | Brownfield | Terry | 6 | | | | | | | | | | | | | |
| O | Golden Spread Coop | Mustang Station | Yoakum | GEN1 | 0.05 | 129 | | | | 234 | 137 | 187 | 268 | 313 | 368 | 435 | 517 |
| O | | Mustang Station | Yoakum | GEN2 | 0.05 | 126 | | | | 234 | 134 | 187 | 268 | 313 | 368 | 435 | 517 |
| O | | Mustang Station | Yoakum | GEN3 | 0.6 | 1,493 | | | | 2,785 | 1,582 | 2,223 | 3,182 | 3,721 | 4,377 | 5,177 | 6,151 |
| O | Total | | | | | 24,179 | | 14,302 | 20,000 | 41,316 | 25,619 | 25,645 | 25,821 | 30,188 | 35,511 | 42,000 | 49,910 |
| P | Total | | | | | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | | | | | | Statewide Steam Electric Generation Water Demand Totals | | | | | | |
| | | | | | | 586,664 | 210,725 | 424,924 | 574,238 | 915,913 | 621,601 | 724,814 | 841,572 | 983,900 | 1,157,396 | 1,368,887 | 1,626,892 |
| | | | | | | 310,332 GWh | | 227,387 GWh | | | | | | | | | |
| | | | | | | | | | | | Statewide Water Demand by Type of Generation | | | | | | |
| | | | | | | Statewide Water Use Factor (gal / kWh) | | | | | | | | | | | |
| | | | | | | 0.616 | | 0.609 | | | Coal | | | | | | |
| | | | | | | | | | | | 300,166 | 303,791 | 307,417 | 359,408 | 422,784 | 500,039 | 594,213 |
| | | | | | | | | | | | Nuclear | | | | | | |
| | | | | | | | | | | | 137,531 | 135,882 | 134,234 | 156,936 | 184,609 | 218,343 | 259,464 |
| | | | | | | | | | | | Steam Turbine Conventional Gas Fired Capacity | | | | | | |
| | | | | | | | | | | | 169,239 | 140,715 | 112,190 | 131,163 | 154,292 | 182,486 | 216,854 |
| | | | | | | | | | | | Total without combined cycle | | | | | | |
| | | | | | | | | | | | 606,936 | 580,388 | 553,841 | 647,507 | 761,685 | 900,868 | 1,070,530 |
| | | | | | | | | | | | Combined Cycle and Water Consuming Gas Turbine Gas Fired Capacity - Online by Year 2000 | | | | | | |
| | | | | | | | | | | 52,385 | 14,282 | 41,823 | 59,866 | 69,991 | 82,332 | 97,377 | 115,716 |
| | | | | | | | | | | 3,130 | 383 | 2,499 | 3,577 | 4,182 | 4,919 | 5,818 | 6,914 |
| | | | | | | | | | | | Combined Cycle and Water Consuming Gas Turbine Gas Fired Capacity - Online by Year 2010 | | | | | | |
| | | | | | | | | | | 124,844 | 0 | 99,672 | 142,672 | 166,800 | 196,213 | 232,067 | 275,773 |
| | | | | | | | | | | 540 | 0 | 431 | 618 | 722 | 849 | 1,004 | 1,194 |
| | | | | | | | | | | | Combined Cycle and Water Consuming Gas Turbine Gas Fired Capacity - Online by Year 2020 | | | | | | |
| | | | | | | | | | | 70,878 | 0 | 0 | 80,999 | 94,698 | 111,397 | 131,752 | 156,565 |
| | | | | | | | | | | | Salt Water Consumed but shown as fresh water demand | | | | | | |
| | | | | | | | | | | | 26,446 | 21,969 | 17,531 | 20,496 | 24,111 | 28,516 | 33,887 |

# Cogeneration Facilities in Texas

| Region | County | Facility Name | Primary Fuel | Unit Name | Nameplate Rating (kW) | Unit Startup Date | Prime Mover | Gross Generation in Year 2000 (kWhrs) |
|---|---|---|---|---|---|---|---|---|
| A | Hutchinson | Black Hawk Station - Quixx | NG | UNT1 | 126,900 | 01-JUN-1999 | GT | 813,980,690 |
| A | Hutchinson | Black Hawk Station - Quixx | NG | UNT2 | 126,900 | 01-JUN-1999 | GT | 702,235,980 |
| A | Hutchinson | Borger Plant - Sid Richardson Carbon | OG | GEN1 | 37,500 | 01-FEB-1985 | ST | 238,877,000 |
| A | Hutchinson | Engineered Carbons Borger Cogeneration | OG | GEN1 | 20,000 | 01-OCT-1982 | ST | 129,649,083 |
| A | Moore | McKee Refinery - Diamond Shamrock | PC | M/G | 2,000 | 01-MAY-1979 | OT | 37,620 |
| | | | | | | | | |
| B | Wichita | PPG Industries Inc Works 4 | DFO | L1G | 2,000 | 01-JUN-1975 | IC | 260,000 |
| B | Wichita | PPG Industries Inc Works 4 | DFO | L2G | 2,000 | 01-JUN-1974 | IC | 260,000 |
| B | Wichita | PPG Industries Inc Works 4 | DFO | L2PG | 1,100 | 01-OCT-1980 | IC | 148,000 |
| B | Wichita | PPG Industries Inc Works 4 | DFO | L1PG | 930 | 01-OCT-1980 | IC | 138,750 |
| | | | | | | | | |
| C | Dallas | Rock Tenn Dallas Mill | NG | GEN1 | 6,250 | 01-JAN-1960 | ST | 42,291,000 |
| C | Dallas | State Farm Ins Co ISC Central | NG | 2A | 1,825 | 01-JAN-1998 | IC | 26,313 |
| C | Dallas | State Farm Ins Co ISC Central | NG | 2B | 1,825 | 01-JAN-1998 | IC | 26,313 |
| C | Dallas | State Farm Ins Co ISC Central | NG | 3A | 1,825 | 01-JAN-1998 | IC | 26,313 |
| C | Dallas | State Farm Ins Co ISC Central | NG | 3B | 1,825 | 01-JAN-1998 | IC | 26,313 |
| C | Dallas | State Farm Ins Co ISC Central | NG | 4A | 1,825 | 01-JAN-1998 | IC | 26,313 |
| C | Dallas | State Farm Ins Co ISC Central | NG | 4B | 1,825 | 01-JAN-1998 | IC | 26,312 |
| C | Dallas | University of Texas at Dallas | NG | GEN1 | 3,500 | 01-JAN-1980 | IC | 2,937,200 |
| C | Dallas | Village Creek Wastewater Treatment Plant | | 2 | 1,150 | 01-SEP-1972 | IC | 5,497,407 |
| C | Dallas | Village Creek Wastewater Treatment Plant | | SDI | 850 | 01-APR-1994 | IC | 883 |
| C | Dallas | Village Creek Wastewater Treatment Plant | | SD2 | 850 | 01-APR-1994 | IC | 553 |
| C | Dallas | Village Creek Wastewater Treatment Plant | | 3 | 1,150 | 01-SEP-1978 | IC | 7,124,461 |
| C | Tarrant | D/FW Airport | DFO | | 110,000 | 1-Jun-2005 | | |
| C | Wise | Bridgeport Gas Processing Plant | BL | 325 | 380 | 2006 | IC | 2,440,000 |
| C | Wise | Bridgeport Gas Processing Plant | BL | 326 | 380 | 01-JAN-1958 | IC | 1,700,000 |
| C | Wise | Bridgeport Gas Processing Plant | BL | 324 | 380 | 01-JAN-1958 | IC | 1,940,000 |
| C | Wise | Bridgeport Gas Processing Plant | BL | 327 | 380 | 01-JAN-1958 | IC | 2,030,000 |
| | | | | | | | | |
| D | Bowie | Texarkana Mill | | GEN1 | 25,000 | 01-NOV-1972 | ST | 324,929,000 |
| D | Bowie | Texarkana Mill | | GEN2 | 40,000 | 01-DEC-1977 | ST | 149,291,000 |
| D | Gregg | Eastex Cogeneration Facility - AEP | NG | | 467,700 | 1-Aug-2001 | | |
| D | Harrison | Norit Americas Inc Marshall Plant | OTH | 8511 | 2,000 | 01-JAN-1921 | ST | 12,456,000 |
| D | Harrison | Snider Industries Inc | NG | WGN1 | 5,000 | 01-AUG-1983 | ST | 15,466,000 |
| D | Lamar | Tenaska III Texas Partners | NG | GEN1 | 80,000 | 01-JUL-1989 | CT | 594,244,000 |
| D | Lamar | Tenaska III Texas Partners | NG | GEN2 | 80,000 | 01-JUL-1989 | CT | 502,902,000 |
| D | Lamar | Tenaska III Texas Partners | NG | GEN3 | 90,000 | 01-DEC-1989 | CA | 426,597,000 |
| D | Morris | Lone Star Steel Co | NG | 1 | 15,625 | 01-JAN-1951 | ST | 317,000 |
| D | Morris | Lone Star Steel Co | NG | 2 | 15,625 | 01-JAN-1964 | ST | 3,257,000 |
| D | Van Zandt | Morton Salt Co Grand Saline | | 1530 | 1,500 | 01-JAN-1949 | ST | 8,698,000 |
| D | Wood | Exxon Hawkins Gas Plant | DFO | UN73 | 3,000 | 01-JAN-1973 | IC | 0 |
| D | Wood | Exxon Hawkins Gas Plant | DFO | UN74 | 3,410 | 01-SEP-1987 | GT | 11,258,208 |
| D | Wood | Exxon Hawkins Gas Plant | DFO | UN75 | 2,500 | 01-SEP-1987 | GT | 4,156,992 |
| D | Wood | Exxon Hawkins Gas Plant | DFO | UN76 | 150 | 01-JAN-1955 | IC | 0 |
| D | Wood | Exxon Hawkins Gas Plant | DFO | UN77 | 500 | 01-JAN-1968 | GT | 1,603,320 |

Data from US DOE 2000 Energy Information Administration's Forms EIA-860B and EIA-906

# Cogeneration Facilities in Texas

| Region | County | Facility Name | Primary Fuel | Unit Name | Nameplate Rating (kW) | Unit Startup Date | Prime Mover | Gross Generation in Year 2000 (kWhrs) |
|---|---|---|---|---|---|---|---|---|
| D | Wood | Exxon Hawkins Gas Plant | DFO | UN78 | 600 | 01-JAN-1968 | GT | 1,756,650 |
| D | Wood | Exxon Hawkins Gas Plant | DFO | UN79 | 500 | 01-JAN-1968 | GT | 1,721,600 |
| | | | | | | | | |
| E | El Paso | ASARCO Inc El Paso TX | NG | TRB1 | 5,000 | 01-JAN-1994 | ST | 0 |
| E | El Paso | Leviton Manufacturing Co | NG | GEN1 | 1,850 | 01-MAY-2000 | IC | 36,500 |
| E | El Paso | Phelps Dodge Refining Corp | DFO | 3002 | 4,270 | 01-JUN-1992 | GT | 25,952,000 |
| E | El Paso | Phelps Dodge Refining Corp | DFO | 2608 | 3,500 | 01-OCT-1986 | GT | 13,146,567 |
| E | El Paso | Phelps Dodge Refining Corp | DFO | 2607 | 3,500 | 01-OCT-1986 | GT | 11,852,013 |
| E | El Paso | Phelps Dodge Refining Corp | DFO | 3001 | 4,270 | 01-JUN-1992 | GT | 25,723,600 |
| E | El Paso | Phelps Dodge Refining Corp | DFO | 3003 | 4,270 | 01-JUN-1992 | GT | 17,164,100 |
| E | El Paso | Providence Memorial Hospital | NG | 9542 | 2,180 | 01-MAR-1987 | IC | 71,280 |
| E | El Paso | Providence Memorial Hospital | NG | 9541 | 2,180 | 01-MAR-1987 | IC | 54,000 |
| E | El Paso | The Hoover Company | NG | 0542 | 1,800 | 01-JUN-1997 | IC | 61,600 |
| E | El Paso | The Hoover Company | NG | 0543 | 1,800 | 01-JUN-1997 | IC | 61,600 |
| | | | | | | | | |
| F | Andrews | Fullerton Plant | NG | GEN7 | 500 | 01-OCT-1974 | IC | 2,981,300 |
| F | Andrews | Fullerton Plant | NG | GEN8 | 500 | 01-OCT-1974 | IC | 2,801,750 |
| F | Andrews | Fullerton Plant | NG | GEN9 | 500 | 01-OCT-1974 | IC | 2,545,900 |
| F | Andrews | Fullerton Plant | NG | GN10 | 500 | 01-OCT-1974 | IC | 2,949,800 |
| F | Andrews | Fullerton Plant | NG | GN11 | 500 | 01-OCT-1974 | IC | 2,894,500 |
| F | Andrews | Fullerton Plant | NG | GN12 | 500 | 01-OCT-1974 | IC | 1,493,100 |
| F | Howard | Big Spring Texas Refinery - Alon USA | NG | GENA | 1,500 | 01-JAN-1986 | ST | 13,037,430 |
| F | Howard | C R Wing Cogeneration Plant - Calenergy Power Resources | NG | GEN1 | 77,540 | 07-JUL-1987 | CT | 577,114,495 |
| F | Howard | C R Wing Cogeneration Plant - Calenergy Power Resources | NG | GEN2 | 77,540 | 01-JUL-1987 | CT | 483,148,747 |
| F | Howard | C R Wing Cogeneration Plant - Calenergy Power Resources | NG | GEN3 | 75,000 | 01-APR-1988 | CA | 336,138,758 |
| F | Howard | East Vealmoor Gas Plant - WTG Gas Processing | | 1 | 275 | 01-MAR-1953 | IC | 0 |
| F | Howard | East Vealmoor Gas Plant - WTG Gas Processing | | 2 | 270 | 01-MAR-1953 | IC | 766,500 |
| F | Howard | East Vealmoor Gas Plant - WTG Gas Processing | | 3 | 280 | 01-MAR-1953 | IC | 1,149,750 |
| F | Howard | East Vealmoor Gas Plant - WTG Gas Processing | | 4 | 280 | 01-MAR-1953 | IC | 1,331,520 |
| F | Howard | East Vealmoor Gas Plant - WTG Gas Processing | | 5 | 300 | 01-FEB-1957 | IC | 1,456,350 |
| F | Howard | East Vealmoor Gas Plant - WTG Gas Processing | | 6 | 265 | 01-JUN-1973 | IC | 1,456,350 |
| F | Howard | East Vealmoor Gas Plant - WTG Gas Processing | | 7 | 265 | 01-AUG-1991 | IC | 1,456,350 |
| F | Howard | East Vealmoor Gas Plant - WTG Gas Processing | | 8 | 265 | 01-AUG-1991 | IC | 1,116,900 |
| F | Pecos | Yates Gas Plant | NG | GEN1 | 2,800 | 01-APR-1986 | GT | 13,000,000 |
| F | Pecos | Yates Gas Plant | NG | GEN2 | 2,800 | 01-APR-1986 | GT | 13,000,000 |
| F | Upton | Benedum Plant | NG | BG6 | 1,000 | 01-SEP-1998 | IC | 1,589,737 |
| F | Upton | Benedum Plant | NG | BG3A | 1,000 | 01-NOV-1996 | IC | 3,128,191 |
| F | Upton | Midkiff Plant | LIG | 1 | 1,200 | 01-MAY-1990 | IC | 6,268,724 |
| F | Upton | Midkiff Plant | LIG | 2 | 1,200 | 01-MAY-1990 | IC | 6,113,815 |
| F | Upton | Midkiff Plant | LIG | 3 | 1,200 | 01-MAY-1990 | IC | 6,251,351 |
| | | | | | | | | |
| G | Brazos | Texas A&M | NG | | 40,000 | 1-Jan-1996 | | |
| G | Johnson | Tenaska IV Texas Partners Ltd Cleburne Cogen | NG | GT-1 | 178,200 | 01-SEP-1996 | CT | 1,042,760,000 |
| G | Johnson | Tenaska IV Texas Partners Ltd Cleburne Cogen | NG | ST-1 | 104,400 | 01-NOV-1996 | CA | 551,883,000 |
| G | McLennan | Baylor University Cogeneration | NG | 1 | 3,447 | 01-FEB-1988 | GT | 22,198,760 |

Data from US DOE 2000 Energy Information Administration's Forms EIA-860B and EIA-906

# Cogeneration Facilities in Texas

| Region | County | Facility Name | Primary Fuel | Unit Name | Nameplate Rating (kW) | Unit Startup Date | Prime Mover | Gross Generation in Year 2000 (kWhrs) |
|---|---|---|---|---|---|---|---|---|
| G | Milam | Sandow - Alcoa | NG | GEN1 | 121,000 | 01-DEC-1953 | ST | 999,034,000 |
| G | Milam | Sandow - Alcoa | NG | GEN2 | 121,000 | 01-FEB-1954 | ST | 931,686,000 |
| G | Milam | Sandow - Alcoa | NG | GEN3 | 121,000 | 01-JUL-1954 | ST | 1,040,242,000 |
| H | Brazoria | Chocolate Bayou Plant - Solutia | NG | GEN2 | 1,200 | 01-OCT-1990 | ST | 13,848,300 |
| H | Brazoria | Chocolate Bayou Plant - Solutia | NG | GEN3 | 2,000 | 01-OCT-1990 | ST | 7,536,200 |
| H | Brazoria | Chocolate Bayou Plant - Solutia | NG | GEN4 | 46,100 | 01-OCT-2000 | ST | 47,148,000 |
| H | Brazoria | Chocolate Bayou Works - BP | NG | GEN1 | 41,000 | 01-NOV-1985 | GT | 290,706,339 |
| H | Brazoria | Dow Chemical | NG | | 170,000 | 2005 | | |
| H | Brazoria | Freeport - BASF | NG | GEN1 | 81,000 | 01-MAY-1999 | CT | 609,032,000 |
| H | Brazoria | Freeport - BASF | NG | GEN2 | 11,700 | 01-JUN-1999 | CA | 51,231,000 |
| H | Brazoria | Oyster Creek Unit VIII - Dow | NG | G84 | 200,970 | 01-OCT-1994 | CA | 1,091,010,000 |
| H | Brazoria | Oyster Creek Unit VIII - Dow | NG | G81 | 99,025 | 01-OCT-1994 | CT | 635,255,000 |
| H | Brazoria | Oyster Creek Unit VIII - Dow | NG | G82 | 99,025 | 01-OCT-1994 | CT | 590,877,000 |
| H | Brazoria | Oyster Creek Unit VIII - Dow | NG | G83 | 99,025 | 01-OCT-1994 | CT | 634,762,000 |
| H | Brazoria | Sweeny Cogeneration Facility - AEP | NG | GEN1 | 115,000 | 01-AUG-1997 | GT | 898,542,000 |
| H | Brazoria | Sweeny Cogeneration Facility - AEP | NG | GEN2 | 115,000 | 01-SEP-1997 | GT | 939,189,000 |
| H | Brazoria | Sweeny Cogeneration Facility - AEP | NG | GEN3 | 115,000 | 01-OCT-1997 | GT | 928,155,000 |
| H | Brazoria | Sweeny Cogeneration Facility - AEP | NG | GEN4 | 115,000 | 01-DEC-2000 | GT | 10,804,000 |
| H | Brazoria | The Dow Chemical Co Texas Operations | NG | G-67 | 119,000 | 01-MAR-1984 | CT | 593,061,000 |
| H | Brazoria | The Dow Chemical Co Texas Operations | NG | G-34 | 71,400 | 01-DEC-1968 | CT | 0 |
| H | Brazoria | The Dow Chemical Co Texas Operations | NG | G-35 | 119,000 | 01-FEB-1983 | CT | 593,061,000 |
| H | Brazoria | The Dow Chemical Co Texas Operations | NG | G-36 | 119,000 | 01-FEB-1983 | CT | 593,061,000 |
| H | Brazoria | The Dow Chemical Co Texas Operations | NG | G-37 | 75,000 | 01-APR-1978 | CT | 373,778,000 |
| H | Brazoria | The Dow Chemical Co Texas Operations | NG | G-41 | 50,000 | 01-MAY-1958 | CA | 249,185,000 |
| H | Brazoria | The Dow Chemical Co Texas Operations | NG | G-42 | 50,000 | 01-MAR-1959 | CA | 249,185,000 |
| H | Brazoria | The Dow Chemical Co Texas Operations | NG | G-43 | 50,000 | 01-JUN-1961 | CA | 0 |
| H | Brazoria | The Dow Chemical Co Texas Operations | NG | G-45 | 119,000 | 01-OCT-1983 | CT | 593,061,000 |
| H | Brazoria | The Dow Chemical Co Texas Operations | NG | G-61 | 94,563 | 01-OCT-1982 | CT | 471,274,000 |
| H | Brazoria | The Dow Chemical Co Texas Operations | NG | G-62 | 94,563 | 01-SEP-1982 | CT | 471,274,000 |
| H | Brazoria | The Dow Chemical Co Texas Operations | NG | G-63 | 94,563 | 01-AUG-1982 | CT | 471,274,000 |
| H | Brazoria | The Dow Chemical Co Texas Operations | NG | G-64 | 64,800 | 01-SEP-1987 | CA | 322,944,000 |
| H | Brazoria | The Dow Chemical Co Texas Operations | NG | G-65 | 111,350 | 01-FEB-1984 | CA | 554,935,000 |
| H | Brazoria | The Dow Chemical Co Texas Operations | NG | G-66 | 119,000 | 01-DEC-1983 | CT | 593,061,000 |
| H | Brazoria | The Dow Chemical Co Texas Operations | NG | G-31 | 50,000 | 01-NOV-1952 | CA | 249,185,000 |
| H | Brazoria | The Dow Chemical Co Texas Operations | NG | G-32 | 50,000 | 01-DEC-1952 | CA | 249,185,000 |
| H | Brazoria | The Dow Chemical Co Texas Operations | NG | G-33 | 49,000 | 01-DEC-1953 | CA | 244,201,000 |
| H | Chambers | Baytown Energy Center LP - Calpine / Bayer | NG | | 825,000 | 1-Apr-2002 | | |
| H | Chambers | Enterprise Products Operating LP | NG | GEN1 | 2,500 | 01-SEP-1984 | GT | 18,089,626 |
| H | Chambers | Enterprise Products Operating LP | NG | GEN2 | 2,500 | 01-SEP-1984 | GT | 19,772,874 |
| H | Chambers | Enterprise Products Operating LP | NG | GEN3 | 3,400 | 01-NOV-1991 | GT | 25,602,265 |
| H | Chambers | Enterprise Products Operating LP | NG | GEN4 | 3,400 | 01-NOV-1991 | GT | 25,476,649 |
| H | Chambers | Enterprise Products Operating LP | NG | GEN5 | 3,400 | 01-NOV-1991 | GT | 25,152,385 |
| H | Chambers | Enterprise Products Operating LP | NG | GEN6 | 3,500 | 01-DEC-1996 | GT | 26,802,460 |
| H | Chambers | Enterprise Products Operating LP | NG | GEN7 | 3,500 | 01-DEC-1996 | GT | 26,054,883 |
| H | Chambers | Enterprise Products Operating LP | NG | GEN8 | 3,500 | 01-DEC-1996 | GT | 26,768,757 |
| H | Fort Bend | Fort Bend Utilities Co | NG | GEN1 | 2,000 | 01-JUN-1937 | ST | 9,320,000 |

Data from US DOE 2000 Energy Information Administration's Forms EIA-860B and EIA-906

# Cogeneration Facilities in Texas

| Region | County | Facility Name | Primary Fuel | Unit Name | Nameplate Rating (kW) | Unit Startup Date | Prime Mover | Gross Generation in Year 2000 (kWhrs) |
|---|---|---|---|---|---|---|---|---|
| H | Fort Bend | Fort Bend Utilities Co | NG | GEN2 | 1,000 | 01-JUL-1941 | ST | 5,990,000 |
| H | Fort Bend | Fort Bend Utilities Co | NG | GEN3 | 3,000 | 01-OCT-1983 | ST | 12,710,400 |
| H | Fort Bend | Fort Bend Utilities Co | DFO | ENGN | 500 | 01-MAR-1995 | IC | 28,117 |
| H | Galveston | Green Power Unit 2 - Cinergy / BP | NG | | 641,000 | 1-Apr-2004 | | |
| H | Galveston | Power Station 3 - BP | NG | 307A | 22,059 | 01-JAN-1964 | CA | 31,232,135 |
| H | Galveston | Power Station 3 - BP | NG | 307B | 22,059 | 01-JAN-1964 | CA | 39,040,166 |
| H | Galveston | Power Station 3 - BP | NG | 307C | 15,600 | 01-JAN-1964 | CT | 93,696,400 |
| H | Galveston | Power Station 3 - BP | NG | 307D | 22,059 | 01-JAN-1966 | CA | 101,504,433 |
| H | Galveston | Power Station 3 - BP | NG | 307E | 15,600 | 01-JAN-1966 | CT | 109,312,466 |
| H | Galveston | Power Station 3 - BP | NG | 307F | 20,750 | 01-JAN-1978 | CT | 2,016,000 |
| H | Galveston | Power Station 4 - BP | PC | GEN1 | 78,210 | 01-SEP-1986 | CT | 590,332,000 |
| H | Galveston | Power Station 4 - BP | PC | GEN2 | 78,210 | 01-SEP-1986 | CT | 590,332,000 |
| H | Galveston | Power Station 4 - BP | PC | GEN3 | 34,703 | 01-SEP-1986 | CA | 295,166,000 |
| H | Galveston | S&L Cogeneration | NG | GEN1 | 55,000 | 01-MAR-1992 | GT | 299,250,910 |
| H | Galveston | Texas City Cogeneration LP - Calpine | NG | GEN1 | 141,000 | 01-MAY-1987 | CA | 922,000,474 |
| H | Galveston | Texas City Cogeneration LP - Calpine | NG | GEN2 | 103,000 | 01-MAY-1987 | CT | 889,091,043 |
| H | Galveston | Texas City Cogeneration LP - Calpine | NG | GEN3 | 103,000 | 01-MAY-1987 | CT | 898,138,375 |
| H | Galveston | Texas City Cogeneration LP - Calpine | NG | GEN4 | 103,000 | 01-MAY-1987 | CT | 900,414,547 |
| H | Galveston | Texas City Plant Union Carbide Corp | NG | GTG | 40,000 | 02-FEB-1996 | CT | 272,344,000 |
| H | Galveston | Texas City Plant Union Carbide Corp | NG | STG | 56,000 | 01-MAR-1996 | CA | 241,081,000 |
| H | Galveston | Valero Refining Co Texas City Refinery | | GEN1 | 7,160 | 01-APR-1963 | GT | 34,119,852 |
| H | Galveston | Valero Refining Co Texas City Refinery | | GEN2 | 16,200 | 01-OCT-1991 | GT | 112,254,810 |
| H | Galveston | Valero Refining Co Texas City Refinery | | GEN3 | 16,200 | 01-SEP-1991 | GT | 105,516,492 |
| H | Harris | AES Deepwater Inc | PC | GEN1 | 184,000 | 01-JUN-1986 | ST | 1,333,570,180 |
| H | Harris | Bayou Cogeneration Plant - Air Liquide | NG | GEN1 | 75,000 | 01-DEC-1984 | GT | 650,472,000 |
| H | Harris | Bayou Cogeneration Plant - Air Liquide | NG | GEN2 | 75,000 | 01-DEC-1984 | GT | 659,946,000 |
| H | Harris | Bayou Cogeneration Plant - Air Liquide | NG | GEN3 | 75,000 | 01-MAR-1985 | GT | 661,509,000 |
| H | Harris | Bayou Cogeneration Plant - Air Liquide | NG | GEN4 | 75,000 | 01-MAR-1985 | GT | 645,578,000 |
| H | Harris | Baytown Turbine Generator Project - Exxon Mobile | NG | GEN2 | 37,333 | 01-APR-1989 | GT | 271,293,000 |
| H | Harris | Baytown Turbine Generator Project - Exxon Mobile | NG | GEN4 | 100,000 | 01-JAN-1997 | GT | 655,598,000 |
| H | Harris | Baytown Turbine Generator Project - Exxon Mobile | NG | GEN1 | 37,334 | 01-FEB-1989 | GT | 299,738,000 |
| H | Harris | Baytown Turbine Generator Project - Exxon Mobile | NG | GEN3 | 37,333 | 01-MAR-1989 | GT | 296,836,000 |
| H | Harris | Calpine - Channel | NG | | 180,000 | delayed | | |
| H | Harris | Channel Energy Center - Calpine / Lyondell CITGO | NG | | 560,000 | 1-Apr-2002 | CT | |
| H | Harris | Clear Lake Cogeneration Ltd - Calpine | NG | G102 | 103,670 | 01-JAN-1985 | CT | 846,403,950 |
| H | Harris | Clear Lake Cogeneration Ltd - Calpine | NG | G104 | 103,670 | 01-JAN-1985 | CT | 889,429,520 |
| H | Harris | Clear Lake Cogeneration Ltd - Calpine | NG | S101 | 51,937 | 01-JAN-1985 | CA | 338,059,020 |
| H | Harris | Clear Lake Cogeneration Ltd - Calpine | NG | S102 | 14,053 | 01-JAN-1985 | CA | 110,363,210 |
| H | Harris | Clear Lake Cogeneration Ltd - Calpine | NG | G103 | 103,670 | 01-JAN-1985 | CT | 847,293,660 |
| H | Harris | CoGen Lyondell Inc - Dynegy | NG | GEN6 | 115,000 | 01-APR-1986 | CA | 769,273,000 |
| H | Harris | CoGen Lyondell Inc - Dynegy | NG | GEN7 | 79,000 | 01-JUN-1995 | CT | 589,833,000 |
| H | Harris | CoGen Lyondell Inc - Dynegy | NG | GEN1 | 74,000 | 01-NOV-1985 | CT | 601,405,000 |
| H | Harris | CoGen Lyondell Inc - Dynegy | NG | GEN2 | 74,000 | 01-DEC-1985 | CT | 606,164,000 |
| H | Harris | CoGen Lyondell Inc - Dynegy | NG | GEN3 | 74,000 | 01-DEC-1985 | CT | 504,909,000 |
| H | Harris | CoGen Lyondell Inc - Dynegy | NG | GEN4 | 74,000 | 01-MAR-1986 | CT | 510,013,000 |
| H | Harris | CoGen Lyondell Inc - Dynegy | NG | GEN5 | 74,000 | 01-APR-1986 | CT | 489,633,000 |
| H | Harris | Deer Park Energy Center - Calpine / Shell | | | 773,000 | 1-Dec-2003 | | |
| H | Harris | Deer Park Plant - Occidental | | GEN4 | 81,060 | 01-DEC-1985 | CT | 626,291,473 |

Data from US DOE 2000 Energy Information Administration's Forms EIA-860B and EIA-906

# Cogeneration Facilities in Texas

| Region | County | Facility Name | Primary Fuel | Unit Name | Nameplate Rating (kW) | Unit Startup Date | Prime Mover | Gross Generation in Year 2000 (kWhrs) |
|---|---|---|---|---|---|---|---|---|
| H | Harris | Deer Park Plant - Occidental | | GEN1 | 10,000 | 01-APR-1948 | CA | 68,120,000 |
| H | Harris | Deer Park Plant - Occidental | | GEN2 | 10,000 | 01-APR-1948 | CA | 75,270,000 |
| H | Harris | Deer Park Plant - Occidental | | GEN3 | 10,000 | 01-APR-1948 | CA | 20,120,000 |
| H | Harris | Dynegy / Lyondell | | | 155,000 | delayed | | |
| H | Harris | Exxon Mobil Co USA Baytown PP3 PP4 | NG | GT38 | 36,500 | 01-AUG-1989 | GT | 248,951,000 |
| H | Harris | Exxon Mobil Co USA Baytown PP3 PP4 | NG | GT44 | 20,000 | 01-JAN-1977 | GT | 165,574,000 |
| H | Harris | Exxon Mobil Co USA Baytown PP3 PP4 | NG | GT35 | 14,500 | 01-JAN-1970 | GT | 125,837,000 |
| H | Harris | Exxon Mobil Co USA Baytown PP3 PP4 | NG | GT36 | 15,250 | 01-JAN-1972 | GT | 79,165,000 |
| H | Harris | Exxon Mobil Co USA Baytown PP3 PP4 | NG | GT37 | 17,250 | 01-JAN-1976 | GT | 128,901,000 |
| H | Harris | Exxon Mobil Co USA Baytown PP3 PP4 | NG | GT41 | 20,000 | 01-JAN-1977 | GT | 186,456,000 |
| H | Harris | Exxon Mobil Co USA Baytown PP3 PP4 | NG | GT42 | 20,000 | 01-JAN-1977 | GT | 190,864,000 |
| H | Harris | Exxon Mobil Co USA Baytown PP3 PP4 | NG | GT43 | 20,000 | 01-JAN-1977 | GT | 180,426,000 |
| H | Harris | Exxon Mobil Co USA Baytown PP3 PP4 | NG | GT45 | 36,500 | 01-JUN-1988 | GT | 281,543,000 |
| H | Harris | Exxon Mobil Co USA Baytown PP3 PP4 | NG | ST33 | 7,500 | 01-JAN-1950 | ST | 49,537,000 |
| H | Harris | Exxon Mobil Co USA Baytown PP3 PP4 | NG | ST34 | 7,500 | 01-JAN-1952 | ST | 41,398,000 |
| H | Harris | Houston Chemical Complex Battleground Site - Occidental / Diamond Shamrock | NG | GT1 | 74,000 | 01-MAY-1982 | CT | 560,154,139 |
| H | Harris | Houston Chemical Complex Battleground Site - Occidental / Diamond Shamrock | NG | GT2 | 74,000 | 01-JUN-1982 | CT | 540,281,225 |
| H | Harris | Houston Chemical Complex Battleground Site - Occidental / Diamond Shamrock | NG | ST | 52,000 | 01-AUG-1982 | CA | 449,563,636 |
| H | Harris | Pasadena - Air Products | NG | GEN1 | 4,000 | 01-JUL-1985 | GT | 21,716,105 |
| H | Harris | Pasadena Cogeneration LP - Calpine | NG | CTG1 | 173,400 | 01-JUN-1998 | CT | 1,243,605,820 |
| H | Harris | Pasadena Cogeneration LP - Calpine | NG | CTG2 | 175,000 | 01-JUN-2000 | CT | 71,669,660 |
| H | Harris | Pasadena Cogeneration LP - Calpine | NG | CTG3 | 175,000 | 01-JUN-2000 | CT | 89,048,330 |
| H | Harris | Pasadena Cogeneration LP - Calpine | NG | STG1 | 87,500 | 01-JUN-1998 | CA | 461,395,370 |
| H | Harris | Pasadena Cogeneration LP - Calpine | NG | STG2 | 150,000 | 01-JUN-2000 | CA | 73,535,610 |
| H | Harris | Pasadena Paper Company | NG | ATB1 | 10,000 | 01-JAN-1948 | ST | 0 |
| H | Harris | Pasadena Paper Company | NG | ATB2 | 4,000 | 01-OCT-1943 | ST | 0 |
| H | Harris | Reliant Energy Channelview LP - Equistar | NG | | 918,000 | 1-Jul-2002 | | |
| H | Harris | Rhodia Inc Houston Plant | OTH | GEN2 | 1,500 | 01-JAN-1970 | ST | 9,588,000 |
| H | Harris | Rhodia Inc Houston Plant | OTH | GEN1 | 5,000 | 01-JAN-1970 | ST | 44,365,000 |
| H | Harris | Rice University | | GEN1 | 3,169 | 01-JAN-1986 | GT | 443,710 |
| H | Harris | Rice University | | GEN2 | 3,937 | 01-FEB-1989 | GT | 33,207,500 |
| H | Harris | Sheldon Texas - Abitibi | | TG1 | 33,000 | 01-JAN-1967 | ST | 133,580,000 |
| H | Harris | Sheldon Texas - Abitibi | | TG2 | 18,000 | 01-JAN-1967 | GT | 0 |
| H | Harris | Sheldon Texas - Abitibi | | TG3 | 18,000 | 01-JAN-1967 | GT | 80,710,000 |
| H | Harris | Sheldon Texas - Abitibi | | TG4 | 46,250 | 01-JAN-1974 | ST | 38,370,000 |
| H | Harris | Shell Deer Park | | GEN2 | 50,000 | 01-OCT-1979 | ST | 354,613,264 |
| H | Harris | Shell Deer Park | | GEN3 | 5,000 | 01-JUN-1943 | ST | 0 |
| H | Harris | Shell Deer Park | | GEN4 | 75,000 | 01-APR-1995 | GT | 638,836,442 |
| H | Harris | Shell Deer Park | | GEN5 | 75,000 | 01-APR-1995 | GT | 596,130,052 |
| H | Harris | Shell Deer Park | | GEN1 | 50,000 | 01-OCT-1979 | ST | 308,005,257 |
| H | Harris | Solvay Polymers | NG | | 18,600 | 1-Aug-2001 | GT | |
| H | Harris | Texas Petrochemicals Corp | | TG2 | 35,000 | 01-JUN-1972 | ST | 307,085,952 |
| H | Harris | Texas Petrochemicals Corp | | | 900,000 | 2006 | | |
| H | Harris | Valero Refining Co Texas Houston Refinery | NG | GEN1 | 17,148 | 01-DEC-1990 | GT | 111,830,000 |
| H | Harris | Valero Refining Co Texas Houston Refinery | NG | GEN2 | 17,148 | 01-DEC-1990 | GT | 108,770,000 |
| H | Harris | Westhollow Technology Center - Shell | NG | 1 | 3,725 | 01-JAN-1988 | GT | 34,464,000 |
| H | Montgomery | Jameson Gas Processing Plant | BL | 620 | 350 | 01-JAN-1981 | IC | 3,130,000 |
| H | Montgomery | Jameson Gas Processing Plant | BL | 621 | 350 | 01-JAN-1981 | IC | 3,260,000 |

Data from US DOE 2000 Energy Information Administration's Forms EIA-860B and EIA-906

# Cogeneration Facilities in Texas

| Region | County | Facility Name | Primary Fuel | Unit Name | Nameplate Rating (kW) | Unit Startup Date | Prime Mover | Gross Generation in Year 2000 (kWhrs) |
|---|---|---|---|---|---|---|---|---|
| H | Montgomery | Jameson Gas Processing Plant | BL | 622 | 550 | 01-JAN-1986 | IC | 4,060,000 |
| H | Montgomery | Jameson Gas Processing Plant | BL | 623 | 550 | 01-JAN-1986 | IC | 0 |
| | | | | | | | | |
| I | Angelina | Lufkin Texas - Abitibi | NG | GEN2 | 7,500 | 01-JAN-1939 | ST | 39,083,415 |
| I | Angelina | Lufkin Texas - Abitibi | NG | GEN3 | 12,500 | 01-JAN-1949 | ST | 76,851,481 |
| I | Angelina | Lufkin Texas - Abitibi | NG | GEN4 | 12,500 | 01-JAN-1949 | ST | 74,905,385 |
| I | Angelina | Lufkin Texas - Abitibi | NG | GEN5 | 15,625 | 01-MAR-1956 | ST | 59,732,380 |
| I | Angelina | Lufkin Texas - Abitibi | NG | GEN6 | 15,625 | 01-APR-1956 | ST | 60,626,798 |
| I | Angelina | Lufkin Texas - Abitibi | NG | GEN7 | 21,176 | 01-JAN-1968 | ST | 116,463,547 |
| I | Jasper | Westvaco Evadale | NG | GEN1 | 7,500 | 01-JUN-1954 | ST | 68,160,000 |
| I | Jasper | Westvaco Evadale | NG | GEN2 | 32,640 | 01-MAY-1965 | ST | 256,320,000 |
| I | Jasper | Westvaco Evadale | NG | GEN3 | 17,600 | 01-JAN-1986 | ST | 151,200,000 |
| I | Jefferson | Beaumont Refinery | | GEN4 | 10,000 | 01-FEB-1957 | ST | 9,400,541 |
| I | Jefferson | Beaumont Refinery | | GEN5 | 10,000 | 01-JUN-1959 | ST | 43,937,571 |
| I | Jefferson | Beaumont Refinery | | GEN6 | 25,000 | 01-FEB-1978 | ST | 176,101,252 |
| I | Jefferson | Beaumont Refinery | | GEN7 | 25,000 | 01-JAN-1970 | ST | 170,507,443 |
| I | Jefferson | Beaumont Refinery | | GEN8 | 20,000 | 01-JAN-1966 | ST | 165,180,312 |
| I | Jefferson | Beaumont Refinery | | GEN9 | 30,000 | 01-JAN-1967 | ST | 162,713,675 |
| I | Jefferson | Beaumont Refinery | | GE10 | 7,500 | 01-JAN-1978 | ST | 35,473,445 |
| I | Jefferson | Beaumont Refinery | | GE11 | 38,670 | 01-JUN-1993 | ST | 67,723,746 |
| I | Jefferson | Beaumont Refinery | | GE12 | 38,670 | 01-JUN-1993 | GT | 221,574,975 |
| I | Jefferson | JCO Oxides Olefins Plant - Huntsman | NG | GCG1 | 38,600 | 01-SEP-1992 | GT | 284,260,000 |
| I | Jefferson | JCO Oxides Olefins Plant - Huntsman | NG | GCG2 | 38,600 | 01-SEP-1992 | GT | 287,721,000 |
| I | Jefferson | NROC Cogeneration Facility - BASF | NG | | 75,000 | 1-Aug-2001 | | |
| I | Jefferson | Port Arthur | NG | GEN1 | 37,600 | 01-NOV-2000 | CT | 41,006,000 |
| I | Jefferson | Port Arthur | NG | GEN2 | 3,000 | 01-NOV-2000 | CA | 120,000 |
| I | Jefferson | Port Arthur Refinery - Motiva | NG | GEN5 | 10,000 | 01-JUN-1928 | CA | 24,981,000 |
| I | Jefferson | Port Arthur Refinery - Motiva | NG | GEN1 | 17,250 | 01-JUN-1975 | CT | 124,112,000 |
| I | Jefferson | Port Arthur Refinery - Motiva | NG | GEN2 | 13,750 | 01-JUN-1966 | CT | 107,710,000 |
| I | Jefferson | Port Arthur Refinery - Motiva | NG | GEN3 | 13,750 | 01-JUN-1972 | CT | 89,798,000 |
| I | Jefferson | Port Arthur Refinery - Motiva | NG | GEN4 | 10,000 | 01-JUN-1943 | CA | 0 |
| I | Jefferson | Port Arthur Refinery - Motiva | NG | GEN6 | 10,000 | 01-JUN-1954 | CA | 55,126,000 |
| I | Jefferson | Port Arthur Refinery - Motiva | NG | GEN7 | 10,000 | 01-JUN-1951 | CA | 53,415,000 |
| I | Jefferson | Port Arthur Refinery - Motiva | NG | GN26 | 18,150 | 01-JUN-1970 | CT | 81,093,292 |
| I | Jefferson | Port Arthur Refinery - Motiva | NG | GN31 | 10,000 | 01-JUN-1962 | ST | 57,858,969 |
| I | Jefferson | Port Arthur Refinery - Motiva | NG | GN32 | 15,000 | 01-JUN-1957 | ST | 113,409,267 |
| I | Jefferson | Port Arthur Refinery - Motiva | NG | GN33 | 18,000 | 01-JUN-1978 | CA | 75,301,086 |
| I | Jefferson | Port Arthur Refinery - Motiva | NG | GN34 | 18,150 | 01-JUN-1970 | CT | 153,427,191 |
| I | Jefferson | Port Arthur Refinery - Motiva | NG | GN35 | 33,750 | 01-DEC-1983 | CT | 202,880,146 |
| I | Jefferson | Port Arthur Refinery - Motiva | NG | GN27 | 12,300 | 01-MAY-1984 | CA | 39,712,543 |
| I | Jefferson | Port Arthur Texas Refinery - FINA | NG | GEN1 | 38,400 | 01-AUG-1988 | GT | 270,398,400 |
| I | Jefferson | Pt Neches Plant - Air Liquide | OG | G1 | 38,000 | 01-FEB-1994 | GT | 277,557,152 |
| I | Jefferson | The Goodyear&Tire Rubber Co | BL | 2N80 | 5,000 | 01-AUG-1999 | CT | 37,877,033 |
| I | Jefferson | The Goodyear&Tire Rubber Co | BL | 3N80 | 14,877 | 01-MAR-1987 | CA | 101,005,422 |
| I | Jefferson | The Goodyear&Tire Rubber Co | BL | N802 | 5,000 | 01-AUG-1997 | CT | 37,877,033 |
| I | Jefferson | The Goodyear&Tire Rubber Co | BL | N803 | 5,000 | 01-OCT-1999 | CT | 37,877,033 |
| I | Jefferson | The Goodyear&Tire Rubber Co | BL | N804 | 5,000 | 01-OCT-1999 | CT | 37,877,033 |

Data from US DOE 2000 Energy Information Administration's Forms EIA-860B and EIA-906

# Cogeneration Facilities in Texas

| Region | County | Facility Name | Primary Fuel | Unit Name | Nameplate Rating (kW) | Unit Startup Date | Prime Mover | Gross Generation in Year 2000 (kWhrs) |
|---|---|---|---|---|---|---|---|---|
| I | Orange | Engineered Carbons Echo Cogeneration | NG | GEN1 | 10,000 | 01-MAY-1985 | ST | 22,018,000 |
| I | Orange | Inland Paperboard and Packaging | NG | TG | 48,000 | 01-NOV-1967 | ST | 287,935,000 |
| I | Orange | Sabine Cogen LP - Air Liquide | | CTG1 | 37,210 | 01-JAN-2000 | CT | 297,068,557 |
| I | Orange | Sabine Cogen LP - Air Liquide | | CTG2 | 37,210 | 01-JAN-2000 | CT | 295,682,654 |
| I | Orange | Sabine Cogen LP - Air Liquide | | STG | 27,044 | 01-JAN-2000 | CA | 101,887,384 |
| I | Orange | Sabine River Works - du Pont | NG | GEN4 | 6,250 | 01-JAN-1948 | CA | 26,041,125 |
| I | Orange | Sabine River Works - du Pont | NG | GEN1 | 89,900 | 01-MAR-1987 | CT | 679,700,000 |
| I | Orange | Sabine River Works - du Pont | NG | GEN2 | 3,125 | 01-JAN-1948 | CA | 17,001,350 |
| I | Orange | Sabine River Works - du Pont | NG | GEN3 | 6,250 | 01-JAN-1948 | CA | 36,006,250 |
| I | Orange | SRW Cogeneration Limited Partnership - Conoco / duPont | NG | | 525,000 | 1-Nov-2001 | | |
| I | Panola | East Texas Gas Plant | NG | G-1 | 300 | 01-JAN-1948 | IC | 1,278,000 |
| I | Panola | East Texas Gas Plant | NG | G-2 | 300 | 01-JAN-1948 | IC | 1,460,000 |
| I | Panola | East Texas Gas Plant | NG | G-3 | 300 | 01-JAN-1948 | IC | 1,333,000 |
| I | Panola | East Texas Gas Plant | NG | G-4 | 400 | 01-JAN-1965 | IC | 2,598,600 |
| I | Panola | East Texas Gas Plant | NG | G-6 | 300 | 01-JAN-1979 | IC | 1,268,200 |
| I | Panola | East Texas Gas Plant | NG | G-7 | 300 | 01-DEC-1979 | IC | 1,397,400 |
| I | Panola | East Texas Gas Plant | NG | G-8 | 300 | 01-DEC-1979 | IC | 1,692,800 |
| | | | | | | | | |
| J | | | | | | | | |
| | | | | | | | | |
| K | Hays | Southwest Texas State University Cogen | NG | GEN1 | 6,000 | 01-SEP-1989 | IC | 34,929,600 |
| K | Travis | Austin State Hospital | NG | GEN1 | 1,000 | 01-APR-1994 | GT | 7,021,728 |
| K | Travis | Central Utility Plant - 3M | NG | EG1 | 6,080 | 01-JUL-1988 | IC | 12,768,000 |
| K | Travis | Central Utility Plant - 3M | NG | EG2 | 6,080 | 01-JUL-1988 | IC | 18,600,000 |
| K | Travis | Central Utility Plant - 3M | NG | TG1 | 2,300 | 01-JUL-1988 | ST | 1,400,000 |
| K | Travis | Sunset Farms - BFI | NG | 1 | 1,010 | 01-DEC-1996 | IC | 5,983,308 |
| K | Travis | Sunset Farms - BFI | NG | 2 | 1,010 | 01-DEC-1996 | IC | 6,093,900 |
| K | Travis | Sunset Farms - BFI | NG | 3 | 1,010 | 01-DEC-1996 | IC | 6,004,260 |
| K | Travis | University of Texas at Austin | NG | GEN1 | 1,500 | 01-OCT-1933 | ST | 0 |
| K | Travis | University of Texas at Austin | NG | GEN2 | 1,500 | 01-OCT-1933 | ST | 0 |
| K | Travis | University of Texas at Austin | NG | GEN3 | 2,500 | 01-JAN-1938 | ST | 0 |
| K | Travis | University of Texas at Austin | NG | GEN4 | 7,617 | 01-OCT-1951 | CA | 7,668,180 |
| K | Travis | University of Texas at Austin | NG | GEN5 | 6,000 | 01-SEP-1959 | CA | 8,689,460 |
| K | Travis | University of Texas at Austin | NG | GEN6 | 12,500 | 01-JAN-1968 | CT | 26,105,320 |
| K | Travis | University of Texas at Austin | NG | GEN7 | 28,800 | 01-JAN-1979 | CA | 98,753,280 |
| K | Travis | University of Texas at Austin | NG | GEN8 | 48,510 | 01-NOV-1987 | CT | 184,307,920 |
| | | | | | | | | |
| L | Bexar | University of Texas at San Antonio | NG | GEN1 | 3,470 | 01-JAN-1980 | IC | 4,462,080 |
| L | Calhoun | BP Chemicals Green Lake Plant | OG | TG3 | 23,800 | 01-JAN-1997 | ST | 134,724,370 |
| L | Calhoun | BP Chemicals Green Lake Plant | OG | TG2 | 15,000 | 01-MAR-1989 | ST | 93,392,730 |
| L | Calhoun | Formosa Utility Venture Ltd | NG | BO3 | 37,400 | 01-MAR-1987 | CT | 168,826,000 |
| L | Calhoun | Formosa Utility Venture Ltd | NG | ST1 | 33,500 | 01-MAR-1994 | CA | 229,507,000 |
| L | Calhoun | Formosa Utility Venture Ltd | NG | ST2 | 66,300 | 01-MAR-1994 | CA | 416,902,000 |
| L | Calhoun | Formosa Utility Venture Ltd | NG | TBG1 | 103,000 | 01-APR-1993 | CT | 555,124,000 |
| L | Calhoun | Formosa Utility Venture Ltd | NG | TBG2 | 103,000 | 01-JUL-1993 | CT | 669,123,000 |
| L | Calhoun | Formosa Utility Venture Ltd | NG | TBG3 | 103,000 | 01-SEP-1993 | CT | 660,853,000 |

Data from US DOE 2000 Energy Information Administration's Forms EIA-860B and EIA-906

# Cogeneration Facilities in Texas

| Region | County | Facility Name | Primary Fuel | Unit Name | Nameplate Rating (kW) | Unit Startup Date | Prime Mover | Gross Generation in Year 2000 (kWhrs) |
|---|---|---|---|---|---|---|---|---|
| L | Calhoun | Formosa Utility Venture Ltd | NG | TBG4 | 103,000 | 01-MAY-1994 | CT | 627,764,000 |
| L | Calhoun | Formosa Utility Venture Ltd | NG | TBG5 | 103,000 | 01-OCT-1994 | CT | 597,917,000 |
| L | Calhoun | Pt Comfort Operations - Alcoa | NG | GEN1 | 16,000 | 01-JAN-1958 | ST | 97,274,276 |
| L | Calhoun | Pt Comfort Operations - Alcoa | NG | GEN2 | 16,000 | 01-JAN-1958 | ST | 98,084,301 |
| L | Calhoun | Pt Comfort Operations - Alcoa | NG | GEN3 | 16,000 | 01-JAN-1958 | ST | 97,980,343 |
| L | Calhoun | Pt Comfort Operations - Alcoa | NG | GEN4 | 15,100 | 01-JAN-1970 | ST | 94,578,080 |
| L | Calhoun | Seadrift Coke LP | AB | GEN1 | 7,600 | 01-NOV-1983 | ST | 42,130,000 |
| L | Calhoun | Seadrift Plant Union Carbide Corp | NG | GEN5 | 15,000 | 01-NOV-1987 | CA | 63,251,710 |
| L | Calhoun | Seadrift Plant Union Carbide Corp | NG | GEN6 | 35,000 | 01-NOV-1987 | CT | 277,847,764 |
| L | Calhoun | Seadrift Plant Union Carbide Corp | NG | GEN7 | 6,000 | 01-NOV-1987 | CA | 45,477,053 |
| L | Calhoun | Seadrift Plant Union Carbide Corp | NG | GEN8 | 35,000 | 01-NOV-1987 | CT | 295,280,886 |
| L | Calhoun | Seadrift Plant Union Carbide Corp | NG | GEN9 | 15,000 | 01-NOV-1987 | CA | 66,805,743 |
| L | Calhoun | Seadrift Plant Union Carbide Corp | NG | IGT | 12,000 | 01-JAN-1969 | CT | 48,711,949 |
| L | Calhoun | Seadrift Plant Union Carbide Corp | NG | GEN3 | 15,000 | 01-JAN-1964 | CA | 45,392,932 |
| L | Calhoun | Seadrift Plant Union Carbide Corp | NG | GE11 | 35,000 | 01-NOV-2000 | CT | 31,371,153 |
| L | Victoria | Victoria Texas Plant - duPont | | GEN1 | 80,000 | 01-APR-1987 | GT | 705,590,133 |
| | | | | | | | | |
| M | Cameron | Rio Grande Valley Sugar Growers Inc | AB | GENA | 2,500 | 01-OCT-1973 | ST | 7,952,000 |
| M | Cameron | Rio Grande Valley Sugar Growers Inc | AB | GENC | 2,500 | 01-JAN-1995 | ST | 1,040,000 |
| M | Cameron | Rio Grande Valley Sugar Growers Inc | AB | GENB | 2,500 | 01-OCT-1973 | ST | 6,589,000 |
| | | | | | | | | |
| N | Live Oak | US Gen - Diamond Shamrock | | | 700,000 | ???? | | |
| N | Nueces | Celanese Engineering Resin Inc | NG | GEN1 | 1,492 | 01-JAN-1982 | OT | 0 |
| N | Nueces | Celanese Engineering Resin Inc | NG | GEN2 | 1,492 | 01-JAN-1982 | OT | 0 |
| N | Nueces | Celanese Engineering Resin Inc | NG | GEN3 | 1,678 | 01-JAN-1982 | OT | 0 |
| N | Nueces | Celanese Engineering Resin Inc | NG | GEN4 | 8,200 | 01-JAN-1982 | CA | 22,082,000 |
| N | Nueces | Celanese Engineering Resin Inc | NG | GEN5 | 35,540 | 01-APR-1989 | CT | 269,232,000 |
| N | Nueces | Corpus Christi Energy Center - Calpine / CITGO | OG | | 570,000 | 1-Aug-2002 | | |
| N | Nueces | Corpus Christi Plant - Equistar | NG | GEN1 | 45,176 | 01-MAY-1989 | GT | 292,238,000 |
| N | Nueces | Corpus Christi Refinery - Koch East | NG | GEN1 | 20,000 | 01-SEP-1984 | GT | 164,824,784 |
| N | Nueces | Corpus Christi Refinery - Koch East | NG | GEN2 | 20,000 | 01-OCT-1984 | GT | 142,576,817 |
| N | Nueces | Koch Petroleum Group LP Corpus Refinery | NG | FCCE | 9,700 | 01-MAY-1985 | OT | 0 |
| N | Nueces | Koch Petroleum Group LP Corpus Refinery | NG | FR6 | 55,000 | 01-MAY-1988 | GT | 274,723,000 |
| N | Nueces | Valero Refinery | | PRU | 12,000 | 01-SEP-1983 | OT | 0 |
| N | Nueces | Valero Refinery | | TG1 | 28,600 | 01-NOV-1983 | ST | 118,340,000 |
| N | Nueces | Valero Refinery | | TG2 | 28,600 | 01-NOV-1983 | ST | 104,300,000 |
| N | Nueces | Valero Refinery | | TG3 | 7,500 | 01-SEP-1986 | ST | 58,786,000 |
| N | San Patricio | Gregory Power Facility | NG | 101G | 182,000 | 01-JUL-2000 | CT | 672,733,700 |
| N | San Patricio | Gregory Power Facility | NG | 102G | 182,000 | 01-JUL-2000 | CT | 679,550,800 |
| N | San Patricio | Gregory Power Facility | NG | ST - | 100,000 | 01-JUL-2000 | CA | 283,377,200 |
| N | San Patricio | Ingleside Cogeneration | NG | STG | 208,000 | 01-JUL-1999 | CA | 918,649,600 |
| N | San Patricio | Ingleside Cogeneration | NG | CTG1 | 160,000 | 01-JUL-1999 | CT | 1,042,066,600 |
| N | San Patricio | Ingleside Cogeneration | NG | CTG2 | 160,000 | 01-JUL-1999 | CT | 998,668,600 |
| N | San Patricio | Reynolds Metals Co Sherwin Plant | | 1 | 6,000 | 01-JAN-1953 | CA | 48,886,967 |
| N | San Patricio | Reynolds Metals Co Sherwin Plant | | 2 | 6,000 | 01-JAN-1953 | CA | 48,354,139 |
| N | San Patricio | Reynolds Metals Co Sherwin Plant | | 3 | 6,000 | 01-JAN-1957 | CA | 50,108,997 |

Data from US DOE 2000 Energy Information Administration's Forms EIA-860B and EIA-906

# Cogeneration Facilities in Texas

| Region | County | Facility Name | Primary Fuel | Unit Name | Nameplate Rating (kW) | Unit Startup Date | Prime Mover | Gross Generation in Year 2000 (kWhrs) |
|---|---|---|---|---|---|---|---|---|
| N | San Patricio | Reynolds Metals Co Sherwin Plant | | 4 | 6,000 | 01-JAN-1958 | CA | 50,456,493 |
| N | San Patricio | Reynolds Metals Co Sherwin Plant | | 5 | 7,500 | 01-JAN-1966 | CT | 33,753,494 |
| N | San Patricio | Reynolds Metals Co Sherwin Plant | | 6 | 7,500 | 01-JAN-1966 | CT | 29,739,910 |
| | | | | | | | | |
| O | Gaines | North Riley | NG | GEN1 | 1,000 | 01-JAN-1990 | IC | 0 |
| O | Gaines | North Riley | NG | GEN2 | 1,000 | 01-JAN-1990 | IC | 8,054,635 |
| O | Gaines | North Riley | NG | GEN3 | 1,000 | 01-JAN-1990 | IC | 7,878,165 |
| O | Yoakum | Wasson CO2 Removal Plant - Occidental | | GEN1 | 23,400 | 01-FEB-1988 | GT | 152,921,600 |
| | | | | | | | | |
| P | | | | | | | | |
| | | | | | | | | |
| | | Texas Cogen 2000 Generation (kWhrs) | | | | | | 71,308,408,901 |

Data from US DOE 2000 Energy Information Administration's Forms EIA-860B and EIA-906

# Acronyms for Appendix A

Prime Mover

| | |
|---|---|
| ST | Steam Turbine |
| GT | Gas Turbines |
| CT | Combined Cycle Gas Turbine |
| CA | Combined Cycle Steam Turbine |
| WT | Wind Turbine |
| IC | Internal Combustion Engine |
| OT | Other Turbine |
| CC | Combined Cycle Plant |
| HY | Hydroelectric Turbine |
| CS | Combined Cycle Unit on Common Shaft |
| PV | Photovoltaic |

Fuel Supply

| | |
|---|---|
| NG | Natural Gas |
| SUB | Subituminous Coal |
| WIND | Wind |
| WAT | Water |
| OTH | Other |
| DFO | Diesel Fuel Oil |
| LFG | Land Field Gas |
| LIG | Lignite |
| SUN | Sun |
| NUC | Nuclear |
| WH | Waste Heat |
| BIT | Bituminous Coal |
| OG | Other Gas |
| PC | Coke |
| BL | Natural gas liquids |
| AB | Bagasse |

For those facilities that have no information in the Table, the information was not available or was not completed by the respondent to the FERC survey.

# Appendix B
# Projected Electrical Demand and Population Growth in Texas

# Projected Annual Statewide Steam Electric Generation and Water Demand

| Year | Electric Demand (GWh) | Percent of Year 2000 Baseline Electric Demand | Increase Factor over Year 2000 Based on Medium Use Scenario | Calculated Annual Statewide Steam Electric Water Use (Acre feet) | 2002 State Water Plan Steam Electric Water Use |
|---|---|---|---|---|---|
| 2000 | 337,582 | | | 621,601 | 607,527 |
| 2001 | 340,142 | 1.0076 | 1.0052 | 624,862 | |
| 2002 | 350,129 | 1.0372 | 1.0257 | 637,581 | |
| 2003 | 357,471 | 1.0589 | 1.0408 | 646,932 | |
| 2004 | 366,511 | 1.0857 | 1.0593 | 658,445 | |
| 2005 | 373,979 | 1.1078 | 1.0746 | 667,956 | |
| 2006 | 383,482 | 1.1360 | 1.0940 | 680,059 | |
| 2007 | 391,612 | 1.1601 | 1.1107 | 690,414 | |
| 2008 | 401,228 | 1.1885 | 1.1304 | 702,660 | |
| 2009 | 410,415 | 1.2157 | 1.1492 | 714,361 | |
| 2010 | 418,623 | 1.2401 | 1.1660 | 724,814 | 831,301 |
| 2011 | 426,996 | 1.2649 | 1.1832 | 735,478 | |
| 2012 | 435,536 | 1.2902 | 1.2007 | 746,355 | |
| 2013 | 444,246 | 1.3160 | 1.2185 | 757,448 | |
| 2014 | 453,131 | 1.3423 | 1.2367 | 768,764 | |
| 2015 | 462,194 | 1.3691 | 1.2553 | 780,306 | |
| 2016 | 471,438 | 1.3965 | 1.2743 | 792,079 | |
| 2017 | 480,867 | 1.4244 | 1.2936 | 804,088 | |
| 2018 | 490,484 | 1.4529 | 1.3133 | 816,336 | |
| 2019 | 500,294 | 1.4820 | 1.3334 | 828,830 | |
| 2020 | 510,299 | 1.5116 | 1.3539 | 841,572 | 917,994 |
| 2021 | 520,505 | 1.5419 | 1.3748 | 854,570 | |
| 2022 | 530,916 | 1.5727 | 1.3961 | 867,830 | |
| 2023 | 541,534 | 1.6042 | 1.4179 | 881,353 | |
| 2024 | 552,365 | 1.6362 | 1.4401 | 895,147 | |
| 2025 | 563,412 | 1.6690 | 1.4627 | 909,216 | |
| 2026 | 574,680 | 1.7023 | 1.4858 | 923,567 | |
| 2027 | 586,174 | 1.7364 | 1.5093 | 938,206 | |
| 2028 | 597,897 | 1.7711 | 1.5334 | 953,136 | |
| 2029 | 609,855 | 1.8065 | 1.5579 | 968,366 | |
| 2030 | 622,052 | 1.8427 | 1.5828 | 983,900 | 1,007,424 |
| 2031 | 634,493 | 1.8795 | 1.6083 | 999,744 | |
| 2032 | 647,183 | 1.9171 | 1.6343 | 1,015,906 | |
| 2033 | 660,127 | 1.9555 | 1.6609 | 1,032,392 | |
| 2034 | 673,329 | 1.9946 | 1.6879 | 1,049,205 | |
| 2035 | 686,796 | 2.0345 | 1.7155 | 1,066,357 | |
| 2036 | 700,532 | 2.0751 | 1.7436 | 1,083,851 | |
| 2037 | 714,542 | 2.1166 | 1.7723 | 1,101,694 | |
| 2038 | 728,833 | 2.1590 | 1.8016 | 1,119,895 | |
| 2039 | 743,410 | 2.2022 | 1.8315 | 1,138,460 | |
| 2040 | 758,278 | 2.2462 | 1.8620 | 1,157,396 | 1,057,929 |
| 2041 | 773,444 | 2.2911 | 1.8930 | 1,176,711 | |
| 2042 | 788,913 | 2.3370 | 1.9247 | 1,196,412 | |
| 2043 | 804,691 | 2.3837 | 1.9571 | 1,216,507 | |
| 2044 | 820,785 | 2.4314 | 1.9900 | 1,237,004 | |

2000 through 2009 Generation Projections from PUCT's 2000 Annual Update of Generating Electric Utility Data

# Projected Annual Statewide Steam Electric Generation and Water Demand

| Year | Electric Demand (GWh) | Percent of Year 2000 Baseline Electric Demand | Increase Factor over Year 2000 Based on Medium Use Scenario | Calculated Annual Statewide Steam Electric Water Use (Acre feet) | 2002 State Water Plan Steam Electric Water Use |
|---|---|---|---|---|---|
| | | | | | |
| 2045 | 837,200 | 2.4800 | 2.0237 | 1,257,910 | |
| 2046 | 853,944 | 2.5296 | 2.0580 | 1,279,235 | |
| 2047 | 871,023 | 2.5802 | 2.0930 | 1,300,987 | |
| 2048 | 888,444 | 2.6318 | 2.1287 | 1,323,174 | |
| 2049 | 906,213 | 2.6844 | 2.1651 | 1,345,804 | |
| 2050 | 924,337 | 2.7381 | 2.2022 | 1,368,887 | 1,134,644 |
| 2051 | 942,824 | 2.7929 | 2.2401 | 1,392,432 | |
| 2052 | 961,680 | 2.8487 | 2.2787 | 1,416,446 | |
| 2053 | 980,914 | 2.9057 | 2.3181 | 1,440,943 | |
| 2054 | 1,000,532 | 2.9638 | 2.3583 | 1,465,928 | |
| 2055 | 1,020,543 | 3.0231 | 2.3993 | 1,491,414 | |
| 2056 | 1,040,953 | 3.0836 | 2.4411 | 1,517,408 | |
| 2057 | 1,061,772 | 3.1452 | 2.4838 | 1,543,923 | |
| 2058 | 1,083,008 | 3.2081 | 2.5273 | 1,570,968 | |
| 2059 | 1,104,668 | 3.2723 | 2.5717 | 1,598,554 | |
| 2060 | 1,126,761 | 3.3377 | 2.6169 | 1,626,692 | |

2000 through 2009 Generation Projections from PUCT's 2000 Annual Update of Generating Electric Utility Data

# Projected Annual Electric Generation in Texas

| Year | Statewide Generation at 2 Percent Annual Growth (GWh) | Statewide Population from TWDB | Per Capita Generation at 0.5% Annual Growth (kWh / person) | Generation Based on Per Capita Increases (GWh) |
|---|---|---|---|---|
| 2000 | 337,582 | 20,851,820 | 16,805 | 350,408 |
| 2001 | 340,142 | | 16,889 | |
| 2002 | 350,129 | | 16,973 | |
| 2003 | 357,471 | | 17,058 | |
| 2004 | 366,511 | | 17,143 | |
| 2005 | 373,979 | | 17,229 | |
| 2006 | 383,482 | | 17,315 | |
| 2007 | 391,612 | | 17,402 | |
| 2008 | 401,228 | | 17,489 | |
| 2009 | 410,415 | | 17,576 | |
| 2010 | 418,623 | 24,843,049 | 17,664 | 438,829 |
| 2011 | 426,996 | | 17,752 | |
| 2012 | 435,536 | | 17,841 | |
| 2013 | 444,246 | | 17,930 | |
| 2014 | 453,131 | | 18,020 | |
| 2015 | 462,194 | | 18,110 | |
| 2016 | 471,438 | | 18,201 | |
| 2017 | 480,867 | | 18,292 | |
| 2018 | 490,484 | | 18,383 | |
| 2019 | 500,294 | | 18,475 | |
| 2020 | 510,299 | 28,976,537 | 18,567 | 538,019 |
| 2021 | 520,505 | | 18,660 | |
| 2022 | 530,916 | | 18,754 | |
| 2023 | 541,534 | | 18,847 | |
| 2024 | 552,365 | | 18,942 | |
| 2025 | 563,412 | | 19,036 | |
| 2026 | 574,680 | | 19,131 | |
| 2027 | 586,174 | | 19,227 | |
| 2028 | 597,897 | | 19,323 | |
| 2029 | 609,855 | | 19,420 | |
| 2030 | 622,052 | 32,859,050 | 19,517 | 641,308 |
| 2031 | 634,493 | | 19,615 | |
| 2032 | 647,183 | | 19,713 | |
| 2033 | 660,127 | | 19,811 | |
| 2034 | 673,329 | | 19,910 | |
| 2035 | 686,796 | | 20,010 | |
| 2036 | 700,532 | | 20,110 | |
| 2037 | 714,542 | | 20,210 | |
| 2038 | 728,833 | | 20,311 | |
| 2039 | 743,410 | | 20,413 | |
| 2040 | 758,278 | 36,599,116 | 20,515 | 750,832 |
| 2041 | 773,444 | | 20,618 | |
| 2042 | 788,913 | | 20,721 | |
| 2043 | 804,691 | | 20,824 | |
| 2044 | 820,785 | | 20,928 | |

2000 through 2009 Generation Projections from PUCT's 2000 Annual Update of Generating Electric Utility Data

# Projected Annual Electric Generation in Texas

| Year | Statewide Generation at 2 Percent Annual Growth (GWh) | Statewide Population from TWDB | Per Capita Generation at 0.5% Annual Growth (kWh / person) | Generation Based on Per Capita Increases (GWh) |
|---|---|---|---|---|
| 2045 | 837,200 | | 21,033 | |
| 2046 | 853,944 | | 21,138 | |
| 2047 | 871,023 | | 21,244 | |
| 2048 | 888,444 | | 21,350 | |
| 2049 | 906,213 | | 21,457 | |
| 2050 | 924,337 | 40,676,622 | 21,564 | 877,157 |
| 2051 | 942,824 | | 21,672 | |
| 2052 | 961,680 | | 21,780 | |
| 2053 | 980,914 | | 21,889 | |
| 2054 | 1,000,532 | | 21,999 | |
| 2055 | 1,020,543 | | 22,109 | |
| 2056 | 1,040,953 | | 22,219 | |
| 2057 | 1,061,772 | | 22,330 | |
| 2058 | 1,083,008 | | 22,442 | |
| 2059 | 1,104,668 | | 22,554 | |
| 2060 | 1,126,761 | 45,073,480 | 22,667 | 1,021,679 |

2000 through 2009 Generation Projections from PUCT's 2000 Annual Update of Generating Electric Utility Data

# TWDB Population Projections

| SUMMARY OF CONSENSUS PROJECTIONS BY REGION | | | | | | |
|---|---|---|---|---|---|---|
| **REGION** | **2010** | **2020** | **2030** | **2040** | **2050** | **2060** |
| A | 388,104 | 423,380 | 453,354 | 484,954 | 516,729 | 541,035 |
| B | 206,651 | 214,838 | 219,163 | 220,124 | 219,235 | 217,792 |
| C | 6,649,046 | 7,992,835 | 9,122,938 | 10,278,602 | 11,595,104 | 13,127,140 |
| D | 732,952 | 798,285 | 858,489 | 922,540 | 1,008,562 | 1,135,849 |
| E | 849,410 | 1,012,003 | 1,154,277 | 1,276,770 | 1,399,011 | 1,520,758 |
| F | 618,889 | 656,480 | 682,132 | 700,806 | 714,045 | 724,094 |
| G | 1,924,055 | 2,206,292 | 2,493,227 | 2,772,013 | 3,065,219 | 3,362,318 |
| H | 5,786,820 | 6,718,964 | 7,691,334 | 8,665,201 | 9,750,704 | 10,908,906 |
| I | 1,081,934 | 1,149,624 | 1,206,974 | 1,258,230 | 1,331,206 | 1,430,298 |
| J | 135,723 | 158,645 | 178,342 | 190,551 | 198,594 | 205,910 |
| K | 1,280,177 | 1,543,110 | 1,789,130 | 1,956,631 | 2,138,773 | 2,337,679 |
| L* | 2,468,426 | 2,885,282 | 3,284,171 | 3,634,543 | 3,974,576 | 4,287,988 |
| M | 1,581,207 | 1,973,188 | 2,401,223 | 2,854,613 | 3,337,618 | 3,826,001 |
| N | 617,143 | 693,940 | 758,427 | 810,650 | 853,964 | 885,665 |
| O | 486,311 | 512,405 | 528,437 | 535,967 | 537,255 | 527,210 |
| P | 34,191 | 35,246 | 35,402 | 34,881 | 33,977 | 32,777 |
| Total (proposed) | 24,843,049 | 28,976,537 | 32,859,050 | 36,599,116 | 40,676,622 | 45,073,480 |
| 2002 SWP | 24,537,141 | 28,792,303 | 32,774,870 | 36,413,817 | 39,617,389 | |
| Data provided by the TWDB, Regional Population Projection Summary-working 5_14Bexarrevision. | | | | | | |

# Appendix C
# Steam Electric Water Supplies, Demands, and Shortages per the 2002 State Water Plan

## 2002 STATE WATER PLAN
## STEAM ELECTRIC WATER DEMAND PROJECTIONS (acre feet)

| REGION | CNTY | NAME | d1990 | d2000 | d2010 | d2020 | d2030 | d2040 | d2050 |
|---|---|---|---|---|---|---|---|---|---|
| State Total | | TEXAS | 425,945 | 607,527 | 831,301 | 917,994 | 1,007,424 | 1,057,929 | 1,134,644 |
| | | | | | | | | | |
| A | 6 | ARMSTRONG | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| A | 33 | CARSON | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| A | 38 | CHILDRESS | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| A | 44 | COLLINGSWORTH | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| A | 56 | DALLAM | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| A | 65 | DONLEY | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| A | 90 | GRAY | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| A | 96 | HALL | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| A | 98 | HANSFORD | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| A | 103 | HARTLEY | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| A | 106 | HEMPHILL | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| A | 117 | HUTCHINSON | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| A | 148 | LIPSCOMB | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| A | 171 | MOORE | 359 | 200 | 200 | 200 | 200 | 200 | 200 |
| A | 179 | OCHILTREE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| A | 180 | OLDHAM | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| A | 188 | POTTER | 3,528 | 18,300 | 22,432 | 25,387 | 26,804 | 28,408 | 30,011 |
| A | 191 | RANDALL | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| A | 197 | ROBERTS | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| A | 211 | SHERMAN | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| A | 242 | WHEELER | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | 3,887 | 18,500 | 22,632 | 25,587 | 27,004 | 28,608 | 30,211 |
| | | | | | | | | | |
| B | 5 | ARCHER | 0 | 0 | 14,000 | 14,000 | 14,000 | 14,000 | 14,000 |
| B | 12 | BAYLOR | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 39 | CLAY | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 51 | COTTLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 78 | FOARD | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 99 | HARDEMAN | 2,856 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
| B | 135 | KING | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 169 | MONTAGUE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 243 | WICHITA | 0 | 360 | 360 | 360 | 360 | 360 | 360 |
| B | 244 | WILBARGER | 7,876 | 8,100 | 12,000 | 16,000 | 20,000 | 20,000 | 20,000 |
| B | 252 | YOUNG (P) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | 10,732 | 9,460 | 27,360 | 31,360 | 35,360 | 35,360 | 35,360 |
| | | | | | | | | | |
| C | 43 | COLLIN | 1,635 | 2,000 | 7,000 | 7,000 | 7,000 | 10,000 | 10,000 |
| C | 49 | COOKE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | 57 | DALLAS | 18,214 | 18,000 | 20,000 | 25,000 | 25,000 | 25,000 | 25,000 |
| C | 61 | DENTON | 0 | 0 | 4,500 | 4,500 | 4,500 | 6,000 | 6,000 |
| C | 70 | ELLIS | 0 | 0 | 15,000 | 15,000 | 15,000 | 18,000 | 18,000 |
| C | 74 | FANNIN | 6,726 | 5,000 | 6,000 | 7,000 | 8,000 | 9,000 | 10,000 |
| C | 81 | FREESTONE | 13,834 | 16,000 | 27,000 | 29,000 | 29,000 | 33,192 | 33,192 |
| C | 91 | GRAYSON | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | 107 | HENDERSON (P) | 2,299 | 4,000 | 4,000 | 4,000 | 4,000 | 4,000 | 4,000 |
| C | 119 | JACK | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | 129 | KAUFMAN | 0 | 7,800 | 8,000 | 8,000 | 10,000 | 10,000 | 15,000 |
| C | 175 | NAVARRO | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| C | 184 | PARKER | 39 | 0 | 6,000 | 6,000 | 10,000 | 12,000 | 12,000 |
| C | 199 | ROCKWALL | 0 | 0 | 5,600 | 6,000 | 6,000 | 6,000 | 6,000 |
| C | 220 | TARRANT | 4,212 | 7,000 | 8,000 | 10,000 | 10,000 | 11,800 | 11,800 |
| C | 249 | WISE | 0 | 0 | 11,200 | 11,200 | 11,200 | 11,200 | 11,200 |
| | | | 46,959 | 59,800 | 122,300 | 132,700 | 139,700 | 156,192 | 162,192 |
| | | | | | | | | | |
| D | 19 | BOWIE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 32 | CAMP | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 34 | CASS | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

## 2002 STATE WATER PLAN
## STEAM ELECTRIC WATER DEMAND PROJECTIONS (acre feet)

| REGION | CNTY | NAME | d1990 | d2000 | d2010 | d2020 | d2030 | d2040 | d2050 |
|---|---|---|---|---|---|---|---|---|---|
| State Total | | TEXAS | 425,945 | 607,527 | 831,301 | 917,994 | 1,007,424 | 1,057,929 | 1,134,644 |
| D | 60 | DELTA | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 80 | FRANKLIN | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 92 | GREGG | 465 | 1,251 | 1,251 | 1,251 | 1,251 | 1,251 | 1,251 |
| D | 102 | HARRISON | 4,869 | 5,760 | 5,760 | 5,760 | 5,760 | 5,760 | 5,760 |
| D | 112 | HOPKINS | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 116 | HUNT | 834 | 516 | 516 | 516 | 516 | 516 | 516 |
| D | 139 | LAMAR | 0 | 12,209 | 12,209 | 12,209 | 12,209 | 12,209 | 12,209 |
| D | 158 | MARION | 1,953 | 2,868 | 2,868 | 2,868 | 2,868 | 2,868 | 2,868 |
| D | 172 | MORRIS | 8 | 48 | 48 | 48 | 48 | 48 | 48 |
| D | 190 | RAINS | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 194 | RED RIVER | 1,494 | 1,500 | 5,000 | 7,000 | 10,000 | 10,000 | 10,000 |
| D | 212 | SMITH (P) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 225 | TITUS | 36,406 | 28,280 | 31,280 | 31,280 | 36,280 | 36,280 | 36,280 |
| D | 230 | UPSHUR | 0 | 0 | 5,601 | 5,601 | 5,601 | 5,601 | 5,601 |
| D | 234 | VAN ZANDT | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 250 | WOOD | 0 | 0 | 7,500 | 7,500 | 7,500 | 7,500 | 15,000 |
| | | | 46,029 | 52,432 | 72,033 | 74,033 | 82,033 | 82,033 | 89,533 |
| E | 22 | BREWSTER | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| E | 55 | CULBERSON | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| E | 71 | EL PASO | 5,517 | 6,000 | 6,000 | 6,000 | 6,000 | 6,000 | 6,000 |
| E | 115 | HUDSPETH | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| E | 122 | JEFF DAVIS | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| E | 189 | PRESIDIO | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| E | 222 | TERRELL | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | 5,517 | 6,000 | 6,000 | 6,000 | 6,000 | 6,000 | 6,000 |
| F | 2 | ANDREWS | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 17 | BORDEN | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 25 | BROWN | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 41 | COKE | 445 | 835 | 835 | 835 | 835 | 835 | 835 |
| F | 42 | COLEMAN | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 48 | CONCHO | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 52 | CRANE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 53 | CROCKETT | 1,509 | 1,914 | 4,280 | 4,280 | 4,280 | 4,280 | 4,280 |
| F | 68 | ECTOR | 0 | 6,700 | 6,700 | 6,700 | 6,700 | 6,700 | 6,700 |
| F | 87 | GLASSCOCK | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 114 | HOWARD | 0 | 1,380 | 1,380 | 1,380 | 1,380 | 1,380 | 1,380 |
| F | 118 | IRION | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 134 | KIMBLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 151 | LOVING | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 154 | MCCULLOCH | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 159 | MARTIN | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 160 | MASON | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 164 | MENARD | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 165 | MIDLAND | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 168 | MITCHELL | 3,682 | 4,000 | 4,400 | 5,280 | 6,336 | 7,603 | 9,124 |
| F | 186 | PECOS | 0 | 6 | 6 | 6 | 6 | 6 | 6 |
| F | 192 | REAGAN | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 195 | REEVES | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 200 | RUNNELS | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 207 | SCHLEICHER | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 208 | SCURRY | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 216 | STERLING | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 218 | SUTTON | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 226 | TOM GREEN | 869 | 1,020 | 3,680 | 3,680 | 3,680 | 3,680 | 3,680 |
| F | 231 | UPTON | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 238 | WARD | 5,570 | 5,500 | 6,050 | 7,260 | 8,712 | 10,454 | 12,545 |

**2002 STATE WATER PLAN**
**STEAM ELECTRIC WATER DEMAND PROJECTIONS (acre feet)**

| REGION | CNTY | NAME | d1990 | d2000 | d2010 | d2020 | d2030 | d2040 | d2050 |
|---|---|---|---|---|---|---|---|---|---|
| State Total | | TEXAS | 425,945 | 607,527 | 831,301 | 917,994 | 1,007,424 | 1,057,929 | 1,134,644 |
| F | 248 | WINKLER | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | 12,075 | 21,355 | 27,331 | 29,421 | 31,929 | 34,938 | 38,550 |
| G | 14 | BELL | 0 | 0 | 11,200 | 11,200 | 11,200 | 11,200 | 11,200 |
| G | 18 | BOSQUE | 0 | 0 | 5,600 | 5,600 | 5,600 | 5,600 | 5,600 |
| G | 21 | BRAZOS | 3,953 | 5,000 | 5,000 | 5,000 | 5,000 | 5,000 | 5,000 |
| G | 26 | BURLESON | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 30 | CALLAHAN | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 47 | COMANCHE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 50 | CORYELL | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 67 | EASTLAND | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 72 | ERATH | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 73 | FALLS | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 76 | FISHER | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 93 | GRIMES | 11,088 | 10,000 | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 |
| G | 97 | HAMILTON | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 104 | HASKELL | 546 | 700 | 2,340 | 3,000 | 3,000 | 3,000 | 3,000 |
| G | 109 | HILL | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 111 | HOOD | 4,212 | 4,500 | 6,700 | 6,700 | 6,700 | 6,700 | 6,700 |
| G | 126 | JOHNSON | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 127 | JONES | 2,041 | 2,340 | 3,556 | 10,324 | 10,324 | 10,324 | 10,324 |
| G | 132 | KENT | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 138 | KNOX | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 141 | LAMPASAS | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 144 | LEE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 147 | LIMESTONE | 4,692 | 18,000 | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 |
| G | 155 | MCLENNAN | 14,366 | 15,000 | 15,000 | 20,000 | 25,000 | 30,000 | 35,000 |
| G | 166 | MILAM | 2,716 | 8,680 | 8,680 | 12,500 | 12,500 | 12,500 | 16,000 |
| G | 177 | NOLAN | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 182 | PALO PINTO | 1,898 | 2,500 | 3,000 | 3,000 | 3,000 | 3,000 | 3,000 |
| G | 198 | ROBERTSON | 0 | 15,000 | 28,000 | 30,000 | 30,000 | 35,000 | 40,000 |
| G | 209 | SHACKELFORD | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 213 | SOMERVELL | 9,845 | 18,000 | 23,200 | 23,200 | 23,200 | 23,200 | 23,200 |
| G | 215 | STEPHENS | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 217 | STONEWALL | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 221 | TAYLOR | 0 | 300 | 300 | 300 | 300 | 300 | 300 |
| G | 224 | THROCKMORTON | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 239 | WASHINGTON | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 246 | WILLIAMSON (P) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 252 | YOUNG (P) | 2,300 | 3,000 | 3,500 | 3,500 | 3,500 | 3,500 | 3,500 |
| | | | 57,657 | 103,020 | 156,076 | 174,324 | 179,324 | 189,324 | 202,824 |
| H | 8 | AUSTIN | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| H | 20 | BRAZORIA | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| H | 36 | CHAMBERS | 1,103 | 1,100 | 1,100 | 1,100 | 1,100 | 1,500 | 5,000 |
| H | 79 | FORT BEND | 62,805 | 70,000 | 70,000 | 70,000 | 70,000 | 70,000 | 70,000 |
| H | 84 | GALVESTON | 1,229 | 1,500 | 1,500 | 1,500 | 1,500 | 1,500 | 1,500 |
| H | 101 | HARRIS | 11,660 | 16,500 | 17,500 | 20,000 | 22,500 | 22,500 | 22,500 |
| H | 145 | LEON | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| H | 146 | LIBERTY | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| H | 157 | MADISON | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| H | 170 | MONTGOMERY | 5,921 | 6,000 | 6,000 | 6,000 | 6,000 | 6,000 | 6,000 |
| H | 187 | POLK (P) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| H | 204 | SAN JACINTO | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| H | 228 | TRINITY (P) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| H | 236 | WALKER | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| H | 237 | WALLER | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | 82,718 | 95,100 | 96,100 | 98,600 | 101,100 | 101,500 | 105,000 |

## 2002 STATE WATER PLAN
## STEAM ELECTRIC WATER DEMAND PROJECTIONS (acre feet)

| REGION | CNTY | NAME | d1990 | d2000 | d2010 | d2020 | d2030 | d2040 | d2050 |
|---|---|---|---|---|---|---|---|---|---|
| State Total | | TEXAS | 425,945 | 607,527 | 831,301 | 917,994 | 1,007,424 | 1,057,929 | 1,134,644 |
| | | | | | | | | | |
| I | 1 | ANDERSON | 0 | 0 | 11,209 | 11,209 | 11,209 | 11,209 | 11,209 |
| I | 3 | ANGELINA | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| I | 37 | CHEROKEE | 4,936 | 5,000 | 5,000 | 10,000 | 15,000 | 15,000 | 20,000 |
| I | 100 | HARDIN | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| I | 107 | HENDERSON (P) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| I | 113 | HOUSTON | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| I | 121 | JASPER | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| I | 123 | JEFFERSON | 1,021 | 3,000 | 6,000 | 6,000 | 6,000 | 6,000 | 6,000 |
| I | 174 | NACOGDOCHES | 0 | 0 | 0 | 0 | 7,505 | 7,505 | 7,505 |
| I | 176 | NEWTON | 0 | 0 | 11,200 | 11,200 | 11,200 | 11,200 | 11,200 |
| I | 181 | ORANGE | 5,574 | 6,000 | 10,000 | 15,000 | 20,000 | 25,000 | 30,000 |
| I | 183 | PANOLA | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| I | 187 | POLK (P) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| I | 201 | RUSK | 28,320 | 30,000 | 35,000 | 40,000 | 45,000 | 45,000 | 45,000 |
| I | 202 | SABINE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| I | 203 | SAN AUGUSTINE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| I | 210 | SHELBY | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| I | 212 | SMITH (P) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| I | 228 | TRINITY (P) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| I | 229 | TYLER | 0 | 0 | 5,000 | 10,000 | 15,000 | 20,000 | 25,000 |
| | | | 39,851 | 44,000 | 83,409 | 103,409 | 130,914 | 140,914 | 155,914 |
| | | | | | | | | | |
| J | 10 | BANDERA | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| J | 69 | EDWARDS | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| J | 133 | KERR | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| J | 136 | KINNEY | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| J | 193 | REAL | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| J | 233 | VAL VERDE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | | | | |
| K | 11 | BASTROP | 2,967 | 4,500 | 8,000 | 8,000 | 8,000 | 8,000 | 8,000 |
| K | 16 | BLANCO | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| K | 27 | BURNET | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| K | 45 | COLORADO | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| K | 75 | FAYETTE | 11,701 | 15,000 | 20,000 | 25,000 | 40,000 | 40,000 | 45,000 |
| K | 86 | GILLESPIE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| K | 105 | HAYS (P) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| K | 150 | LLANO | 937 | 1,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 |
| K | 161 | MATAGORDA | 35,915 | 47,000 | 47,000 | 47,000 | 47,000 | 47,000 | 47,000 |
| K | 167 | MILLS | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| K | 206 | SAN SABA | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| K | 227 | TRAVIS | 4,150 | 13,500 | 13,500 | 13,500 | 13,500 | 13,500 | 16,500 |
| K | 241 | WHARTON (P) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| K | 246 | WILLIAMSON (P) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | 55,670 | 81,000 | 90,500 | 95,500 | 110,500 | 110,500 | 118,500 |
| | | | | | | | | | |
| L | 7 | ATASCOSA | 6,036 | 12,000 | 12,000 | 12,000 | 12,000 | 15,000 | 22,000 |
| L | 15 | BEXAR | 24,263 | 36,000 | 36,000 | 40,000 | 45,000 | 50,000 | 56,000 |
| L | 28 | CALDWELL | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| L | 29 | CALHOUN | 62 | 100 | 100 | 100 | 100 | 100 | 100 |
| L | 46 | COMAL | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| L | 62 | DEWITT | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| L | 64 | DIMMIT | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| L | 82 | FRIO | 38 | 400 | 400 | 400 | 400 | 400 | 400 |
| L | 88 | GOLIAD | 12,165 | 15,000 | 15,000 | 20,000 | 20,000 | 20,000 | 20,000 |
| L | 89 | GONZALES | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| L | 94 | GUADALUPE | 0 | 10,760 | 10,760 | 10,760 | 10,760 | 10,760 | 10,760 |

**2002 STATE WATER PLAN**
**STEAM ELECTRIC WATER DEMAND PROJECTIONS (acre feet)**

| REGION | CNTY | NAME | d1990 | d2000 | d2010 | d2020 | d2030 | d2040 | d2050 |
|---|---|---|---|---|---|---|---|---|---|
| State Total | | TEXAS | 425,945 | 607,527 | 831,301 | 917,994 | 1,007,424 | 1,057,929 | 1,134,644 |
| L | 105 | HAYS (P) | 0 | 0 | 6,400 | 6,400 | 6,400 | 6,400 | 6,400 |
| L | 128 | KARNES | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| L | 130 | KENDALL | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| L | 142 | LA SALLE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| L | 163 | MEDINA | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| L | 196 | REFUGIO | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| L | 232 | UVALDE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| L | 235 | VICTORIA | 887 | 8,000 | 10,000 | 10,000 | 10,000 | 10,000 | 10,000 |
| L | 247 | WILSON | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| L | 254 | ZAVALA | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | 43,451 | 82,260 | 90,660 | 99,660 | 104,660 | 112,660 | 125,660 |
| M | 31 | CAMERON | 1,650 | 2,400 | 2,000 | 2,000 | 11,600 | 11,600 | 11,600 |
| M | 108 | HIDALGO | 1,539 | 4,700 | 5,500 | 6,000 | 6,000 | 7,000 | 7,000 |
| M | 124 | JIM HOGG | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| M | 162 | MAVERICK | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| M | 214 | STARR | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| M | 240 | WEBB | 1,504 | 2,000 | 3,900 | 3,900 | 5,800 | 5,800 | 5,800 |
| M | 245 | WILLACY | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| M | 253 | ZAPATA | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | 4,693 | 9,100 | 11,400 | 11,900 | 23,400 | 24,400 | 24,400 |
| N | 4 | ARANSAS | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| N | 13 | BEE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| N | 24 | BROOKS | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| N | 66 | DUVAL | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| N | 125 | JIM WELLS | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| N | 131 | KENEDY | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| N | 137 | KLEBERG | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| N | 149 | LIVE OAK | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| N | 156 | MCMULLEN | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| N | 178 | NUECES | 2,404 | 3,300 | 3,300 | 3,300 | 3,300 | 3,300 | 3,300 |
| N | 205 | SAN PATRICIO | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | 2,404 | 3,300 | 3,300 | 3,300 | 3,300 | 3,300 | 3,300 |
| O | 9 | BAILEY | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| O | 23 | BRISCOE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| O | 35 | CASTRO | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| O | 40 | COCHRAN | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| O | 54 | CROSBY | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| O | 58 | DAWSON | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| O | 59 | DEAF SMITH | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| O | 63 | DICKENS | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| O | 77 | FLOYD | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| O | 83 | GAINES | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| O | 85 | GARZA | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| O | 95 | HALE | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| O | 110 | HOCKLEY | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| O | 140 | LAMB | 12,587 | 18,000 | 18,000 | 25,000 | 25,000 | 25,000 | 30,000 |
| O | 152 | LUBBOCK | 1,715 | 2,000 | 2,000 | 5,000 | 5,000 | 5,000 | 5,000 |
| O | 153 | LYNN | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| O | 173 | MOTLEY | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| O | 185 | PARMER | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| O | 219 | SWISHER | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| O | 223 | TERRY | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| O | 251 | YOAKUM | 0 | 2,200 | 2,200 | 2,200 | 2,200 | 2,200 | 2,200 |
| | | | 14,302 | 22,200 | 22,200 | 32,200 | 32,200 | 32,200 | 37,200 |

**2002 STATE WATER PLAN**
**STEAM ELECTRIC WATER DEMAND PROJECTIONS (acre feet)**

| REGION | CNTY | NAME | d1990 | d2000 | d2010 | d2020 | d2030 | d2040 | d2050 |
|---|---|---|---|---|---|---|---|---|---|
| State Total | | TEXAS | 425,945 | 607,527 | 831,301 | 917,994 | 1,007,424 | 1,057,929 | 1,134,644 |
| P | 120 | JACKSON | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| P | 143 | LAVACA | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| P | 241 | WHARTON (P) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

## 2002 STATE WATER PLAN
## STEAM ELECTRIC WATER SUPPLY PROJECTIONS (acre feet)

| REGION | CNTY | NAME | d2000 | d2010 | d2020 | d2030 | d2040 | d2050 | |
|---|---|---|---|---|---|---|---|---|---|
| State Total | | TEXAS | 1,100,011 | 1,122,112 | 1,131,670 | 1,110,766 | 1,094,977 | 1,088,695 | |
| A | 6 | ARMSTRONG | 0 | 0 | 0 | 0 | 0 | 0 | |
| A | 33 | CARSON | 0 | 0 | 0 | 0 | 0 | 0 | |
| A | 38 | CHILDRESS | 0 | 0 | 0 | 0 | 0 | 0 | |
| A | 44 | COLLINGSWORTH | 0 | 0 | 0 | 0 | 0 | 0 | |
| A | 56 | DALLAM | 0 | 0 | 0 | 0 | 0 | 0 | |
| A | 65 | DONLEY | 0 | 0 | 0 | 0 | 0 | 0 | |
| A | 90 | GRAY | 0 | 0 | 0 | 0 | 0 | 0 | |
| A | 96 | HALL | 0 | 0 | 0 | 0 | 0 | 0 | |
| A | 98 | HANSFORD | 0 | 0 | 0 | 0 | 0 | 0 | |
| A | 103 | HARTLEY | 0 | 0 | 0 | 0 | 0 | 0 | |
| A | 106 | HEMPHILL | 0 | 0 | 0 | 0 | 0 | 0 | |
| A | 117 | HUTCHINSON | 0 | 0 | 0 | 0 | 0 | 0 | |
| A | 148 | LIPSCOMB | 0 | 0 | 0 | 0 | 0 | 0 | |
| A | 171 | MOORE | 200 | 200 | 200 | 0 | 0 | 0 | |
| A | 179 | OCHILTREE | 0 | 0 | 0 | 0 | 0 | 0 | |
| A | 180 | OLDHAM | 0 | 0 | 0 | 0 | 0 | 0 | |
| A | 188 | POTTER | 18,300 | 22,432 | 25,387 | 26,804 | 16,114 | 14,151 | Reuse |
| A | 191 | RANDALL | 0 | 0 | 0 | 0 | 0 | 0 | |
| A | 197 | ROBERTS | 0 | 0 | 0 | 0 | 0 | 0 | |
| A | 211 | SHERMAN | 0 | 0 | 0 | 0 | 0 | 0 | |
| A | 242 | WHEELER | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | 18,500 | 22,632 | 25,587 | 26,804 | 16,114 | 14,151 | |
| B | 5 | ARCHER | 14,000 | 14,000 | 14,000 | 14,000 | 14,000 | 14,000 | |
| B | 12 | BAYLOR | 0 | 0 | 0 | 0 | 0 | 0 | |
| B | 39 | CLAY | 0 | 0 | 0 | 0 | 0 | 0 | |
| B | 51 | COTTLE | 0 | 0 | 0 | 0 | 0 | 0 | |
| B | 78 | FOARD | 0 | 0 | 0 | 0 | 0 | 0 | |
| B | 99 | HARDEMAN | 1,655 | 1,601 | 1,548 | 1,494 | 1,440 | 1,387 | |
| B | 135 | KING | 0 | 0 | 0 | 0 | 0 | 0 | |
| B | 169 | MONTAGUE | 0 | 0 | 0 | 0 | 0 | 0 | |
| B | 243 | WICHITA | 360 | 360 | 360 | 360 | 360 | 360 | |
| B | 244 | WILBARGER | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 | |
| B | 252 | YOUNG (P) | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | 36,015 | 35,961 | 35,908 | 35,854 | 35,800 | 35,747 | |
| C | 43 | COLLIN | 5,023 | 4,436 | 3,781 | 3,390 | 3,090 | 2,898 | |
| C | 49 | COOKE | 0 | 0 | 0 | 0 | 0 | 0 | |
| C | 57 | DALLAS | 18,109 | 17,177 | 15,489 | 16,533 | 16,546 | 7,022 | |
| C | 61 | DENTON | 500 | 500 | 500 | 500 | 500 | 500 | |
| C | 70 | ELLIS | 0 | 0 | 0 | 0 | 0 | 0 | |
| C | 74 | FANNIN | 10,596 | 10,596 | 10,596 | 10,596 | 10,596 | 10,596 | |
| C | 81 | FREESTONE | 18,204 | 18,204 | 18,204 | 18,204 | 18,204 | 18,204 | |
| C | 91 | GRAYSON | 0 | 0 | 0 | 0 | 0 | 0 | |
| C | 107 | HENDERSON (P) | 13,501 | 13,501 | 13,501 | 13,501 | 13,501 | 13,501 | |
| C | 119 | JACK | 0 | 0 | 0 | 0 | 0 | 0 | |
| C | 129 | KAUFMAN | 0 | 0 | 0 | 0 | 0 | 0 | |
| C | 175 | NAVARRO | 0 | 0 | 0 | 0 | 0 | 0 | |
| C | 184 | PARKER | 220 | 204 | 191 | 177 | 163 | 150 | |
| C | 199 | ROCKWALL | 0 | 0 | 0 | 0 | 0 | 0 | |
| C | 220 | TARRANT | 7,389 | 7,499 | 9,589 | 9,040 | 9,993 | 9,453 | |

**2002 STATE WATER PLAN**
**STEAM ELECTRIC WATER SUPPLY PROJECTIONS (acre feet)**

| REGION | CNTY | NAME | d2000 | d2010 | d2020 | d2030 | d2040 | d2050 | |
|---|---|---|---|---|---|---|---|---|---|
| State Total | | TEXAS | 1,100,011 | 1,122,112 | 1,131,670 | 1,110,766 | 1,094,977 | 1,088,695 | |
| C | 249 | WISE | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | 73,542 | 72,117 | 71,851 | 71,941 | 72,593 | 62,324 | |
| D | 19 | BOWIE | 0 | 0 | 0 | 0 | 0 | 0 | |
| D | 32 | CAMP | 0 | 0 | 0 | 0 | 0 | 0 | |
| D | 34 | CASS | 0 | 0 | 0 | 0 | 0 | 0 | |
| D | 60 | DELTA | 0 | 0 | 0 | 0 | 0 | 0 | |
| D | 80 | FRANKLIN | 0 | 0 | 0 | 0 | 0 | 0 | |
| D | 92 | GREGG | 4,686 | 5,186 | 5,186 | 5,186 | 5,186 | 6,186 | |
| D | 102 | HARRISON | 29,000 | 29,000 | 29,000 | 29,000 | 29,000 | 29,000 | |
| D | 112 | HOPKINS | 0 | 0 | 0 | 0 | 0 | 0 | |
| D | 116 | HUNT | 800 | 0 | 0 | 0 | 0 | 0 | |
| D | 139 | LAMAR | 12,209 | 12,209 | 12,209 | 12,209 | 12,209 | 12,209 | |
| D | 158 | MARION | 6,700 | 6,700 | 6,700 | 6,700 | 6,700 | 6,700 | |
| D | 172 | MORRIS | 12,000 | 12,000 | 12,000 | 12,000 | 12,000 | 12,000 | |
| D | 190 | RAINS | | | | | | | |
| D | 194 | RED RIVER | 11,500 | 11,500 | 11,500 | 11,500 | 11,500 | 11,500 | |
| D | 212 | SMITH (P) | 0 | 0 | 0 | 0 | 0 | 0 | |
| D | 225 | TITUS | 45,000 | 45,000 | 45,000 | 37,300 | 37,300 | 37,300 | |
| D | 230 | UPSHUR | 0 | 0 | 0 | 0 | 0 | 0 | |
| D | 234 | VAN ZANDT | 0 | 0 | 0 | 0 | 0 | 0 | |
| D | 250 | WOOD | 0 | 7,500 | 7,500 | 7,500 | 7,500 | 7,500 | |
| | | | 121,895 | 129,095 | 129,095 | 121,395 | 121,395 | 122,395 | |
| E | 22 | BREWSTER | 0 | 0 | 0 | 0 | 0 | 0 | |
| E | 55 | CULBERSON | 0 | 0 | 0 | 0 | 0 | 0 | |
| E | 71 | EL PASO | 6,000 | 6,000 | 6,000 | 0 | 0 | 0 | Reuse |
| E | 115 | HUDSPETH | 0 | 0 | 0 | 0 | 0 | 0 | |
| E | 122 | JEFF DAVIS | 0 | 0 | 0 | 0 | 0 | 0 | |
| E | 189 | PRESIDIO | 0 | 0 | 0 | 0 | 0 | 0 | |
| E | 222 | TERRELL | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | 6,000 | 6,000 | 6,000 | 0 | 0 | 0 | |
| F | 2 | ANDREWS | 0 | 0 | 0 | 0 | 0 | 0 | |
| F | 17 | BORDEN | 0 | 0 | 0 | 0 | 0 | 0 | |
| F | 25 | BROWN | 0 | 0 | 0 | 0 | 0 | 0 | |
| F | 41 | COKE | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | |
| F | 42 | COLEMAN | 0 | 0 | 0 | 0 | 0 | 0 | |
| F | 48 | CONCHO | 0 | 0 | 0 | 0 | 0 | 0 | |
| F | 52 | CRANE | 0 | 0 | 0 | 0 | 0 | 0 | |
| F | 53 | CROCKETT | 2,391 | 2,391 | 2,391 | 2,391 | 2,391 | 2,391 | |
| F | 68 | ECTOR | 6,700 | 6,700 | 6,700 | 6,700 | 6,700 | 6,700 | |
| F | 87 | GLASSCOCK | 0 | 0 | 0 | 0 | 0 | 0 | |
| F | 114 | HOWARD | 2,024 | 2,024 | 2,024 | 2,024 | 2,024 | 2,024 | |
| F | 118 | IRION | 0 | 0 | 0 | 0 | 0 | 0 | |
| F | 134 | KIMBLE | 0 | 0 | 0 | 0 | 0 | 0 | |
| F | 151 | LOVING | 0 | 0 | 0 | 0 | 0 | 0 | |
| F | 154 | MCCULLOCH | 0 | 0 | 0 | 0 | 0 | 0 | |
| F | 159 | MARTIN | 0 | 0 | 0 | 0 | 0 | 0 | |
| F | 160 | MASON | 0 | 0 | 0 | 0 | 0 | 0 | |
| F | 164 | MENARD | 0 | 0 | 0 | 0 | 0 | 0 | |
| F | 165 | MIDLAND | 0 | 0 | 0 | 0 | 0 | 0 | |

**2002 STATE WATER PLAN**
**STEAM ELECTRIC WATER SUPPLY PROJECTIONS (acre feet)**

| REGION | CNTY | NAME | d2000 | d2010 | d2020 | d2030 | d2040 | d2050 |
|---|---|---|---|---|---|---|---|---|
| State Total | | TEXAS | 1,100,011 | 1,122,112 | 1,131,670 | 1,110,766 | 1,094,977 | 1,088,695 |
| F | 168 | MITCHELL | 3,970 | 3,943 | 3,916 | 3,897 | 3,882 | 3,861 |
| F | 186 | PECOS | 6 | 6 | 6 | 6 | 6 | 6 |
| F | 192 | REAGAN | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 195 | REEVES | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 200 | RUNNELS | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 207 | SCHLEICHER | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 208 | SCURRY | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 216 | STERLING | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 218 | SUTTON | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 226 | TOM GREEN | 1,602 | 1,524 | 1,449 | 1,386 | 1,298 | 1,210 |
| F | 231 | UPTON | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 238 | WARD | 5,728 | 5,683 | 5,680 | 5,689 | 5,724 | 5,763 |
| F | 248 | WINKLER | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | 23,421 | 23,271 | 23,166 | 23,093 | 23,025 | 22,955 |
| G | 14 | BELL | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 18 | BOSQUE | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 21 | BRAZOS | 5,756 | 5,756 | 5,756 | 5,756 | 5,756 | 5,756 |
| G | 26 | BURLESON | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 30 | CALLAHAN | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 47 | COMANCHE | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 50 | CORYELL | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 67 | EASTLAND | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 72 | ERATH | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 73 | FALLS | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 76 | FISHER | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 93 | GRIMES | 10,000 | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 |
| G | 97 | HAMILTON | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 104 | HASKELL | 1,465 | 1,407 | 1,349 | 1,291 | 1,233 | 1,175 |
| G | 109 | HILL | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 111 | HOOD | 40,000 | 40,000 | 40,000 | 40,000 | 40,000 | 39,905 |
| G | 126 | JOHNSON | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 127 | JONES | 6,500 | 6,500 | 6,500 | 6,500 | 6,500 | 6,500 |
| G | 132 | KENT | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 138 | KNOX | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 141 | LAMPASAS | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 144 | LEE | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 147 | LIMESTONE | 27,458 | 27,458 | 27,458 | 27,458 | 27,458 | 27,458 |
| G | 155 | MCLENNAN | 16,858 | 16,858 | 20,000 | 25,000 | 30,000 | 35,000 |
| G | 166 | MILAM | 9,002 | 9,002 | 9,002 | 9,002 | 9,002 | 9,002 |
| G | 177 | NOLAN | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 182 | PALO PINTO | 87,296 | 79,176 | 74,034 | 69,034 | 59,034 | 49,034 |
| G | 198 | ROBERTSON | 35,807 | 38,727 | 40,727 | 40,727 | 45,727 | 50,727 |
| G | 209 | SHACKELFORD | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 213 | SOMERVELL | 18,000 | 23,200 | 23,200 | 23,200 | 23,200 | 23,200 |
| G | 215 | STEPHENS | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 217 | STONEWALL | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 221 | TAYLOR | 2,619 | 2,619 | 2,619 | 2,619 | 2,619 | 2,619 |
| G | 224 | THROCKMORTON | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 239 | WASHINGTON | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 246 | WILLIAMSON (P) | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 252 | YOUNG (P) | 0 | 0 | 0 | 0 | 0 | 0 |

**2002 STATE WATER PLAN**
**STEAM ELECTRIC WATER SUPPLY PROJECTIONS (acre feet)**

| REGION | CNTY | NAME | d2000 | d2010 | d2020 | d2030 | d2040 | d2050 | |
|---|---|---|---|---|---|---|---|---|---|
| State Total | | TEXAS | 1,100,011 | 1,122,112 | 1,131,670 | 1,110,766 | 1,094,977 | 1,088,695 | |
| | | | 260,761 | 270,703 | 270,645 | 270,587 | 270,529 | 270,376 | |
| H | 8 | AUSTIN | 0 | 0 | 0 | 0 | 0 | 0 | |
| H | 20 | BRAZORIA | 0 | 0 | 0 | 0 | 0 | 0 | Salt |
| H | 36 | CHAMBERS | 1,120 | 1,142 | 1,142 | 1,142 | 1,135 | 1,170 | 30,000 |
| H | 79 | FORT BEND | 104,400 | 104,400 | 104,400 | 104,400 | 104,400 | 104,400 | |
| H | 84 | GALVESTON | 1,820 | 1,820 | 1,820 | 1,820 | 1,820 | 1,820 | |
| H | 101 | HARRIS | 48,260 | 46,610 | 46,610 | 46,610 | 46,610 | 46,610 | |
| H | 145 | LEON | 0 | 0 | 0 | 0 | 0 | 0 | |
| H | 146 | LIBERTY | 0 | 0 | 0 | 0 | 0 | 0 | |
| H | 157 | MADISON | 0 | 0 | 0 | 0 | 0 | 0 | |
| H | 170 | MONTGOMERY | 12,096 | 12,096 | 12,096 | 12,096 | 12,096 | 12,096 | |
| H | 187 | POLK (P) | 0 | 0 | 0 | 0 | 0 | 0 | |
| H | 204 | SAN JACINTO | 0 | 0 | 0 | 0 | 0 | 0 | |
| H | 228 | TRINITY (P) | 0 | 0 | 0 | 0 | 0 | 0 | |
| H | 236 | WALKER | 0 | 0 | 0 | 0 | 0 | 0 | |
| H | 237 | WALLER | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | 167,696 | 166,068 | 166,068 | 166,068 | 166,061 | 166,096 | |
| I | 1 | ANDERSON | 0 | 0 | 0 | 0 | 0 | 0 | |
| I | 3 | ANGELINA | 0 | 0 | 0 | 0 | 0 | 0 | |
| I | 37 | CHEROKEE | 5,343 | 5,343 | 5,343 | 5,343 | 5,343 | 5,343 | |
| I | 100 | HARDIN | 0 | 0 | 0 | 0 | 0 | 0 | |
| I | 107 | HENDERSON (P) | 0 | 0 | 0 | 0 | 0 | 0 | |
| I | 113 | HOUSTON | 0 | 0 | 0 | 0 | 0 | 0 | |
| I | 121 | JASPER | 0 | 0 | 0 | 0 | 0 | 0 | |
| I | 123 | JEFFERSON | 0 | 0 | 0 | 0 | 0 | 0 | |
| I | 174 | NACOGDOCHES | 0 | 0 | 0 | 0 | 0 | 0 | |
| I | 176 | NEWTON | 0 | 0 | 0 | 0 | 0 | 0 | |
| I | 181 | ORANGE | 22,977 | 22,977 | 22,977 | 22,977 | 22,977 | 22,977 | |
| I | 183 | PANOLA | 0 | 0 | 0 | 0 | 0 | 0 | |
| I | 187 | POLK (P) | 0 | 0 | 0 | 0 | 0 | 0 | |
| I | 201 | RUSK | 25,179 | 25,179 | 25,179 | 25,179 | 25,179 | 25,179 | |
| I | 202 | SABINE | 0 | 0 | 0 | 0 | 0 | 0 | |
| I | 203 | SAN AUGUSTINE | 0 | 0 | 0 | 0 | 0 | 0 | |
| I | 210 | SHELBY | 0 | 0 | 0 | 0 | 0 | 0 | |
| I | 212 | SMITH (P) | 0 | 0 | 0 | 0 | 0 | 0 | |
| I | 228 | TRINITY (P) | 0 | 0 | 0 | 0 | 0 | 0 | |
| I | 229 | TYLER | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | 53,499 | 53,499 | 53,499 | 53,499 | 53,499 | 53,499 | |
| J | 10 | BANDERA | 0 | 0 | 0 | 0 | 0 | 0 | |
| J | 69 | EDWARDS | 0 | 0 | 0 | 0 | 0 | 0 | |
| J | 133 | KERR | 0 | 0 | 0 | 0 | 0 | 0 | |
| J | 136 | KINNEY | 0 | 0 | 0 | 0 | 0 | 0 | |
| J | 193 | REAL | 0 | 0 | 0 | 0 | 0 | 0 | |
| J | 233 | VAL VERDE | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | 0 | 0 | 0 | 0 | 0 | 0 | |
| K | 11 | BASTROP | 11,750 | 11,750 | 11,750 | 11,750 | 11,750 | 11,750 | |
| K | 16 | BLANCO | 0 | 0 | 0 | 0 | 0 | 0 | |
| K | 27 | BURNET | 0 | 0 | 0 | 0 | 0 | 0 | |

**2002 STATE WATER PLAN**
**STEAM ELECTRIC WATER SUPPLY PROJECTIONS (acre feet)**

| REGION | CNTY | NAME | d2000 | d2010 | d2020 | d2030 | d2040 | d2050 |
|---|---|---|---|---|---|---|---|---|
| State Total | | TEXAS | 1,100,011 | 1,122,112 | 1,131,670 | 1,110,766 | 1,094,977 | 1,088,695 |
| | | | | | | | | |
| K | 45 | COLORADO | 0 | 0 | 0 | 0 | 0 | 0 |
| K | 75 | FAYETTE | 45,613 | 45,613 | 45,613 | 45,613 | 45,613 | 45,613 |
| K | 86 | GILLESPIE | | | | | | |
| K | 105 | HAYS (P) | | | | | | |
| K | 150 | LLANO | 15,000 | 15,000 | 15,000 | 15,000 | 15,000 | 15,000 |
| K | 161 | MATAGORDA | 47,443 | 47,443 | 47,443 | 47,443 | 41,763 | 41,763 |
| K | 167 | MILLS | 0 | 0 | 0 | 0 | 0 | 0 |
| K | 206 | SAN SABA | 0 | 0 | 0 | 0 | 0 | 0 |
| K | 227 | TRAVIS | 40,859 | 40,859 | 40,859 | 40,859 | 40,859 | 40,859 |
| K | 241 | WHARTON (P) | 0 | 0 | 0 | 0 | 0 | 0 |
| K | 246 | WILLIAMSON (P) | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | 160,665 | 160,665 | 160,665 | 160,665 | 154,985 | 154,985 |
| | | | | | | | | |
| L | 7 | ATASCOSA | 22,000 | 22,000 | 22,000 | 13,496 | 13,496 | 13,496 |
| L | 15 | BEXAR | 59,428 | 59,428 | 59,428 | 59,428 | 59,428 | 59,428 |
| L | 28 | CALDWELL | 0 | 0 | 0 | 0 | 0 | 0 |
| L | 29 | CALHOUN | 100 | 100 | 100 | 100 | 100 | 100 |
| L | 46 | COMAL | 0 | 0 | 0 | 0 | 0 | 0 |
| L | 62 | DEWITT | 0 | 0 | 0 | 0 | 0 | 0 |
| L | 64 | DIMMIT | 0 | 0 | 0 | 0 | 0 | 0 |
| L | 82 | FRIO | 400 | 400 | 400 | 400 | 400 | 400 |
| L | 88 | GOLIAD | 23,567 | 23,570 | 23,574 | 23,577 | 23,579 | 23,579 |
| L | 89 | GONZALES | | | | | | |
| L | 94 | GUADALUPE | 9,840 | 9,840 | 9,840 | 9,840 | 9,840 | 9,840 |
| L | 105 | HAYS (P) | 2,500 | 6,436 | 6,436 | 6,436 | 6,436 | 6,436 |
| L | 128 | KARNES | 0 | 0 | 0 | 0 | 0 | 0 |
| L | 130 | KENDALL | 0 | 0 | 0 | 0 | 0 | 0 |
| L | 142 | LA SALLE | 0 | 0 | 0 | 0 | 0 | 0 |
| L | 163 | MEDINA | 0 | 0 | 0 | 0 | 0 | 0 |
| L | 196 | REFUGIO | 0 | 0 | 0 | 0 | 0 | 0 |
| L | 232 | UVALDE | 0 | 0 | 0 | 0 | 0 | 0 |
| L | 235 | VICTORIA | 10,000 | 10,000 | 10,000 | 10,000 | 10,000 | 10,000 |
| L | 247 | WILSON | 0 | 0 | 0 | 0 | 0 | 0 |
| L | 254 | ZAVALA | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | 127,835 | 131,774 | 131,778 | 123,277 | 123,279 | 123,279 |
| | | | | | | | | |
| M | 31 | CAMERON | 2,400 | 2,400 | 2,400 | 2,400 | 2,400 | 2,400 |
| M | 108 | HIDALGO | 17,289 | 17,289 | 17,289 | 17,289 | 17,289 | 17,289 |
| M | 124 | JIM HOGG | 0 | 0 | 0 | 0 | 0 | 0 |
| M | 162 | MAVERICK | 0 | 0 | 0 | 0 | 0 | 0 |
| M | 214 | STARR | 0 | 0 | 0 | 0 | 0 | 0 |
| M | 240 | WEBB | 2,195 | 2,195 | 2,195 | 2,195 | 2,195 | 2,195 |
| M | 245 | WILLACY | 0 | 0 | 0 | 0 | 0 | 0 |
| M | 253 | ZAPATA | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | 21,884 | 21,884 | 21,884 | 21,884 | 21,884 | 21,884 |
| | | | | | | | | |
| N | 4 | ARANSAS | 0 | 0 | 0 | 0 | 0 | 0 |
| N | 13 | BEE | 0 | 0 | 0 | 0 | 0 | 0 |
| N | 24 | BROOKS | 0 | 0 | 0 | 0 | 0 | 0 |
| N | 66 | DUVAL | 0 | 0 | 0 | 0 | 0 | 0 |
| N | 125 | JIM WELLS | 0 | 0 | 0 | 0 | 0 | 0 |
| N | 131 | KENEDY | 0 | 0 | 0 | 0 | 0 | 0 |

# 2002 STATE WATER PLAN
## STEAM ELECTRIC WATER SUPPLY PROJECTIONS (acre feet)

| REGION | CNTY | NAME | d2000 | d2010 | d2020 | d2030 | d2040 | d2050 | |
|---|---|---|---|---|---|---|---|---|---|
| State Total | | TEXAS | 1,100,011 | 1,122,112 | 1,131,670 | 1,110,766 | 1,094,977 | 1,088,695 | |
| N | 137 | KLEBERG | 0 | 0 | 0 | 0 | 0 | 0 | |
| N | 149 | LIVE OAK | 0 | 0 | 0 | 0 | 0 | 0 | |
| N | 156 | MCMULLEN | 0 | 0 | 0 | 0 | 0 | 0 | |
| N | 178 | NUECES | 3,300 | 3,300 | 3,300 | 3,300 | 3,300 | 3,300 | |
| N | 205 | SAN PATRICIO | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | 3,300 | 3,300 | 3,300 | 3,300 | 3,300 | 3,300 | |
| O | 9 | BAILEY | 0 | 0 | 0 | 0 | 0 | 0 | |
| O | 23 | BRISCOE | 0 | 0 | 0 | 0 | 0 | 0 | |
| O | 35 | CASTRO | 0 | 0 | 0 | 0 | 0 | 0 | |
| O | 40 | COCHRAN | 0 | 0 | 0 | 0 | 0 | 0 | |
| O | 54 | CROSBY | 0 | 0 | 0 | 0 | 0 | 0 | |
| O | 58 | DAWSON | 0 | 0 | 0 | 0 | 0 | 0 | |
| O | 59 | DEAF SMITH | 0 | 0 | 0 | 0 | 0 | 0 | |
| O | 63 | DICKENS | 0 | 0 | 0 | 0 | 0 | 0 | |
| O | 77 | FLOYD | 0 | 0 | 0 | 0 | 0 | 0 | |
| O | 83 | GAINES | 0 | 0 | 0 | 0 | 0 | 0 | |
| O | 85 | GARZA | 0 | 0 | 0 | 0 | 0 | 0 | |
| O | 95 | HALE | 0 | 0 | 0 | 0 | 0 | 0 | |
| O | 110 | HOCKLEY | 0 | 0 | 0 | 0 | 0 | 0 | |
| O | 140 | LAMB | 18,000 | 18,000 | 25,000 | 25,000 | 25,000 | 30,000 | |
| O | 152 | LUBBOCK | 4,799 | 4,944 | 5,025 | 5,200 | 5,314 | 5,505 | Reuse |
| O | 153 | LYNN | 0 | 0 | 0 | 0 | 0 | 0 | |
| O | 173 | MOTLEY | 0 | 0 | 0 | 0 | 0 | 0 | |
| O | 185 | PARMER | 0 | 0 | 0 | 0 | 0 | 0 | |
| O | 219 | SWISHER | 0 | 0 | 0 | 0 | 0 | 0 | |
| O | 223 | TERRY | 0 | 0 | 0 | 0 | 0 | 0 | |
| O | 251 | YOAKUM | 2,200 | 2,200 | 2,200 | 2,200 | 2,200 | 2,200 | |
| | | | 24,999 | 25,144 | 32,225 | 32,400 | 32,514 | 37,705 | |
| P | 120 | JACKSON | 0 | 0 | 0 | 0 | 0 | 0 | |
| P | 143 | LAVACA | 0 | 0 | 0 | 0 | 0 | 0 | |
| P | 241 | WHARTON (P) | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | 0 | 0 | 0 | 0 | 0 | 0 | |

**2002 STATE WATER PLAN**
**STEAM ELECTRIC WATER SUPPLY VERSUS DEMAND**
**PROJECTIONS (acre feet)**

| REGION | CNTY | NAME | d2000 | d2010 | d2020 | d2030 | d2040 | d2050 |
|---|---|---|---|---|---|---|---|---|
| State Total | | TEXAS | 492,484 | 290,811 | 213,676 | 103,342 | 37,048 | -45,949 |
| | | | | | | | | |
| A | 6 | ARMSTRONG | 0 | 0 | 0 | 0 | 0 | 0 |
| A | 33 | CARSON | 0 | 0 | 0 | 0 | 0 | 0 |
| A | 38 | CHILDRESS | 0 | 0 | 0 | 0 | 0 | 0 |
| A | 44 | COLLINGSWORTH | 0 | 0 | 0 | 0 | 0 | 0 |
| A | 56 | DALLAM | 0 | 0 | 0 | 0 | 0 | 0 |
| A | 65 | DONLEY | 0 | 0 | 0 | 0 | 0 | 0 |
| A | 90 | GRAY | 0 | 0 | 0 | 0 | 0 | 0 |
| A | 96 | HALL | 0 | 0 | 0 | 0 | 0 | 0 |
| A | 98 | HANSFORD | 0 | 0 | 0 | 0 | 0 | 0 |
| A | 103 | HARTLEY | 0 | 0 | 0 | 0 | 0 | 0 |
| A | 106 | HEMPHILL | 0 | 0 | 0 | 0 | 0 | 0 |
| A | 117 | HUTCHINSON | 0 | 0 | 0 | 0 | 0 | 0 |
| A | 148 | LIPSCOMB | 0 | 0 | 0 | 0 | 0 | 0 |
| A | 171 | MOORE | 0 | 0 | 0 | -200 | -200 | -200 |
| A | 179 | OCHILTREE | 0 | 0 | 0 | 0 | 0 | 0 |
| A | 180 | OLDHAM | 0 | 0 | 0 | 0 | 0 | 0 |
| A | 188 | POTTER | 0 | 0 | 0 | 0 | -12,294 | -15,860 |
| A | 191 | RANDALL | 0 | 0 | 0 | 0 | 0 | 0 |
| A | 197 | ROBERTS | 0 | 0 | 0 | 0 | 0 | 0 |
| A | 211 | SHERMAN | 0 | 0 | 0 | 0 | 0 | 0 |
| A | 242 | WHEELER | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | 0 | 0 | 0 | -200 | -12,494 | -16,060 |
| | | | | | | | | |
| B | 5 | ARCHER | 14,000 | 0 | 0 | 0 | 0 | 0 |
| B | 12 | BAYLOR | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 39 | CLAY | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 51 | COTTLE | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 78 | FOARD | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 99 | HARDEMAN | 655 | 601 | 548 | 494 | 440 | 387 |
| B | 135 | KING | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 169 | MONTAGUE | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 243 | WICHITA | 0 | 0 | 0 | 0 | 0 | 0 |
| B | 244 | WILBARGER | 11,900 | 8,000 | 4,000 | 0 | 0 | 0 |
| B | 252 | YOUNG (P) | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | 26,555 | 8,601 | 4,548 | 494 | 440 | 387 |
| | | | | | | | | |
| C | 43 | COLLIN | 3,023 | -2,564 | -3,219 | -3,610 | -6,910 | -7,102 |
| C | 49 | COOKE | 0 | 0 | 0 | 0 | 0 | 0 |
| C | 57 | DALLAS | 109 | -2,823 | -9,511 | -8,467 | -8,454 | -17,978 |
| C | 61 | DENTON | 500 | -4,000 | -4,000 | -4,000 | -5,500 | -5,500 |
| C | 70 | ELLIS | 0 | -15,000 | -15,000 | -15,000 | -18,000 | -18,000 |
| C | 74 | FANNIN | 5,596 | 4,596 | 3,596 | 2,596 | 1,596 | 596 |
| C | 81 | FREESTONE | 2,204 | -8,796 | -10,796 | -10,796 | -14,988 | -14,988 |
| C | 91 | GRAYSON | 0 | 0 | 0 | 0 | 0 | 0 |

**2002 STATE WATER PLAN**
**STEAM ELECTRIC WATER SUPPLY VERSUS DEMAND**
**PROJECTIONS (acre feet)**

| REGION | CNTY | NAME | d2000 | d2010 | d2020 | d2030 | d2040 | d2050 |
|---|---|---|---|---|---|---|---|---|
| State Total | | TEXAS | 492,484 | 290,811 | 213,676 | 103,342 | 37,048 | -45,949 |
| C | 107 | HENDERSON (P) | 9,501 | 9,501 | 9,501 | 9,501 | 9,501 | 9,501 |
| C | 119 | JACK | 0 | 0 | 0 | 0 | 0 | 0 |
| C | 129 | KAUFMAN | -7,800 | -8,000 | -8,000 | -10,000 | -10,000 | -15,000 |
| C | 175 | NAVARRO | 0 | 0 | 0 | 0 | 0 | 0 |
| C | 184 | PARKER | 220 | -5,796 | -5,809 | -9,823 | -11,837 | -11,850 |
| C | 199 | ROCKWALL | 0 | -5,600 | -6,000 | -6,000 | -6,000 | -6,000 |
| C | 220 | TARRANT | 389 | -501 | -411 | -960 | -1,807 | -2,347 |
| C | 249 | WISE | 0 | -11,200 | -11,200 | -11,200 | -11,200 | -11,200 |
| | | | 13,742 | -50,183 | -60,849 | -67,759 | -83,599 | -99,868 |
| D | 19 | BOWIE | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 32 | CAMP | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 34 | CASS | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 60 | DELTA | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 80 | FRANKLIN | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 92 | GREGG | 3,435 | 3,935 | 3,935 | 3,935 | 3,935 | 4,935 |
| D | 102 | HARRISON | 23,240 | 23,240 | 23,240 | 23,240 | 23,240 | 23,240 |
| D | 112 | HOPKINS | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 116 | HUNT | 284 | -516 | -516 | -516 | -516 | -516 |
| D | 139 | LAMAR | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 158 | MARION | 3,832 | 3,832 | 3,832 | 3,832 | 3,832 | 3,832 |
| D | 172 | MORRIS | 11,952 | 11,952 | 11,952 | 11,952 | 11,952 | 11,952 |
| D | 190 | RAINS | | | | | | |
| D | 194 | RED RIVER | 10,000 | 6,500 | 4,500 | 1,500 | 1,500 | 1,500 |
| D | 212 | SMITH (P) | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 225 | TITUS | 16,720 | 13,720 | 13,720 | 1,020 | 1,020 | 1,020 |
| D | 230 | UPSHUR | 0 | -5,601 | -5,601 | -5,601 | -5,601 | -5,601 |
| D | 234 | VAN ZANDT | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 250 | WOOD | 0 | 0 | 0 | 0 | 0 | -7,500 |
| | | | 69,463 | 57,062 | 55,062 | 39,362 | 39,362 | 32,862 |
| E | 22 | BREWSTER | 0 | 0 | 0 | 0 | 0 | 0 |
| E | 55 | CULBERSON | 0 | 0 | 0 | 0 | 0 | 0 |
| E | 71 | EL PASO | 0 | 0 | 0 | -6,000 | -6,000 | -6,000 |
| E | 115 | HUDSPETH | 0 | 0 | 0 | 0 | 0 | 0 |
| E | 122 | JEFF DAVIS | 0 | 0 | 0 | 0 | 0 | 0 |
| E | 189 | PRESIDIO | 0 | 0 | 0 | 0 | 0 | 0 |
| E | 222 | TERRELL | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | 0 | 0 | 0 | -6,000 | -6,000 | -6,000 |
| F | 2 | ANDREWS | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 17 | BORDEN | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 25 | BROWN | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 41 | COKE | 165 | 165 | 165 | 165 | 165 | 165 |
| F | 42 | COLEMAN | 0 | 0 | 0 | 0 | 0 | 0 |

## 2002 STATE WATER PLAN
## STEAM ELECTRIC WATER SUPPLY VERSUS DEMAND
## PROJECTIONS (acre feet)

| REGION | CNTY | NAME | d2000 | d2010 | d2020 | d2030 | d2040 | d2050 |
|---|---|---|---|---|---|---|---|---|
| State Total | | TEXAS | 492,484 | 290,811 | 213,676 | 103,342 | 37,048 | -45,949 |
| F | 48 | CONCHO | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 52 | CRANE | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 53 | CROCKETT | 477 | -1,889 | -1,889 | -1,889 | -1,889 | -1,889 |
| F | 68 | ECTOR | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 87 | GLASSCOCK | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 114 | HOWARD | 644 | 644 | 644 | 644 | 644 | 644 |
| F | 118 | IRION | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 134 | KIMBLE | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 151 | LOVING | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 154 | MCCULLOCH | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 159 | MARTIN | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 160 | MASON | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 164 | MENARD | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 165 | MIDLAND | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 168 | MITCHELL | -30 | -457 | -1,364 | -2,439 | -3,721 | -5,263 |
| F | 186 | PECOS | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 192 | REAGAN | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 195 | REEVES | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 200 | RUNNELS | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 207 | SCHLEICHER | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 208 | SCURRY | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 216 | STERLING | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 218 | SUTTON | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 226 | TOM GREEN | 582 | -2,156 | -2,231 | -2,294 | -2,382 | -2,470 |
| F | 231 | UPTON | 0 | 0 | 0 | 0 | 0 | 0 |
| F | 238 | WARD | 228 | -367 | -1,580 | -3,023 | -4,730 | -6,782 |
| F | 248 | WINKLER | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | 2,066 | -4,060 | -6,255 | -8,836 | -11,913 | -15,595 |
| G | 14 | BELL | 0 | -11,200 | -11,200 | -11,200 | -11,200 | -11,200 |
| G | 18 | BOSQUE | 0 | -5,600 | -5,600 | -5,600 | -5,600 | -5,600 |
| G | 21 | BRAZOS | 756 | 756 | 756 | 756 | 756 | 756 |
| G | 26 | BURLESON | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 30 | CALLAHAN | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 47 | COMANCHE | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 50 | CORYELL | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 67 | EASTLAND | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 72 | ERATH | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 73 | FALLS | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 76 | FISHER | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 93 | GRIMES | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 97 | HAMILTON | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 104 | HASKELL | 765 | -933 | -1,651 | -1,709 | -1,767 | -1,825 |
| G | 109 | HILL | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 111 | HOOD | 35,500 | 33,300 | 33,300 | 33,300 | 33,300 | 33,205 |

## 2002 STATE WATER PLAN
## STEAM ELECTRIC WATER SUPPLY VERSUS DEMAND
## PROJECTIONS (acre feet)

| REGION | CNTY | NAME | d2000 | d2010 | d2020 | d2030 | d2040 | d2050 |
|---|---|---|---|---|---|---|---|---|
| State Total | | TEXAS | 492,484 | 290,811 | 213,676 | 103,342 | 37,048 | -45,949 |
| G | 126 | JOHNSON | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 127 | JONES | 4,160 | 2,944 | -3,824 | -3,824 | -3,824 | -3,824 |
| G | 132 | KENT | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 138 | KNOX | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 141 | LAMPASAS | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 144 | LEE | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 147 | LIMESTONE | 9,458 | 7,458 | 7,458 | 7,458 | 7,458 | 7,458 |
| G | 155 | MCLENNAN | 1,858 | 1,858 | 0 | 0 | 0 | 0 |
| G | 166 | MILAM | 322 | 322 | -3,498 | -3,498 | -3,498 | -6,998 |
| G | 177 | NOLAN | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 182 | PALO PINTO | 84,796 | 76,176 | 71,034 | 66,034 | 56,034 | 46,034 |
| G | 198 | ROBERTSON | 20,807 | 10,727 | 10,727 | 10,727 | 10,727 | 10,727 |
| G | 209 | SHACKELFORD | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 213 | SOMERVELL | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 215 | STEPHENS | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 217 | STONEWALL | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 221 | TAYLOR | 2,319 | 2,319 | 2,319 | 2,319 | 2,319 | 2,319 |
| G | 224 | THROCKMORTON | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 239 | WASHINGTON | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 246 | WILLIAMSON (P) | 0 | 0 | 0 | 0 | 0 | 0 |
| G | 252 | YOUNG (P) | -3,000 | -3,500 | -3,500 | -3,500 | -3,500 | -3,500 |
| | | | 157,741 | 114,627 | 96,321 | 91,263 | 81,205 | 67,552 |
| H | 8 | AUSTIN | 0 | 0 | 0 | 0 | 0 | 0 |
| H | 20 | BRAZORIA | 0 | 0 | 0 | 0 | 0 | 0 |
| H | 36 | CHAMBERS | 20 | 42 | 42 | 42 | -365 | -3,830 |
| H | 79 | FORT BEND | 34,400 | 34,400 | 34,400 | 34,400 | 34,400 | 34,400 |
| H | 84 | GALVESTON | 320 | 320 | 320 | 320 | 320 | 320 |
| H | 101 | HARRIS | 31,760 | 29,110 | 26,610 | 24,110 | 24,110 | 24,110 |
| H | 145 | LEON | 0 | 0 | 0 | 0 | 0 | 0 |
| H | 146 | LIBERTY | 0 | 0 | 0 | 0 | 0 | 0 |
| H | 157 | MADISON | 0 | 0 | 0 | 0 | 0 | 0 |
| H | 170 | MONTGOMERY | 6,096 | 6,096 | 6,096 | 6,096 | 6,096 | 6,096 |
| H | 187 | POLK (P) | 0 | 0 | 0 | 0 | 0 | 0 |
| H | 204 | SAN JACINTO | 0 | 0 | 0 | 0 | 0 | 0 |
| H | 228 | TRINITY (P) | 0 | 0 | 0 | 0 | 0 | 0 |
| H | 236 | WALKER | 0 | 0 | 0 | 0 | 0 | 0 |
| H | 237 | WALLER | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | 72,596 | 69,968 | 67,468 | 64,968 | 64,561 | 61,096 |
| I | 1 | ANDERSON | 0 | -11,209 | -11,209 | -11,209 | -11,209 | -11,209 |
| I | 3 | ANGELINA | 0 | 0 | 0 | 0 | 0 | 0 |
| I | 37 | CHEROKEE | 343 | 343 | -4,657 | -9,657 | -9,657 | -14,657 |
| I | 100 | HARDIN | 0 | 0 | 0 | 0 | 0 | 0 |
| I | 107 | HENDERSON (P) | 0 | 0 | 0 | 0 | 0 | 0 |

## 2002 STATE WATER PLAN
## STEAM ELECTRIC WATER SUPPLY VERSUS DEMAND
## PROJECTIONS (acre feet)

| REGION | CNTY | NAME | d2000 | d2010 | d2020 | d2030 | d2040 | d2050 |
|---|---|---|---|---|---|---|---|---|
| State Total | | TEXAS | 492,484 | 290,811 | 213,676 | 103,342 | 37,048 | -45,949 |
| I | 113 | HOUSTON | 0 | 0 | 0 | 0 | 0 | 0 |
| I | 121 | JASPER | 0 | 0 | 0 | 0 | 0 | 0 |
| I | 123 | JEFFERSON | -3,000 | -6,000 | -6,000 | -6,000 | -6,000 | -6,000 |
| I | 174 | NACOGDOCHES | 0 | 0 | 0 | -7,505 | -7,505 | -7,505 |
| I | 176 | NEWTON | 0 | -11,200 | -11,200 | -11,200 | -11,200 | -11,200 |
| I | 181 | ORANGE | 16,977 | 12,977 | 7,977 | 2,977 | -2,023 | -7,023 |
| I | 183 | PANOLA | 0 | 0 | 0 | 0 | 0 | 0 |
| I | 187 | POLK (P) | 0 | 0 | 0 | 0 | 0 | 0 |
| I | 201 | RUSK | -4,821 | -9,821 | -14,821 | -19,821 | -19,821 | -19,821 |
| I | 202 | SABINE | 0 | 0 | 0 | 0 | 0 | 0 |
| I | 203 | SAN AUGUSTINE | 0 | 0 | 0 | 0 | 0 | 0 |
| I | 210 | SHELBY | 0 | 0 | 0 | 0 | 0 | 0 |
| I | 212 | SMITH (P) | 0 | 0 | 0 | 0 | 0 | 0 |
| I | 228 | TRINITY (P) | 0 | 0 | 0 | 0 | 0 | 0 |
| I | 229 | TYLER | 0 | -5,000 | -10,000 | -15,000 | -20,000 | -25,000 |
| | | | 9,499 | -29,910 | -49,910 | -77,415 | -87,415 | -102,415 |
| J | 10 | BANDERA | 0 | 0 | 0 | 0 | 0 | 0 |
| J | 69 | EDWARDS | 0 | 0 | 0 | 0 | 0 | 0 |
| J | 133 | KERR | 0 | 0 | 0 | 0 | 0 | 0 |
| J | 136 | KINNEY | 0 | 0 | 0 | 0 | 0 | 0 |
| J | 193 | REAL | 0 | 0 | 0 | 0 | 0 | 0 |
| J | 233 | VAL VERDE | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | 0 | 0 | 0 | 0 | 0 | 0 |
| K | 11 | BASTROP | 7,250 | 3,750 | 3,750 | 3,750 | 3,750 | 3,750 |
| K | 16 | BLANCO | 0 | 0 | 0 | 0 | 0 | 0 |
| K | 27 | BURNET | 0 | 0 | 0 | 0 | 0 | 0 |
| K | 45 | COLORADO | 0 | 0 | 0 | 0 | 0 | 0 |
| K | 75 | FAYETTE | 30,613 | 25,613 | 20,613 | 5,613 | 5,613 | 613 |
| K | 86 | GILLESPIE | | | | | | |
| K | 105 | HAYS (P) | | | | | | |
| K | 150 | LLANO | 14,000 | 13,000 | 13,000 | 13,000 | 13,000 | 13,000 |
| K | 161 | MATAGORDA | 443 | 443 | 443 | 443 | -5,237 | -5,237 |
| K | 167 | MILLS | 0 | 0 | 0 | 0 | 0 | 0 |
| K | 206 | SAN SABA | 0 | 0 | 0 | 0 | 0 | 0 |
| K | 227 | TRAVIS | 27,359 | 27,359 | 27,359 | 27,359 | 27,359 | 24,359 |
| K | 241 | WHARTON (P) | 0 | 0 | 0 | 0 | 0 | 0 |
| K | 246 | WILLIAMSON (P) | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | 79,665 | 70,165 | 65,165 | 50,165 | 44,485 | 36,485 |
| L | 7 | ATASCOSA | 10,000 | 10,000 | 10,000 | 1,496 | -1,504 | -8,504 |
| L | 15 | BEXAR | 23,428 | 23,428 | 19,428 | 14,428 | 9,428 | 3,428 |
| L | 28 | CALDWELL | 0 | 0 | 0 | 0 | 0 | 0 |
| L | 29 | CALHOUN | | | | | | |

**2002 STATE WATER PLAN**
**STEAM ELECTRIC WATER SUPPLY VERSUS DEMAND**
**PROJECTIONS (acre feet)**

| REGION | CNTY | NAME | d2000 | d2010 | d2020 | d2030 | d2040 | d2050 |
|---|---|---|---|---|---|---|---|---|
| State Total | | TEXAS | 492,484 | 290,811 | 213,676 | 103,342 | 37,048 | -45,949 |
| L | 46 | COMAL | 0 | 0 | 0 | 0 | 0 | 0 |
| L | 62 | DEWITT | 0 | 0 | 0 | 0 | 0 | 0 |
| L | 64 | DIMMIT | 0 | 0 | 0 | 0 | 0 | 0 |
| L | 82 | FRIO | 0 | 0 | 0 | 0 | 0 | 0 |
| L | 88 | GOLIAD | 8,567 | 8,570 | 3,574 | 3,577 | 3,579 | 3,579 |
| L | 89 | GONZALES | | | | | | |
| L | 94 | GUADALUPE | -920 | -920 | -920 | -920 | -920 | -920 |
| L | 105 | HAYS (P) | 2,500 | 36 | 36 | 36 | 36 | 36 |
| L | 128 | KARNES | 0 | 0 | 0 | 0 | 0 | 0 |
| L | 130 | KENDALL | 0 | 0 | 0 | 0 | 0 | 0 |
| L | 142 | LA SALLE | 0 | 0 | 0 | 0 | 0 | 0 |
| L | 163 | MEDINA | 0 | 0 | 0 | 0 | 0 | 0 |
| L | 196 | REFUGIO | 0 | 0 | 0 | 0 | 0 | 0 |
| L | 232 | UVALDE | 0 | 0 | 0 | 0 | 0 | 0 |
| L | 235 | VICTORIA | 2,000 | 0 | 0 | 0 | 0 | 0 |
| L | 247 | WILSON | 0 | 0 | 0 | 0 | 0 | 0 |
| L | 254 | ZAVALA | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | 45,575 | 41,114 | 32,118 | 18,617 | 10,619 | -2,381 |
| M | 31 | CAMERON | 0 | 400 | 400 | -9,200 | -9,200 | -9,200 |
| M | 108 | HIDALGO | 12,589 | 11,789 | 11,289 | 11,289 | 10,289 | 10,289 |
| M | 124 | JIM HOGG | 0 | 0 | 0 | 0 | 0 | 0 |
| M | 162 | MAVERICK | 0 | 0 | 0 | 0 | 0 | 0 |
| M | 214 | STARR | 0 | 0 | 0 | 0 | 0 | 0 |
| M | 240 | WEBB | 195 | -1,706 | -1,706 | -3,606 | -3,606 | -3,606 |
| M | 245 | WILLACY | 0 | 0 | 0 | 0 | 0 | 0 |
| M | 253 | ZAPATA | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | 12,784 | 10,484 | 9,984 | -1,517 | -2,517 | -2,517 |
| N | 4 | ARANSAS | 0 | 0 | 0 | 0 | 0 | 0 |
| N | 13 | BEE | 0 | 0 | 0 | 0 | 0 | 0 |
| N | 24 | BROOKS | 0 | 0 | 0 | 0 | 0 | 0 |
| N | 66 | DUVAL | 0 | 0 | 0 | 0 | 0 | 0 |
| N | 125 | JIM WELLS | 0 | 0 | 0 | 0 | 0 | 0 |
| N | 131 | KENEDY | 0 | 0 | 0 | 0 | 0 | 0 |
| N | 137 | KLEBERG | 0 | 0 | 0 | 0 | 0 | 0 |
| N | 149 | LIVE OAK | 0 | 0 | 0 | 0 | 0 | 0 |
| N | 156 | MCMULLEN | 0 | 0 | 0 | 0 | 0 | 0 |
| N | 178 | NUECES | 0 | 0 | 0 | 0 | 0 | 0 |
| N | 205 | SAN PATRICIO | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | 0 | 0 | 0 | 0 | 0 | 0 |
| O | 9 | BAILEY | 0 | 0 | 0 | 0 | 0 | 0 |
| O | 23 | BRISCOE | 0 | 0 | 0 | 0 | 0 | 0 |
| O | 35 | CASTRO | 0 | 0 | 0 | 0 | 0 | 0 |

**2002 STATE WATER PLAN**
**STEAM ELECTRIC WATER SUPPLY VERSUS DEMAND**
**PROJECTIONS (acre feet)**

| REGION | CNTY | NAME | d2000 | d2010 | d2020 | d2030 | d2040 | d2050 |
|---|---|---|---|---|---|---|---|---|
| State Total | | TEXAS | 492,484 | 290,811 | 213,676 | 103,342 | 37,048 | -45,949 |
| | | | | | | | | |
| O | 40 | COCHRAN | 0 | 0 | 0 | 0 | 0 | 0 |
| O | 54 | CROSBY | 0 | 0 | 0 | 0 | 0 | 0 |
| O | 58 | DAWSON | 0 | 0 | 0 | 0 | 0 | 0 |
| O | 59 | DEAF SMITH | 0 | 0 | 0 | 0 | 0 | 0 |
| O | 63 | DICKENS | 0 | 0 | 0 | 0 | 0 | 0 |
| O | 77 | FLOYD | 0 | 0 | 0 | 0 | 0 | 0 |
| O | 83 | GAINES | 0 | 0 | 0 | 0 | 0 | 0 |
| O | 85 | GARZA | 0 | 0 | 0 | 0 | 0 | 0 |
| O | 95 | HALE | 0 | 0 | 0 | 0 | 0 | 0 |
| O | 110 | HOCKLEY | 0 | 0 | 0 | 0 | 0 | 0 |
| O | 140 | LAMB | 0 | 0 | 0 | 0 | 0 | 0 |
| O | 152 | LUBBOCK | 2,799 | 2,944 | 25 | 200 | 314 | 505 |
| O | 153 | LYNN | 0 | 0 | 0 | 0 | 0 | 0 |
| O | 173 | MOTLEY | 0 | 0 | 0 | 0 | 0 | 0 |
| O | 185 | PARMER | 0 | 0 | 0 | 0 | 0 | 0 |
| O | 219 | SWISHER | 0 | 0 | 0 | 0 | 0 | 0 |
| O | 223 | TERRY | 0 | 0 | 0 | 0 | 0 | 0 |
| O | 251 | YOAKUM | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | 2,799 | 2,944 | 25 | 200 | 314 | 505 |
| | | | | | | | | |
| P | 120 | JACKSON | 0 | 0 | 0 | 0 | 0 | 0 |
| P | 143 | LAVACA | 0 | 0 | 0 | 0 | 0 | 0 |
| P | 241 | WHARTON (P) | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | 0 | 0 | 0 | 0 | 0 | 0 |

# Appendix D
# Comparison of Steam Electric Water Supply and Demand

# Annual Statewide Steam Electric Water Supply vs. Demand

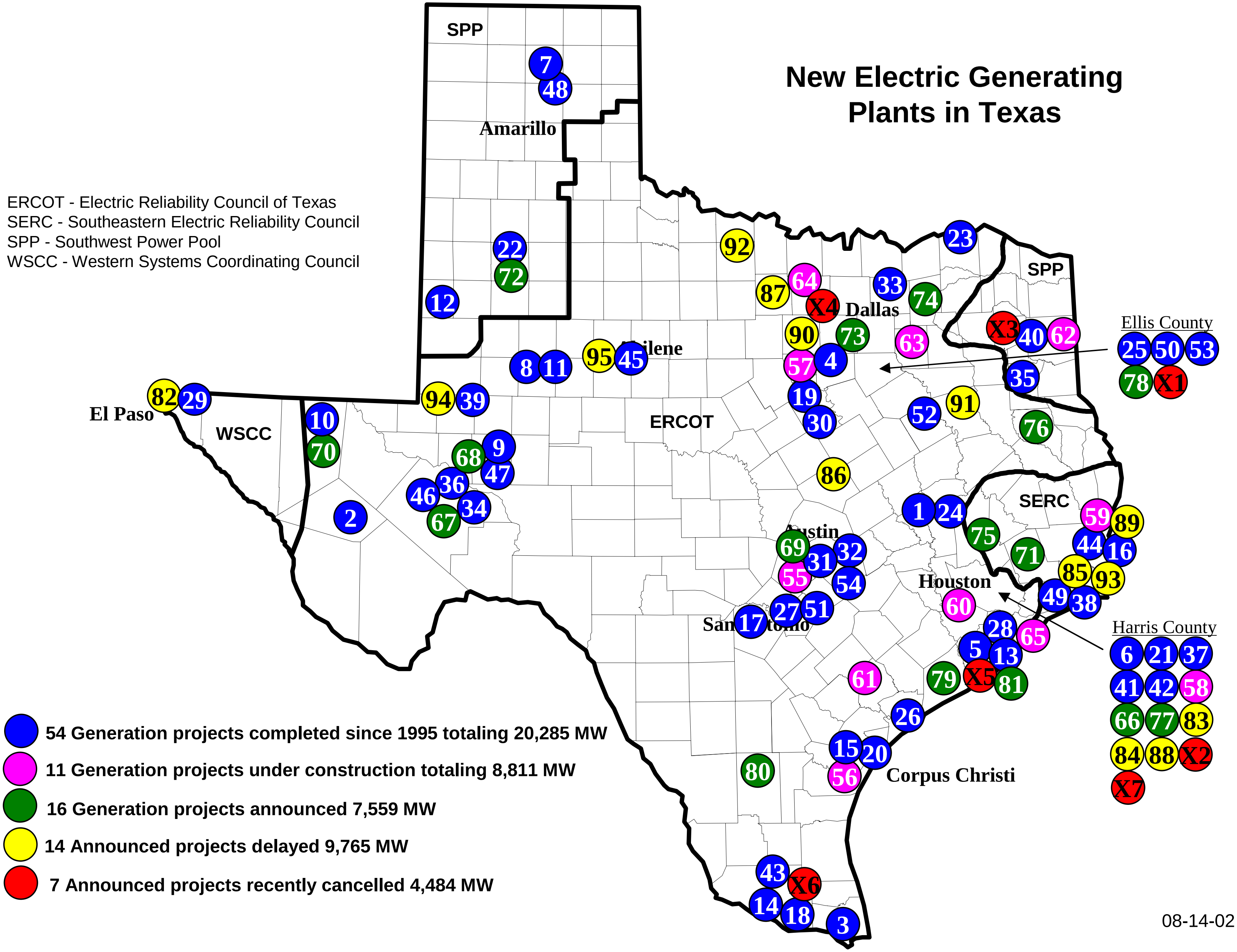
| Year | Year | TWDB Demand per 2002 SWP | TWDB Supply per 2002 SWP | Study Demand | Study Demand Minus TWDB Supply | TWDB Supply Minus TWDB Demand |
|---|---|---|---|---|---|---|
| 2000 | 1 | 611,338 | 1,099,675 | 621,872 | 477,803 | 488,337 |
| 2001 | 1.1 | 637,065 | 1,102,764 | 631,574 | 471,189 | 465,699 |
| 2002 | 1.2 | 661,555 | 1,105,735 | 641,370 | 464,365 | 444,180 |
| 2003 | 1.3 | 684,847 | 1,108,574 | 651,267 | 457,307 | 423,727 |
| 2004 | 1.4 | 706,980 | 1,111,268 | 661,271 | 449,996 | 404,288 |
| 2005 | 1.5 | 727,991 | 1,113,804 | 671,392 | 442,412 | 385,813 |
| 2006 | 1.6 | 747,921 | 1,116,173 | 681,636 | 434,537 | 368,253 |
| 2007 | 1.7 | 766,806 | 1,118,364 | 692,010 | 426,354 | 351,559 |
| 2008 | 1.8 | 784,685 | 1,120,370 | 702,524 | 417,846 | 335,685 |
| 2009 | 1.9 | 801,597 | 1,122,181 | 713,183 | 408,998 | 320,585 |
| 2010 | 2 | 817,580 | 1,123,793 | 723,995 | 399,797 | 306,213 |
| 2011 | 2.1 | 832,672 | 1,125,199 | 734,969 | 390,230 | 292,527 |
| 2012 | 2.2 | 846,912 | 1,126,396 | 746,111 | 380,285 | 279,484 |
| 2013 | 2.3 | 860,339 | 1,127,381 | 757,429 | 369,951 | 267,042 |
| 2014 | 2.4 | 872,990 | 1,128,151 | 768,931 | 359,220 | 255,161 |
| 2015 | 2.5 | 884,904 | 1,128,707 | 780,624 | 348,083 | 243,802 |
| 2016 | 2.6 | 896,120 | 1,129,048 | 792,516 | 336,532 | 232,927 |
| 2017 | 2.7 | 906,676 | 1,129,175 | 804,614 | 324,562 | 222,499 |
| 2018 | 2.8 | 916,611 | 1,129,092 | 816,925 | 312,167 | 212,482 |
| 2019 | 2.9 | 925,962 | 1,128,803 | 829,458 | 299,344 | 202,841 |
| 2020 | 3 | 934,768 | 1,128,311 | 842,220 | 286,091 | 193,542 |
| 2021 | 3.1 | 943,068 | 1,127,622 | 855,218 | 272,404 | 184,554 |
| 2022 | 3.2 | 950,900 | 1,126,745 | 868,460 | 258,285 | 175,845 |
| 2023 | 3.3 | 958,303 | 1,125,687 | 881,953 | 243,733 | 167,384 |
| 2024 | 3.4 | 965,314 | 1,124,456 | 895,705 | 228,751 | 159,143 |
| 2025 | 3.5 | 971,973 | 1,123,065 | 909,724 | 213,341 | 151,092 |
| 2026 | 3.6 | 978,317 | 1,121,524 | 924,017 | 197,507 | 143,207 |
| 2027 | 3.7 | 984,385 | 1,119,845 | 938,591 | 181,254 | 135,460 |
| 2028 | 3.8 | 990,216 | 1,118,043 | 953,454 | 164,588 | 127,826 |
| 2029 | 3.9 | 995,848 | 1,116,132 | 968,614 | 147,518 | 120,284 |
| 2030 | 4 | 1,001,319 | 1,114,128 | 984,078 | 130,050 | 112,809 |
| 2031 | 4.1 | 1,006,668 | 1,112,049 | 999,854 | 112,195 | 105,380 |
| 2032 | 4.2 | 1,011,934 | 1,109,912 | 1,015,949 | 93,963 | 97,978 |
| 3033 | 4.3 | 1,017,153 | 1,107,737 | 1,032,370 | 75,367 | 90,584 |
| 2034 | 4.4 | 1,022,366 | 1,105,544 | 1,049,126 | 56,418 | 83,178 |
| 2035 | 4.5 | 1,027,610 | 1,103,356 | 1,066,224 | 37,132 | 75,745 |
| 2036 | 4.6 | 1,032,925 | 1,101,193 | 1,083,671 | 17,522 | 68,269 |
| 2037 | 4.7 | 1,038,347 | 1,099,081 | 1,101,475 | -2,394 | 60,734 |
| 2038 | 4.8 | 1,043,916 | 1,097,044 | 1,119,643 | -22,599 | 53,128 |
| 2039 | 4.9 | 1,049,670 | 1,095,108 | 1,138,183 | -43,075 | 45,438 |
| 2040 | 5 | 1,055,648 | 1,093,300 | 1,157,102 | -63,803 | 37,652 |
| 2041 | 5.1 | 1,061,887 | 1,091,648 | 1,176,409 | -84,761 | 29,761 |
| 2042 | 5.2 | 1,068,427 | 1,090,183 | 1,196,110 | -105,927 | 21,755 |
| 2043 | 5.3 | 1,075,306 | 1,088,933 | 1,216,213 | -127,280 | 13,627 |
| 2044 | 5.4 | 1,082,562 | 1,087,932 | 1,236,726 | -148,794 | 5,370 |
| 2045 | 5.5 | 1,090,233 | 1,087,211 | 1,257,656 | -170,445 | -3,022 |
| 2046 | 5.6 | 1,098,359 | 1,086,804 | 1,279,010 | -192,206 | -11,555 |
| 2047 | 5.7 | 1,106,977 | 1,086,747 | 1,300,797 | -214,050 | -20,230 |

# Annual Statewide Steam Electric Water Supply vs. Demand

| Year | Year | TWDB Demand per 2002 SWP | TWDB Supply per 2002 SWP | Study Demand | Study Demand Minus TWDB Supply | TWDB Supply Minus TWDB Demand |
|---|---|---|---|---|---|---|
| | | | | | | |
| 2048 | 5.8 | 1,116,125 | 1,087,074 | 1,323,023 | -235,949 | -29,051 |
| 2049 | 5.9 | 1,125,843 | 1,087,825 | 1,345,697 | -257,872 | -38,019 |
| 2050 | 6 | 1,136,169 | 1,089,036 | 1,368,825 | -279,790 | -47,133 |
| 2051 | 6.1 | 1,147,140 | 1,090,747 | 1,392,416 | -301,669 | -56,394 |
| 2052 | 6.2 | 1,158,796 | 1,092,998 | 1,416,476 | -323,478 | -65,798 |
| 2053 | 6.3 | 1,171,176 | 1,095,832 | 1,441,014 | -345,182 | -75,344 |
| 2054 | 6.4 | 1,184,316 | 1,099,291 | 1,466,037 | -366,746 | -85,025 |
| 2055 | 6.5 | 1,198,256 | 1,103,418 | 1,491,552 | -388,134 | -94,838 |
| 2056 | 6.6 | 1,213,034 | 1,108,259 | 1,517,567 | -409,308 | -104,775 |
| 2057 | 6.7 | 1,228,689 | 1,113,861 | 1,544,090 | -430,229 | -114,829 |
| 2058 | 6.8 | 1,245,259 | 1,120,269 | 1,571,128 | -450,859 | -124,990 |
| 2059 | 6.9 | 1,262,782 | 1,127,532 | 1,598,688 | -471,156 | -135,250 |
| 2060 | 7 | 1,281,297 | 1,135,700 | 1,626,778 | -491,078 | -145,597 |
| | | | | | | |
| | | | | | | |
| | | | | | | Curve Quality |
| TWDB Demand Curve | | y=6402.5x^3-82941.3x^2+410247.7x+277629.3 | | | | r^2=1.0 |
| TWDB Supply Curve | | y=464.8x^4-4498.1x^3+5568.7x^2+31926.3x+1066213.3 | | | | r^2=1.0 |
| Study Medium Use Demand Curve | | y=1255.4x^3+518.2x^2+91781.0x+528317.4 | | | | r^2=1.0 |

# Appendix E
# Projected Electrical Demand Per State and Federal Agencies

# New Electric Generating Plants in Texas



# Generation Projects Completed in Texas Since 1995[1]

| Map No. | Company | Facility | City (County) | Capacity[2] (MW) | Cogen Host (MW) | Date in Service | Intercon-nection | Region |
|---|---|---|---|---|---|---|---|---|
| 1 | Texas A&M University | | College Station (Brazos) | 40 | 40 | Jan-96 | Brazos | ERCOT |
| 2 | CSW Services (wind) | | Ft. Davis (Jeff Davis) | 6.6 | | Jan-96 | WTU | ERCOT |
| 3 | City of Brownsville | Silas Ray | Brownsville (Cameron) | 43 | | Jun-96 | BPUB | ERCOT |
| 4 | Tenaska IV Texas Partners | Tenaska IV Texas Partners | Cleburne (Johnson) | 258 | | Nov-96 | TU/BEPC | ERCOT |
| 5 | CSW Energy | Sweeny Cogeneration | Sweeny (Brazoria) | 330 | 90 | Feb-98 | TNMP | ERCOT |
| 6 | Calpine/Phillips | Pasadena Power Plant I | Pasadena (Harris) | 240 | 90 | Jul-98 | Reliant | ERCOT |
| 7 | Borger Energy Associates | Black Hawk Station | Borger (Hutchinson) | 254[3] | 38 | Aug-98 | SPS | SPP |
| 8 | York Research (wind) | Big Spring Wind Power | Big Spring (Howard) | 34 | | Feb-99 | TU | ERCOT |
| 9 | FPL Energy (wind) | Southwest Mesa Wind Proj. | McCamey (Upton) | 75 | | Jun-99 | WTU | ERCOT |
| 10 | American National Wind Power (wind) | Delaware Mtn Wind Farm | Delaware Mtn (Culberson) | 30 | | Jun-99 | TXU | ERCOT |
| 11 | York Research (wind) | Big Spring Wind Power | Big Spring (Howard) | 6.6 | | Jun-99 | TXU | ERCOT |
| 12 | Golden Spread/LS Power | Mustang Station | Denver City (Yoakum) | 280<br>198 | | Jun-99<br>May-00 | SPS | SPP |
| 13 | BASF | Freeport | Freeport (Brazoria) | 93 | | Jul-99 | Reliant | ERCOT |
| 14 | CSW Energy | Frontera Power Station | Mission (Hidalgo) | 344<br>170 | | Jul-99<br>May-00 | CPL | ERCOT |
| 15 | Conoco Global-OxyChem | Ingleside Cogeneration | Ingleside (San Patricio) | 440 | 235 | Oct-99 | CPL | ERCOT |
| 16 | Reliant Energy/Air Liquide/Bayer | Sabine Project | Sabine (Orange) | 100[4] | 36 | Dec-99 | Entergy | SERC |
| 17 | CPS | A. von Rosenberg | San Antonio (Bexar) | 500 | | May-00 | CPS | ERCOT |
| 18 | Calpine | Hidalgo Energy Center | Edinburg (Hidalgo) | 500 | | Jun-00 | CSW | ERCOT |
| 19 | Southern Energy | Bosque County Power Plant | Lake Whitney (Bosque) | 308 | | Jun-00 | Brazos | ERCOT |
| 20 | LG&E/Columbia-Reynolds | Gregory Power Plant | Gregory (San Patricio) | 450 | 50 | Jul-00 | CSW | ERCOT |
| 21 | Calpine | Pasadena Power Plant II | Pasadena (Harris) | 540 | | Jul-00 | Reliant | ERCOT |
| 22 | Lubbock Power & Light | J. Robert Massengale | Lubbock (Lubbock) | 43 | | Sep-00 | LPL | SPP |
| 23 | FPL Energy/Panda Energy | Lamar Power Plant | Paris (Lamar) | 1000 | | Sep-00 | TXU | ERCOT |
| 24 | Tenaska/PECO Power Team | Tenaska Frontier Gen. Sta. | Shirow (Grimes) | 830 | | Sep-00 | Reliant/EGS | ERCOT/SERC |
| 25 | ANP | Midlothian I | Midlothian (Ellis) | 820<br>280 | | Oct-00<br>Feb-01 | TXU | ERCOT |

1 The Texas Legislature opened the electric wholesale market in Texas to competition on September 1, 1995.
2 Wind generation facilities are shown at nameplate capacity rating; however, the actual capacity they provide at the time of peak demand may be substantially less.
3 Approximately 216 MW is under 25-year contract to SPS.
4 Sixty megawatts under contract to Alabama Electric Cooperative for three years beginning January 1, 2000.

## Generation Projects Completed in Texas Since 1995 (continued)

| Map No. | Company | Facility | City (County) | Capacity (MW) | Cogen Host (MW) | Date in Service | Intercon-nection | Region |
|---|---|---|---|---|---|---|---|---|
| 26 | Union Carbide | | Seadrift (Calhoun) | 40 | 40 | Nov-00 | CPL | ERCOT |
| 27 | Texas Independent Energy | Guadalupe Power Plant | Marion (Guadalupe) | 1000 | | Jan-01 | LCRA | ERCOT |
| 28 | AEP-Phillips | Sweeny (expansion) | Sweeny (Brazoria) | 110 | 35 | Jan-01 | TNMP | ERCOT |
| 29 | Cielo/El Paso Electric (wind) | Hueco Mountain Wind Ranch | Hueco Mtn. (El Paso) | 1.3 | | Apr-01 | EPE | WSCC |
| 30 | Mirant | Bosque County Power Plant | Lake Whitney (Bosque) | 248 | | Jun-01 | Brazos | ERCOT |
| 31 | Enron/Austin | Sand Hill Energy Center | Austin (Travis) | 180 | | Jun-01 | AE | ERCOT |
| 32 | Calpine/Gen Tex Power | Lost Pines I | Lost Pines (Bastrop) | 520[5] | | Jun-01 | LCRA/AE | ERCOT |
| 33 | Garland Power & Light | Ray Olinger Power Plant | Garland (Collin) | 75 | | Jun-01 | GP&L | ERCOT |
| 34 | Orion Energy/Amer Nat Wind Pwr (wind) | Indian Mesa I | (Pecos) | 82.5 | | Jun-01 | WTU | ERCOT |
| 35 | Tenaska/Coral Energy | Tenaska Gateway Gen. Sta. | Henderson (Rusk) | 845 | | Jul-01 | TXU/AEP | ERCOT/SERC |
| 36 | FPL/Cielo/TXU (wind) | Woodward Mountain Ranch | McCamey (Pecos) | 160 | | Jul-01 | WTU | ERCOT |
| 37 | Calpine-Lyondell-Citgo | Channel Energy Center | Houston | 160<br>400 | 160 | Jul-01<br>Apr-02 | Reliant | ERCOT |
| 38 | Fina BASF | | Port Arthur (Jefferson) | 80 | 80 | Aug-01 | EGS | SERC |
| 39 | Texas Independent Energy | Odessa-Ector Power Plant | Odessa (Ector) | 1000 | | Aug-01 | TXU | ERCOT |
| 40 | AEP/Eastman Chemical | | Longview (Harrison) | 440 | 130 | Aug-01 | SWEPCO | SPP |
| 41 | Exelon/Air Products & Chemicals | ExTex Power Station | La Porte (Harris) | 165 | | Aug-01 | Reliant | ERCOT |
| 42 | Reliant Energy / Equistar | Reliant Energy Channelview | Channelview (Harris) | 172<br>608 | 293 | Aug-01<br>Jun-02 | Reliant | ERCOT |
| 43 | Calpine | Magic Valley Gen. Station | Edinburg (Hidalgo) | 350[6]<br>380 | | Sep-01<br>Dec-01 | CPL | ERCOT |
| 44 | Conoco Global/Dupont | SRW Cogeneration | Orange (Orange) | 420[7] | 70 | Nov-01 | EGS | SERC |
| 45 | AEP (wind) | Trent Mesa | Trent Mesa (Nolan) | 150 | | Nov-01 | TXU | ERCOT |
| 46 | AEP (wind) | Desert Sky (Indian Mesa II) | Iraan (Pecos) | 160 | | Dec-01 | WTU | ERCOT |
| 47 | FPL/Cielo (wind) | King Mtn Wind Ranch | McCamey (Upton) | 278 | | Dec-01 | WTU | ERCOT |
| 48 | Shell Wind Energy (wind) | Llano Estacado Wind Ranch | White Deer (Carson) | 79 | | Jan-02 | SPS | SPP |
| 49 | Calpine-Bayer | Baytown Power Plant | Baytown (Chambers) | 700 | 300 | Apr-02 | Reliant | ERCOT |

[5] GenTex is an affiliate of LCRA. Half of plant capacity will serve LCRA; Calpine will sell the remainder.
[6] Magic Valley Electric Cooperative has contracted to buy 246 MW for 2001, increasing by 25 MW in 2002.
[7] PG&E Energy Trading will take up to 250 MW over a 10-year period. Approximately 100 MW will be sold into the SERC region.

## Generation Projects Completed in Texas Since 1995 (continued)

| Map No. | Company | Facility | City (County) | Capacity (MW) | Cogen Host (MW) | Date in Service | Intercon-nection | Region |
|---|---|---|---|---|---|---|---|---|
| 50 | Tractebel | Ennis Tractebel Power Project | Ennis (Ellis) | 343 | | Jun-02 | TXU | ERCOT |
| 51 | Constellation Power | Rio Nogales Power Plant | Seguin (Guadalupe) | 800 | | Jun-02 | LCRA | ERCOT |
| 52 | Calpine | Freestone Energy Center | Fairfield (Freestone) | 1040 | | Jul-02 | TXU | ERCOT |
| 53 | ANP | Midlothian II | Midlothian (Ellis) | 550 | | Aug-02 | TXU | ERCOT |
| 54 | FPL Energy/Coastal Power | Bastrop Energy Center | (Bastrop) | 535 | | Aug-02 | AE/LCRA | ERCOT |
| | ***54 Projects Completed*** | | ***Total Capacity*** | ***20,285*** | ***1,687*** | | | |

## Generation Projects Under Construction in Texas

| Map No. | Company | Facility | City (County) | Capacity (MW) | Cogen Host (MW) | Date in Service | Intercon-nection | Region |
|---|---|---|---|---|---|---|---|---|
| 55 | ANP | Hays Station | San Marcos (Hays) | 550<br>550 | | Aug-02<br>Complete | LCRA | ERCOT |
| 56 | Calpine-Citgo | Corpus Christi Energy Center | Corpus Christi (Nueces) | 520 | 110 | Aug-02 | CPL | ERCOT |
| 57 | AES[8] | Wolf Hollow Power Plant | Granbury (Hood) | 730 | | Oct-02 | TXU | ERCOT |
| 58 | Calpine-Shell | Deer Park Energy Center | Deer Park (Harris) | 166<br>169<br>438 | 190 | Feb-03<br>Aug-03<br>Jun-04 | Reliant | ERCOT |
| 59 | InterGen | Cottonwood Energy Project | Deweyville (Newton) | 1200 | | Apr-03 | EGS | SERC |
| 60 | NRG Energy | Brazos Valley Energy | Thompsons (Fort Bend) | 633 | | May-03 | Reliant | ERCOT |
| 61 | South Texas Electric Co-op | | Nursery (Victoria) | 185 | | Jun-03 | STEC | ERCOT |
| 62 | Entergy/NTEC[9] | Harrison County Gen Station | (Harrison) | 550 | | Jun-03 | SWEPCO | SPP |
| 63 | FPL/Cobisa | Forney | Forney (Kaufman) | 1750 | | 3Q-03 | TXU | ERCOT |
| 64 | Tractebel | Wise County Power Project | Bridgeport (Wise) | 800 | | Jan-04 | TXU | ERCOT |
| 65 | BP/Cinergy | Texas City | Texas City (Galveston) | 570 | NA | Spring-04 | TNMP | ERCOT |
| | ***11 Under Construction*** | | ***Total Capacity*** | ***8,811*** | ***300*** | | | |

8 Twenty-year agreement to sell 350 MW to Excelon Energy Company, and the balance will be marketed by affiliate AES NewEnergy.

9 Project is 70% owned by Entergy and 30% owned by Northeast Texas Electric Cooperative.

## Announced Generation Projects in Texas

| Map No. | Company | Facility | City (County) | Capacity (MW) | Expected Construction Date | Expected Date In Service | Region |
|---|---|---|---|---|---|---|---|
| 66 | Reliant/Jenbacher | | Humble (Harris)[10] | 24<br>8 | Sum-02 | Dec-02<br>Mar-03 | ERCOT |
| 67 | Cielo/Renewable Energy (wind) | Capital Hill Wind Ranch | (Pecos) | 100 | Nov-02 | Feb-03 | ERCOT |
| 68 | TXU Energy/Cielo Wind (wind) | Noelke Hill Wind Ranch | McCamey (Upton) | 240 | Dec-02 | Sep -03 | ERCOT |
| 69 | Austin Energy | Sand Hill | Del Valle (Travis) | 300<br>250 | 2002 | Oct-03<br>Sum-07 | ERCOT |
| 70 | Orion Energy (wind) | | (Culberson) | 175[11] | 2002 | 2003 | ERCOT |
| 71 | Sempra Energy Resources | Cedar Power Project | Dayton (Liberty) | 600 | Spring-03 | Spring-05 | ERCOT/SERC |
| 72 | Cielo Wind Power/LPL (wind) | Llano Estacado at Lubbock | Lubbock (Lubbock) | 2 | Jun-03 | Jun-03 | SPP |
| 73 | DFW Airport | | (Tarrant/Dallas) | 55<br>55 | 2003<br>2005 | 2005<br>2007 | ERCOT |
| 74 | Cobisa | Greenville | Greenville (Hunt) | 1750 | Spring-04 | Spring-06 | ERCOT |
| 75 | Sempra Energy Resources | MC Energy Partners | Dobbin (Montgomery) | 600 | Apr-04 | Apr-06 | ERCOT/SERC |
| 76 | Steag Power | Sterne | (Nacogdoches) | 950 | 2Q-04 | 2Q-06 | ERCOT/SPP |
| 77 | Texas Petrochemicals | | Houston (Harris) | 900 | 2004 | 2006 | ERCOT |
| 78 | Tractebel | Ennis-Tractebel II | Ennis (Ellis) | 800 | NA | Jun-04 | ERCOT |
| 79 | Ridge Energy Storage[12] | Markham Energy Storage Center | (Matagorda) | 270 | NA | 3Q-04 | ERCOT |
| 80 | CCNG Inc[13] | | San Diego (Duval) | 310 | NA | 2Q-05 | ERCOT |
| 81 | Dow Chemical | | Freeport (Brazoria) | 170 | NA | Dec-05 | ERCOT |
| | ***16 Projects Announced*** | | ***Total Capacity*** | ***7,559*** | | | |

[10] This project consists of 12 landfill gas facilities at different locations between Houston and Dallas. The total capacity is expected to reach 40 MW by 2004.
[11] Capacity will be in the range of 175 to 225 MW. Construction will start late 2002 or early 2003.
[12] Compressed air energy storage project.
[13] Compressed air energy storage project which will require 60 to 70 miles of new transmission.

## Delayed Generation Projects[14]

| Map No. | Company | Facility | City (County) | Capacity (MW) | Expected Construction Date | Expected Date In Service | Region |
|---|---|---|---|---|---|---|---|
| 82 | ANP | | El Paso (El Paso) | 450 | NA | NA | WSCC |
| 83 | ANP | | Houston (Harris) | 2150 | NA | NA | ERCOT |
| 84 | Calpine | Channel Energy Center exp. | Houston (Harris) | 180 | NA | NA | ERCOT |
| 85 | Calpine | Amelia Energy Center | Beaumont (Jefferson) | 800 | NA | NA | SERC |
| 86 | Duke Energy | | (Bell) | 500 | NA | NA | ERCOT |
| 87 | Duke Energy | | (Jack) | 500 | NA | NA | ERCOT |
| 88 | Dynegy | | Lyondell expansion (Harris) | 155 | NA | NA | ERCOT |
| 89 | Hartburg Power | | Deweyville (Newton) | 800 | NA | NA | SERC |
| 90 | Mirant | | Weatherford (Parker) | 650 | NA | NA | ERCOT |
| 91 | Newport Generation[15] | Palestine Power Project | Palestine (Anderson) | 1600 | NA | NA | ERCOT |
| 92 | Texas Independent Energy | Archer Power Partners | Holliday (Archer) | 500[16] | NA | NA | ERCOT |
| 93 | Sabine Power I/Port of Port Arthur | | Port Arthur (Jefferson)[17] | 1000 | NA | NA | SERC |
| 94 | York Research Group (wind) | Notrees Wind Farm | (Ector, Winkler) | 80 | NA | NA | ERCOT |
| 95 | Enron Wind[18] | | Sweetwater (Nolan) | 400 | NA | NA | ERCOT |
| | ***14 Projects Delayed*** | | ***Total Capacity*** | ***9,765*** | | | |

[14] An announced project which does not have a projected in-service date is listed as delayed.
[15] Newport is considering interconnection of the project to SPP through the SWEPCO.
[16] Project has been on hold due to lack of transmission into DFW area.
[17] Fuel for this plant would be provided by a petroleum coke gasification facility to be constructed in Port Arthur.
[18] Currently unable to determine the status of this project. Enron Wind is no longer developing it since a portion of its business was sold to GE Power Systems.

## Cancelled Projects

| Map No. | Company | Facility | City (County) | Capacity (MW) | Year Cancelled | Region |
|---|---|---|---|---|---|---|
| X1 | Steag Power | | Ennis (Ellis) | 1200 | 2001 | ERCOT |
| X2 | KM Power | | (Harris) | 1070 | 2001 | ERCOT |
| X3 | Constellation Power | Gateway Power Project | Gilmer (Upshur) | 800 | 2001 | SPP |
| X4 | KM Power | | Boonville (Wise) | 510 | 2001 | ERCOT |
| X5 | BP/Cinergy | | Alvin (Brazoria) | 70 | 2001 | ERCOT |
| X6 | ANP | | Edinburg (Hidalgo) | 550 | 2002 | ERCOT |
| X7 | Celanese | | Pasadena (Harris) | 284 | 2002 | ERCOT |
| | ***7 Projects Cancelled*** | | ***Total Capacity*** | ***4,484*** | | |

## Total Texas Generation by Resource Type (GWh) PUCT Table 9

| | Natural Gas/Oil | | Coal | | Lignite | | Nuclear | | Hydro | | Other | | Net Utility Generation | | Net Energy Purchases | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1994 | 95,651 | | 60,053 | | 57,206 | | 33,158 | | 1,325 | | 212 | | 247,605 | | 36,074 | | 283,679 | |
| 1995 | 96,019 | 0.4% | 60,262 | 0.3% | 57,277 | 0.1% | 42,043 | 21.1% | 1,658 | 20.1% | 226 | 6.2% | 257,485 | 3.8% | 35,822 | -0.7% | 293,307 | |
| 1996 | 96,860 | 0.9% | 62,402 | 3.4% | 62,669 | 8.6% | 41,528 | -1.2% | 729 | -127.4% | 230 | 1.7% | 264,419 | 2.6% | 45,218 | 20.8% | 309,637 | |
| 1997 | 96,901 | 0.0% | 64,811 | 3.7% | 61,219 | -2.4% | 43,154 | 3.8% | 1,701 | 57.1% | 226 | -1.8% | 268,010 | 1.3% | 51,628 | 12.4% | 319,639 | |
| 1998 | 113,840 | 14.9% | 66,178 | 2.1% | 59,717 | -2.5% | 44,805 | 3.7% | 1,317 | -29.2% | 237 | 4.6% | 286,095 | 6.3% | 51,268 | -0.7% | 337,363 | |
| 1999 | 109,340 | -4.1% | 69,670 | 5.0% | 60,063 | 0.6% | 43,004 | -4.2% | 1,008 | -30.7% | 234 | -1.3% | 283,318 | -1.0% | 51,841 | 1.1% | 335,159 | |
| average= | | 2.4% | | 2.9% | | 0.9% | | 4.6% | | -22.0% | | 1.9% | | 2.6% | | 6.6% | | |
| **Utility Percent by Fuel Type** | | **38.6%** | | **24.6%** | | **21.2%** | | **15.2%** | | **0.4%** | | **0.1%** | | | | | | |
| **Total Percent by Fuel Type** | | **32.6%** | | **20.8%** | | **17.9%** | | **12.8%** | | **0.3%** | | **0.1%** | | | | **15.5%** | | |
| 2000 | 99,895 | -9.5% | 78,617 | 11.4% | 55,772 | -7.7% | 42,535 | -1.1% | 1,222 | 17.5% | 334 | 29.9% | 278,375 | -1.8% | 59,206 | 12.4% | 337,582 | 20,851,820 |
| 2001 | 94,424 | -5.8% | 79,755 | 1.4% | 53,744 | -3.8% | 42,298 | -0.6% | 1,222 | 0.0% | 363 | 8.0% | 271,806 | -2.4% | 68,337 | 13.4% | 340,142 | |
| 2002 | 90,304 | -4.6% | 80,832 | 1.3% | 52,369 | -2.6% | 42,410 | 0.3% | 1,222 | 0.0% | 380 | 4.5% | 267,517 | -1.6% | 82,613 | 17.3% | 350,129 | |
| 2003 | 87,656 | -3.0% | 82,644 | 2.2% | 51,188 | -2.3% | 42,135 | -0.7% | 1,221 | -0.1% | 370 | -2.7% | 265,215 | -0.9% | 92,256 | 10.5% | 357,471 | |
| 2004 | 87,123 | -0.6% | 83,308 | 0.8% | 49,943 | -2.5% | 42,001 | -0.3% | 1,222 | 0.1% | 364 | -1.6% | 263,961 | -0.5% | 102,550 | 10.0% | 366,511 | |
| 2005 | 86,038 | -1.3% | 84,485 | 1.4% | 48,775 | -2.4% | 42,460 | 1.1% | 1,220 | -0.2% | 375 | 2.9% | 263,353 | -0.2% | 110,625 | 7.3% | 373,979 | |
| 2006 | 85,014 | -1.2% | 85,325 | 1.0% | 47,925 | -1.8% | 41,965 | -1.2% | 1,221 | 0.1% | 370 | -1.4% | 261,820 | -0.6% | 121,663 | 9.1% | 383,482 | |
| 2007 | 85,651 | 0.7% | 86,267 | 1.1% | 46,842 | -2.3% | 41,491 | -1.1% | 1,219 | -0.2% | 370 | 0.0% | 261,841 | 0.0% | 129,770 | 6.2% | 391,612 | |
| 2008 | 84,899 | -0.9% | 87,454 | 1.4% | 46,028 | -1.8% | 42,205 | 1.7% | 1,221 | 0.2% | 372 | 0.5% | 262,179 | 0.1% | 139,049 | 6.7% | 401,228 | |
| 2009 | 81,386 | -4.3% | 92,507 | 5.5% | 45,088 | -2.1% | 42,192 | 0.0% | 1,219 | -0.2% | 371 | -0.3% | 262,764 | 0.2% | 147,651 | 5.8% | 410,415 | |
| average= | | -3.0% | | 2.7% | | -2.9% | | -0.2% | | 1.7% | | 4.0% | | -0.8% | | 9.9% | 22.45% | average |
| Utility Percent by Fuel Type | | **31.0%** | | **35.2%** | | **17.2%** | | **16.1%** | | **0.5%** | | **0.1%** | | | | | Annual Generation Increase | |
| Total Percent by Fuel Type | | **19.8%** | | **22.5%** | | **11.0%** | | **10.3%** | | **0.3%** | | **0.1%** | | | | **36.0%** | 2% | Population |

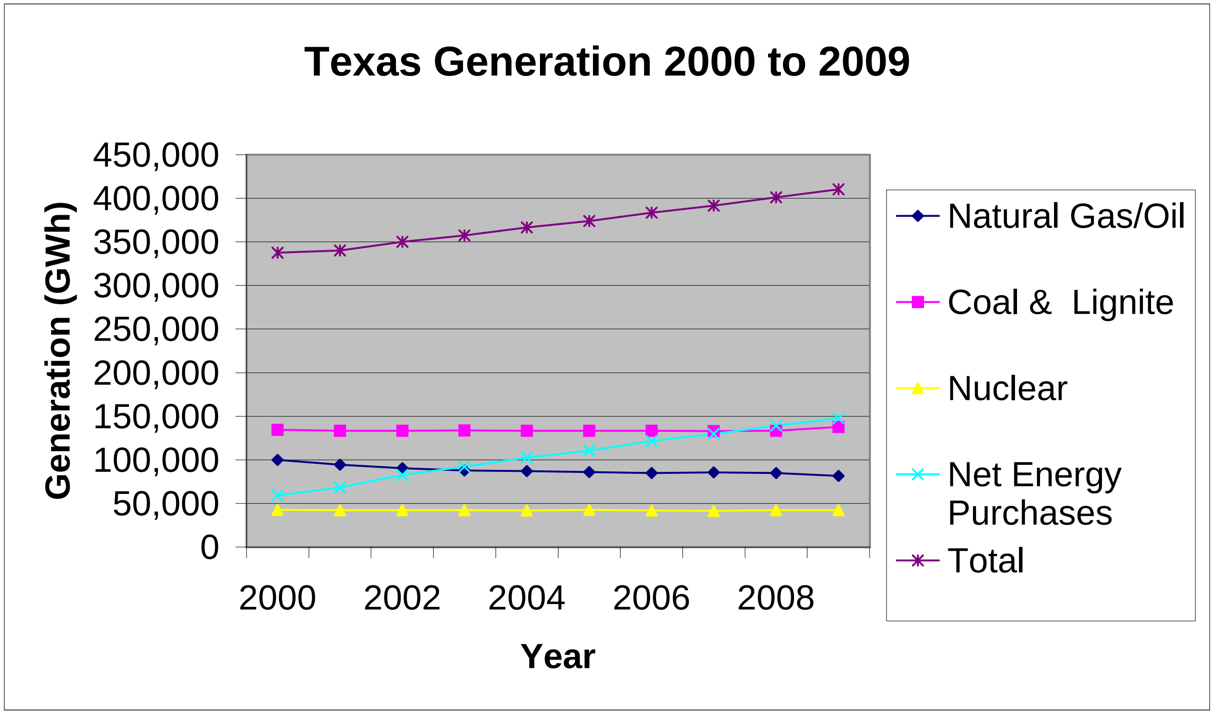
from 2000 Annual Update of Generating Electric Utility Data, published by the Public Utilities Commission of Texas

## Future Generation by Fuel Type

**PUCT Generation Projections**

| | Natural Gas/Oil | Coal & Lignite | Nuclear | Net Energy Purchases | Total |
|---|---|---|---|---|---|
| 2000 | 99,895 | 134,389 | 42,535 | 59,206 | 337,582 |
| 2001 | 94,424 | 133,499 | 42,298 | 68,337 | 340,142 |
| 2002 | 90,304 | 133,201 | 42,410 | 82,613 | 350,129 |
| 2003 | 87,656 | 133,832 | 42,135 | 92,256 | 357,471 |
| 2004 | 87,123 | 133,251 | 42,001 | 102,550 | 366,511 |
| 2005 | 86,038 | 133,260 | 42,460 | 110,625 | 373,979 |
| 2006 | 85,014 | 133,250 | 41,965 | 121,663 | 383,482 |
| 2007 | 85,651 | 133,109 | 41,491 | 129,770 | 391,612 |
| 2008 | 84,899 | 133,482 | 42,205 | 139,049 | 401,228 |
| 2009 | 81,386 | 137,595 | 42,192 | 147,651 | 410,415 |

| Linear Curve Fit | | |
|---|---|---|
| Coal and Lignite | 160.84x + 133002 | R2 = 0.1286 |
| Nuclear | -50.812x + 42449 | R2 = 0.2579 |
| Natural Gas | -1609.3x + 97090 | R2 = 0.8217 |
| Purchases | 9836.8x + 51270 | R2 = 0.9965 |
| Total | 8339.5x + 325388 | R2 = 0.9954 |




from 2000 Annual Update of Generating Electric Utility Data, published by the Public Utilities Commission of Texas

# Projected Power Demand in ERCOT by Fuel Type

| Table 60. Electric Power Projections for Electricity Market Module Region<br>Electric Reliability Council of Texas | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Electricity Generating Capacity 1/ (gigawatts) | | | | | | | | | | | | | | | | | | | | | |
| Coal Steam | 15.25 | 15.25 | 15.25 | 15.25 | 15.25 | 15.25 | 15.25 | 15.25 | 15.25 | 15.25 | 15.25 | 15.25 | 15.25 | 15.25 | 15.25 | 15.25 | 15.25 | 15.25 | 15.25 | 15.25 | 15.25 |
| Other Fossil Steam 2/ | 29.95 | 29.91 | 29.83 | 29.55 | 29.30 | 28.77 | 27.07 | 24.86 | 22.95 | 22.88 | 22.88 | 22.79 | 22.79 | 22.69 | 22.69 | 22.53 | 22.53 | 22.53 | 22.53 | 22.53 | 22.31 |
| Combined Cycle | 4.01 | 4.01 | 3.98 | 3.98 | 5.04 | 5.91 | 6.74 | 10.42 | 13.20 | 15.28 | 16.54 | 17.76 | 18.07 | 18.73 | 19.76 | 20.47 | 21.01 | 21.50 | 21.96 | 22.50 | 23.07 |
| Combustion Turbine/Diesel | 3.12 | 3.12 | 4.40 | 4.77 | 5.13 | 5.54 | 8.77 | 9.67 | 10.51 | 10.86 | 11.22 | 11.30 | 11.45 | 11.74 | 11.92 | 12.02 | 12.09 | 12.15 | 12.20 | 12.31 | 12.39 |
| Nuclear Power | 4.80 | 4.80 | 4.82 | 4.82 | 4.82 | 4.82 | 4.82 | 4.82 | 4.82 | 4.82 | 4.82 | 4.82 | 4.82 | 4.82 | 4.82 | 4.82 | 4.82 | 4.82 | 4.82 | 4.82 | 4.82 |
| Pumped Storage/Other 3/ | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fuel Cells | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Renewable Sources 4/ | 0.77 | 2.00 | 2.16 | 2.30 | 2.43 | 2.57 | 2.64 | 2.72 | 2.79 | 2.87 | 2.89 | 2.91 | 2.93 | 2.95 | 2.97 | 2.99 | 3.01 | 3.04 | 3.06 | 3.08 | 3.10 |
| Distributed Generation 5/ | 0.00 | 0.00 | 0.00 | 0.06 | 0.10 | 0.15 | 0.23 | 0.32 | 0.56 | 0.79 | 1.02 | 1.09 | 1.16 | 1.23 | 1.31 | 1.42 | 1.55 | 1.76 | 1.96 | 2.15 | 2.33 |
| Total Capability | 57.90 | 59.08 | 60.43 | 60.72 | 62.06 | 63.00 | 65.52 | 68.05 | 70.06 | 72.74 | 74.62 | 75.91 | 76.46 | 77.40 | 78.72 | 79.50 | 80.25 | 81.04 | 81.77 | 82.64 | 83.25 |
| Cumulative Planned Additions 6/ | | | | | | | | | | | | | | | | | | | | | |
| Coal Steam | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Other Fossil Steam 2/ | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Combined Cycle | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Combustion Turbine/Diesel | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nuclear Power | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pumped Storage/Other 3/ | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fuel Cells | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Renewable Sources 4/ | 0.00 | 1.22 | 1.39 | 1.53 | 1.66 | 1.80 | 1.87 | 1.95 | 2.02 | 2.10 | 2.12 | 2.14 | 2.16 | 2.18 | 2.20 | 2.22 | 2.24 | 2.26 | 2.29 | 2.31 | 2.33 |
| Distributed Generation 5/ | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total Planned Additions | 0.00 | 1.22 | 1.39 | 1.53 | 1.66 | 1.80 | 1.87 | 1.95 | 2.02 | 2.10 | 2.12 | 2.14 | 2.16 | 2.18 | 2.20 | 2.22 | 2.24 | 2.26 | 2.29 | 2.31 | 2.33 |
| Cumulative Unplanned Additions 6/ | | | | | | | | | | | | | | | | | | | | | |
| Coal Steam | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Other Fossil Steam 2/ | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Combined Cycle | 0.00 | 0.00 | 0.00 | 0.00 | 1.06 | 1.94 | 2.77 | 6.45 | 9.22 | 11.31 | 12.57 | 13.79 | 14.09 | 14.75 | 15.78 | 16.50 | 17.03 | 17.53 | 17.99 | 18.53 | 19.09 |
| Combustion Turbine/Diesel | 0.00 | 0.00 | 1.28 | 2.08 | 2.43 | 2.86 | 6.10 | 6.99 | 7.88 | 8.23 | 8.60 | 8.67 | 8.82 | 9.11 | 9.30 | 9.39 | 9.46 | 9.52 | 9.57 | 9.69 | 9.76 |
| Nuclear Power | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pumped Storage/Other 3/ | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fuel Cells | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Renewable Sources 4/ | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total Unplanned Additions | 0.00 | 0.00 | 1.28 | 2.14 | 3.59 | 4.94 | 9.10 | 13.76 | 17.66 | 20.33 | 22.18 | 23.55 | 24.07 | 25.10 | 26.39 | 27.31 | 28.04 | 28.81 | 29.52 | 30.37 | 31.18 |
| Distributed Generation 5/ | 0.00 | 0.00 | 0.00 | 0.06 | 0.10 | 0.15 | 0.23 | 0.32 | 0.56 | 0.79 | 1.02 | 1.09 | 1.16 | 1.23 | 1.31 | 1.42 | 1.55 | 1.76 | 1.96 | 2.15 | 2.33 |
| Cumulative Total Additions | 0.00 | 1.22 | 2.67 | 3.67 | 5.26 | 6.74 | 10.97 | 15.70 | 19.68 | 22.43 | 24.30 | 25.69 | 26.23 | 27.28 | 28.60 | 29.53 | 30.29 | 31.07 | 31.80 | 32.67 | 33.51 |
| Cumulative Retirements 7/ | | | | | | | | | | | | | | | | | | | | | |
| Coal Steam | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Other Fossil Steam 3/ | 0.00 | 0.00 | 0.07 | 0.35 | 0.60 | 1.13 | 2.84 | 5.05 | 6.96 | 7.02 | 7.02 | 7.12 | 7.12 | 7.22 | 7.22 | 7.38 | 7.38 | 7.38 | 7.38 | 7.38 | 7.60 |
| Combined Cycle | 0.00 | 0.00 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 |
| Combustion Turbine/Diesel | 0.00 | 0.00 | 0.00 | 0.43 | 0.43 | 0.44 | 0.44 | 0.44 | 0.49 | 0.49 | 0.49 | 0.49 | 0.49 | 0.49 | 0.49 | 0.49 | 0.49 | 0.49 | 0.49 | 0.49 | 0.49 |
| Nuclear Power | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pumped Storage | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Fuel Cells | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Renewable Sources 4/ | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 0.00 | 0.00 | 0.11 | 0.82 | 1.07 | 1.61 | 3.32 | 5.53 | 7.49 | 7.55 | 7.55 | 7.64 | 7.64 | 7.74 | 7.74 | 7.90 | 7.90 | 7.90 | 7.90 | 7.90 | 8.12 |
| Cogenerators 8/ | | | | | | | | | | | | | | | | | | | | | |
| Capability | | | | | | | | | | | | | | | | | | | | | |
| Coal | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 |
| Petroleum | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | 0.34 | 0.34 | 0.34 | 0.34 | 0.34 | 0.34 | 0.34 | 0.34 | 0.34 | 0.34 | 0.34 | 0.34 | 0.34 | 0.34 | 0.34 |
| Natural Gas | 9.33 | 9.59 | 9.66 | 9.84 | 10.09 | 10.32 | 10.55 | 10.75 | 10.95 | 11.16 | 11.38 | 11.62 | 11.85 | 12.08 | 12.32 | 12.58 | 12.86 | 13.12 | 13.42 | 13.71 | 14.04 |
| Other Gaseous Fuels | 0.10 | 0.10 | 0.10 | 0.16 | 0.16 | 0.16 | 0.16 | 0.16 | 0.17 | 0.17 | 0.18 | 0.18 | 0.19 | 0.19 | 0.20 | 0.20 | 0.20 | 0.21 | 0.22 | 0.22 | 0.23 |
| Renewable Sources 4/ | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Other | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 10.06 | 10.32 | 10.39 | 10.62 | 10.87 | 11.10 | 11.34 | 11.54 | 11.74 | 11.95 | 12.18 | 12.42 | 12.66 | 12.90 | 13.14 | 13.41 | 13.68 | 13.95 | 14.25 | 14.56 | 14.89 |
| Electricity Demand (billion kilowatthours) | | | | | | | | | | | | | | | | | | | | | |
| Residential | 100.55 | 103.06 | 105.51 | 109.15 | 111.36 | 113.36 | 114.90 | 116.17 | 117.64 | 119.42 | 121.43 | 123.49 | 125.45 | 127.46 | 129.63 | 131.96 | 134.04 | 136.24 | 138.47 | 140.85 | 143.15 |
| Commercial/Other | 83.57 | 83.45 | 85.11 | 88.14 | 90.88 | 93.18 | 95.56 | 98.09 | 100.65 | 103.33 | 106.07 | 108.74 | 111.03 | 113.09 | 115.00 | 116.63 | 118.00 | 119.25 | 120.27 | 121.37 | 122.42 |

from US DOE Energy Information Administration's 2000 Annual Energy Outlook

# Projected Power Demand in ERCOT by Fuel Type

| Table 60. Electric Power Projections for Electricity Market Module Region<br>Electric Reliability Council of Texas | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Industrial | 83.98 | 80.17 | 80.86 | 84.23 | 86.43 | 88.61 | 90.97 | 94.14 | 95.19 | 96.90 | 99.65 | 102.34 | 103.98 | 105.42 | 107.01 | 108.51 | 109.78 | 111.08 | 112.51 | 113.90 | 115.17 |
| Transportation | 0.98 | 1.01 | 1.04 | 1.17 | 1.30 | 1.42 | 1.53 | 1.63 | 1.73 | 1.83 | 1.93 | 2.03 | 2.13 | 2.23 | 2.33 | 2.38 | 2.37 | 2.36 | 2.34 | 2.31 | 2.28 |
| Total Sales | 269.07 | 267.68 | 272.52 | 282.69 | 289.97 | 296.56 | 302.96 | 310.03 | 315.20 | 321.48 | 329.09 | 336.61 | 342.59 | 348.20 | 353.97 | 359.47 | 364.19 | 368.92 | 373.60 | 378.43 | 383.01 |
| Net Energy for Load (billion kilowatthours) 7/ | | | | | | | | | | | | | | | | | | | | | |
| Gross International Imports | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Gross International Exports | 0.30 | 0.33 | 0.36 | 0.39 | 0.42 | 0.45 | 0.49 | 0.53 | 0.57 | 0.62 | 0.67 | 0.67 | 0.67 | 0.67 | 0.67 | 0.67 | 0.67 | 0.67 | 0.67 | 0.67 | 0.67 |
| Gross Interregional Electricity Imports | 3.63 | 3.48 | 2.64 | 2.93 | 3.02 | 3.16 | 3.49 | 3.66 | 3.05 | 3.07 | 2.93 | 2.66 | 2.63 | 2.55 | 2.38 | 2.06 | 1.87 | 1.98 | 1.83 | 1.70 | 1.76 |
| Gross Interregional Electricity Exports | 2.87 | 3.13 | 3.11 | 2.52 | 2.27 | 2.05 | 2.26 | 2.09 | 2.25 | 2.63 | 2.55 | 2.61 | 2.44 | 2.74 | 2.64 | 2.68 | 2.50 | 2.19 | 1.46 | 1.21 | 1.00 |
| Purchases from Cogenerators 8/ | 30.60 | 31.27 | 31.30 | 31.93 | 32.29 | 32.65 | 32.55 | 32.54 | 32.63 | 32.99 | 33.51 | 34.04 | 34.65 | 35.22 | 35.87 | 36.60 | 37.35 | 38.05 | 38.88 | 39.73 | 40.64 |
| Utility Generation for Customers | 255.23 | 253.35 | 259.08 | 268.22 | 274.96 | 281.02 | 287.64 | 294.54 | 300.58 | 306.99 | 314.60 | 322.05 | 327.56 | 333.10 | 338.35 | 343.57 | 347.80 | 351.67 | 355.19 | 359.30 | 362.94 |
| Total Net Energy for Load | 286.28 | 284.65 | 289.56 | 300.17 | 307.58 | 314.34 | 320.93 | 328.12 | 333.45 | 339.81 | 347.81 | 355.48 | 361.74 | 367.46 | 373.29 | 378.87 | 383.85 | 388.84 | 393.76 | 398.84 | 403.67 |
| Generation by Fuel Type (billion kWh) | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| Coal | 110.88 | 109.82 | 107.95 | 109.61 | 111.04 | 111.79 | 112.52 | 113.23 | 113.23 | 112.92 | 112.73 | 112.74 | 112.74 | 112.93 | 113.23 | 112.83 | 113.22 | 113.23 | 113.23 | 113.25 | 113.23 |
| Petroleum | 0.29 | 2.91 | 0.22 | 0.13 | 0.12 | 0.12 | 0.10 | 0.08 | 0.07 | 0.04 | 0.05 | 0.05 | 0.05 | 0.07 | 0.05 | 0.04 | 0.06 | 0.05 | 0.06 | 0.07 | 0.06 |
| Natural Gas | 104.74 | 99.17 | 106.06 | 114.85 | 119.72 | 124.58 | 130.11 | 136.00 | 141.67 | 147.54 | 155.03 | 162.32 | 167.66 | 172.82 | 178.11 | 183.06 | 187.18 | 190.82 | 194.11 | 197.98 | 201.43 |
| Nuclear | 39.10 | 39.48 | 40.84 | 39.17 | 39.17 | 39.17 | 39.17 | 39.17 | 39.17 | 39.17 | 39.17 | 39.17 | 39.17 | 39.17 | 39.17 | 39.17 | 39.17 | 39.17 | 39.17 | 39.17 | 39.17 |
| Pumped Storage/Other 3/ | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Renewable Sources 4/ | 1.30 | 3.68 | 5.52 | 5.95 | 6.38 | 6.81 | 7.15 | 7.43 | 7.71 | 8.48 | 8.68 | 8.81 | 8.95 | 9.08 | 8.72 | 9.36 | 8.99 | 9.13 | 9.26 | 9.40 | 9.53 |
| Total Generation | 256.31 | 254.86 | 260.59 | 269.73 | 276.47 | 282.54 | 289.15 | 296.05 | 302.09 | 308.51 | 316.11 | 323.56 | 329.07 | 334.61 | 339.87 | 345.08 | 349.31 | 353.18 | 356.70 | 360.81 | 364.45 |
| Sales to Customers | 255.23 | 253.35 | 259.08 | 268.22 | 274.96 | 281.02 | 287.64 | 294.54 | 300.58 | 306.99 | 314.60 | 322.05 | 327.56 | 333.10 | 338.35 | 343.57 | 347.80 | 351.67 | 355.19 | 359.30 | 362.94 |
| Generation for Own Use | 1.08 | 1.51 | 1.51 | 1.51 | 1.51 | 1.51 | 1.51 | 1.51 | 1.51 | 1.51 | 1.51 | 1.51 | 1.51 | 1.51 | 1.51 | 1.51 | 1.51 | 1.51 | 1.51 | 1.51 | 1.51 |
| Cogenerators | | | | | | | | | | | | | | | | | | | | | |
| Coal | 2.86 | 2.86 | 2.86 | 2.84 | 2.83 | 2.83 | 2.82 | 2.81 | 2.79 | 2.78 | 2.78 | 2.77 | 2.77 | 2.76 | 2.76 | 2.75 | 2.75 | 2.74 | 2.74 | 2.73 | 2.73 |
| Petroleum | 0.20 | 0.20 | 0.20 | 0.22 | 0.22 | 0.22 | 0.22 | 0.22 | 0.22 | 0.22 | 0.22 | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 | 0.24 | 0.24 | 0.24 | 0.24 |
| Natural Gas | 56.35 | 59.02 | 59.32 | 62.09 | 63.98 | 65.72 | 66.96 | 68.06 | 69.23 | 70.69 | 72.41 | 74.17 | 75.97 | 77.72 | 79.53 | 81.58 | 83.73 | 85.77 | 88.02 | 90.30 | 92.85 |
| Other Gaseous Fuels | 0.16 | 0.16 | 0.16 | 0.24 | 0.24 | 0.24 | 0.25 | 0.25 | 0.25 | 0.26 | 0.27 | 0.27 | 0.28 | 0.29 | 0.29 | 0.30 | 0.30 | 0.31 | 0.32 | 0.33 | 0.34 |
| Renewable Sources 4/ | 0.18 | 0.18 | 0.18 | 0.19 | 0.19 | 0.20 | 0.21 | 0.22 | 0.22 | 0.23 | 0.23 | 0.24 | 0.25 | 0.25 | 0.26 | 0.27 | 0.27 | 0.28 | 0.28 | 0.29 | 0.29 |
| Other | 0.63 | 0.64 | 0.64 | 0.64 | 0.64 | 0.64 | 0.64 | 0.64 | 0.64 | 0.64 | 0.64 | 0.64 | 0.64 | 0.64 | 0.64 | 0.64 | 0.64 | 0.64 | 0.64 | 0.64 | 0.64 |
| Total | 60.38 | 63.06 | 63.36 | 66.22 | 68.11 | 69.86 | 71.10 | 72.20 | 73.36 | 74.82 | 76.55 | 78.33 | 80.14 | 81.90 | 83.72 | 85.77 | 87.93 | 89.98 | 92.24 | 94.54 | 97.10 |
| Sales to Utilities | 30.60 | 31.27 | 31.30 | 31.93 | 32.29 | 32.65 | 32.55 | 32.54 | 32.63 | 32.99 | 33.51 | 34.04 | 34.65 | 35.22 | 35.87 | 36.60 | 37.35 | 38.05 | 38.88 | 39.73 | 40.64 |
| Generation for Own Use | 29.78 | 31.79 | 32.06 | 34.29 | 35.82 | 37.21 | 38.55 | 39.66 | 40.72 | 41.83 | 43.04 | 44.29 | 45.49 | 46.68 | 47.85 | 49.17 | 50.58 | 51.93 | 53.37 | 54.81 | 56.46 |
| End-Use Prices<br>(2000 cents per kilowatthour) | | | | | | | | | | | | | | | | | | | | | |
| Residential | 7.9 | 7.7 | 7.1 | 7.0 | 7.1 | 7.1 | 6.8 | 7.0 | 6.9 | 6.7 | 6.6 | 6.6 | 6.7 | 6.7 | 6.7 | 6.8 | 6.9 | 7.0 | 7.1 | 7.1 | 7.3 |
| Commercial | 7.0 | 7.2 | 6.7 | 6.5 | 6.6 | 6.8 | 6.5 | 6.3 | 6.1 | 5.8 | 5.7 | 5.6 | 5.7 | 5.8 | 5.8 | 5.9 | 5.9 | 6.1 | 6.2 | 6.3 | 6.5 |
| Industrial | 4.1 | 4.3 | 4.1 | 4.0 | 4.2 | 4.4 | 4.3 | 4.1 | 4.0 | 3.9 | 3.9 | 3.9 | 4.0 | 4.1 | 4.1 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 |
| Transportation | 6.2 | 6.5 | 6.1 | 5.5 | 5.4 | 5.4 | 5.3 | 5.2 | 5.2 | 5.2 | 5.3 | 5.4 | 5.5 | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 | 5.7 | 5.7 | 5.7 |
| All Sectors Average | 6.4 | 6.5 | 6.1 | 6.0 | 6.1 | 6.2 | 6.0 | 5.9 | 5.8 | 5.6 | 5.5 | 5.5 | 5.6 | 5.6 | 5.6 | 5.7 | 5.8 | 5.8 | 6.0 | 6.1 | 6.2 |
| Prices by Service Category<br>(2000 cents/kilowatthour) | | | | | | | | | | | | | | | | | | | | | |
| Generation | 4.5 | 4.7 | 4.3 | 4.1 | 4.2 | 4.4 | 4.1 | 4.0 | 3.9 | 3.6 | 3.6 | 3.5 | 3.7 | 3.7 | 3.7 | 3.8 | 3.9 | 4.0 | 4.1 | 4.2 | 4.4 |
| Transmission | 0.5 | 0.4 | 0.4 | 0.4 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.6 | 0.6 | 0.6 | 0.6 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Distribution | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.3 | 1.3 | 1.4 | 1.4 | 1.4 | 1.4 | 1.3 | 1.3 | 1.3 | 1.3 | 1.4 | 1.4 | 1.3 | 1.3 | 1.3 |
| Fuel Consumption (quadrillion Btu) 9/ | | | | | | | | | | | | | | | | | | | | | |
| Coal | 1.17 | 1.16 | 1.14 | 1.15 | 1.17 | 1.18 | 1.19 | 1.19 | 1.19 | 1.19 | 1.19 | 1.19 | 1.19 | 1.19 | 1.19 | 1.19 | 1.19 | 1.19 | 1.19 | 1.19 | 1.19 |
| Natural Gas | 1.05 | 0.96 | 1.04 | 1.13 | 1.15 | 1.18 | 1.22 | 1.19 | 1.19 | 1.20 | 1.25 | 1.29 | 1.33 | 1.37 | 1.39 | 1.43 | 1.45 | 1.48 | 1.50 | 1.52 | 1.54 |
| Oil | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 2.22 | 2.15 | 2.18 | 2.28 | 2.32 | 2.36 | 2.40 | 2.39 | 2.38 | 2.39 | 2.43 | 2.48 | 2.52 | 2.56 | 2.59 | 2.61 | 2.65 | 2.67 | 2.69 | 2.72 | 2.74 |
| Emissions (million tons) 10/ | | | | | | | | | | | | | | | | | | | | | |
| Total Carbon | 50.40 | 49.14 | 49.16 | 50.98 | 51.76 | 52.45 | 53.25 | 53.10 | 53.03 | 53.15 | 53.85 | 54.55 | 55.20 | 55.78 | 56.29 | 56.67 | 57.24 | 57.64 | 58.01 | 58.42 | 58.75 |
| Carbon Dioxide | 184.80 | 180.17 | 180.25 | 186.93 | 189.79 | 192.31 | 195.24 | 194.71 | 194.45 | 194.88 | 197.45 | 200.02 | 202.40 | 204.52 | 206.41 | 207.80 | 209.90 | 211.35 | 212.69 | 214.21 | 215.43 |
| Sulfur Dioxide | 0.35 | 0.40 | 0.38 | 0.35 | 0.35 | 0.38 | 0.42 | 0.40 | 0.39 | 0.38 | 0.38 | 0.30 | 0.30 | 0.30 | 0.31 | 0.31 | 0.30 | 0.33 | 0.33 | 0.36 | 0.38 |
| Nitrogen Oxide | 0.27 | 0.27 | 0.27 | 0.28 | 0.28 | 0.27 | 0.27 | 0.26 | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 |

from US DOE Energy Information Administration's 2000 Annual Energy Outlook

## Projected Power Demand in ERCOT by Fuel Type

Table 60. Electric Power Projections for Electricity Market Module Region
Electric Reliability Council of Texas

| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

1/ Net summer capability is the steady hourly output that generating equipment is expected to supply to system load (exclusive of auxiliary power), as demonstrated by tests during summer peak demand. Includes electric utilities, small power producers, and exempt wholesale generators. Nameplate capacity is reported for nonutilities on Form EIA-860B, "Annual Electric Generator Report - Nonutility." Nameplate capacity is designated by the manufacturer. The nameplate capacity has been converted to net summer capacity based on historic relationships.
2/ Includes oil-, gas-, and dual-fired capability.
3/ Other includes methane, propane gas, and blast furnace gas for utilities; and hydrogen, sulfur, batteries, chemicals, fish oil, and spent sulfite liquor.
4/ Includes conventional hydroelectric, geothermal, wood, wood waste, municipal solid waste, other biomass, solar thermal, photovoltaics, and wind power.
5/ Primarily peak-load capacity fueled by natural gas.
6/ Cumulative additions after December 31, 2000.
7/ Generation to meet system load by source.
8/ Cogenerators produce electricity and other useful thermal energy (such as steam or heat) through the sequential use of energy.
9/ Includes fuel consumption by electric utilities, small power producers, independent power producers, and exempt wholesale generators.
10/ Estimated emissions from utilities and nonutilities (excluding cogenerators).
O&M = Operation and maintenance.
EMM = Electricity market module.
N/A = Not applicable.
Note: Totals may not equal sum of components due to independent rounding.
Sources: 2000 (except for prices and nonutility data): Energy Information Administration (EIA), Annual Energy Review 2000, DOE/EIA-0384(2000) (Washington, DC, August 2001).
Other 2000 and projections: NewGen Data and Analysis, RDI Consulting/FT Energy (Boulder, CO, February 2001) and EIA, AEO2002 National Energy Modeling System run aeo2002.d102001b.

from US DOE Energy Information Administration's 2000 Annual Energy Outlook

## Appendix F

Comparison of previous projections for future water use by electric generation

A reviewed the 1997 and 2002 water use projections, focusing on areas where changed conditions or new information might justify revisions to the projections. Below is information regarding the previous methodology for making the projections taken from the 1997 and 2002 referenced reports.

1997 State Water Plan

"Water used for steam electric power generation totaled about 426,000 acre-feet in 1990. This represents an increase in water use of nearly 122,000 ac-feet of water above the 1980 level of water use. Currently, water used for steam-electric power generation accounts for about 3 % of the state's total water use. Based on the recommended case projection scenario, state wide water use for steam electric power generation is projected to increase from 426,000 acre feet in 1990 to about 938,000 acre feet by the year 2050…" (Reference: "Water for Texas August 1997, page 3-8)

"Water use projections for steam electric power generation have two major components: power generation capacity and water use for that projected capacity. Power generation projections were based on current per capita electric demand for reported residential, commercial, and other sectors on a utility specific basis. Industrial [electrical] power water uses were based on each utility's reported sales by Standard Industrial Classification (SIC). A composite growth factor was estimated for the remaining unaccounted-for sales. For existing plants, future water use was assumed to remain constant at the average 1988 – 1991 historical water use patterns unless information indicated that plants were scheduled for closure. For planned plants and facilities, water use permits and/or plant design data were used to determine future water needs. If permit or facility design information was not available, it was assumed that additional generation would use water at the same gallons per kilowatt-hour rate as the current average use for that utility." (Reference: "Water for Texas August 1997", page 2-19)

In developing the steam electric water use projections, a number of assumptions were used including: (1) power generation demands will grow in direct proportion to population growth for residential, commercial, and other sectors. The power demands are based on the recommended-case population projections: (2) industrial power generation demands are assumed to grow in direct proportion to industrial and manufacturing growth projections for each major electric power use by SIC (3) no change is assumed in electric power generation capacity for the upper case scenario; and (4) a combination of technological, conservation measures and other factors are assumed to reduce total water use by five percent by the year 2000, ten percent by 2010, and 15 percent from 2020 to 2050. (Reference: "Water for Texas August 1997", page 2-19)

Two scenarios were developed to reflect potential technology changes in the electric power industry...the advanced combined-cycle combustion technology, if broadly implemented by the power industry, could significantly lower water use in this sector. (Reference: "Water for Texas August 1997", page 2-20)

A number of data sources were used in the development of steam electric power water use projections. These sources included TWDB's survey of annual water use (1980-1991): the consensus population and water use projections developed by staffs of the three agencies with advisory committee assistance; PUCT's projections of additions and removal of power generation to the year 2005; fuel use, thermodynamics of existing power plants, co-generation statistics, long range power needs, and the impact of technology on power generation; water rights permit information from TNRCC; and research on new technologies and related information from the Electric Power Research Institute. (Reference: "Water for Texas August 1997", page 2-20)

Because it is unknown where future power plants will be located, the methodology assumes that power generation will occur in locations that have historically had power generation or where power companies have announced new locations. However, unforeseen technological advances, changes in market forces, and conservation efforts could affect both power plant locations and water use. Additionally, changes in Federal regulations could have an important affect on steam electric power generation and water use. (Reference: "Water for Texas August 1997", page 2-20)

2002 Water Use Plan

"In determining current and future water use of steam electric power generation, the TWDB relied on several types of information. Current water use for the base year 1990 was obtained for each plant from the TWDB's water use survey. Demands for many new plants, both completed and under construction, were identified by Planning Groups as part of the regional planning process. Future water demand was estimated using a combination of available information, including published materials on planned additions to existing plants, existing water rights permits, specific company information, lignite-resource ownership, and other related sources. Individual plant design, thermodynamic operating characteristics, energy- conservation strategies, and technological improvements were also evaluated to determine how water use would change over time." (Reference: "Water for Texas 2002, page 36)

## Appendix G
## Glossary of Electricity Terms

**Anthracite:** The highest rank of coal; used primarily for residential and commercial space heating. It is hard, brittle, and black lustrous coal, often referred to as hard coal, containing a high percentage of fixed carbon and a low percentage of volatile matter. The moisture content of fresh-mined anthracite generally is less than 15 percent. The heat content of anthracite ranges from 22 to 28 million Btu per ton on a moist, mineral-matter-free basis. The heat content of anthracite coal consumed in the United States averages 25 million Btu per ton, on the as-received basis (i.e., containing both inherent moisture and mineral matter). Note: Since the 1980's, anthracite refuse or mine waste has been used for steam electric power generation. This fuel typically has a heat content of 15 million Btu per ton or less.

**Ash:** Impurities consisting of silica, iron, alumina, and other noncombustible matter that are contained in coal. Ash increases the weight of coal, adds to the cost of handling, and can affect its burning characteristics. Ash content is measured as a percent by weight of coal on a "received" or a "dry" (moisture-free, usually part of a laboratory analysis) basis.

**Baseload Plant:** A plant, usually housing high-efficiency steam-electric units, which is normally operated to take all or part of the minimum load of a system, and which consequently produces electricity at an essentially constant rate and runs continuously. These units are operated to maximize system mechanical and thermal efficiency and minimize system operating costs.

**Bcf:** The abbreviation for 1 billion cubic feet.

**Bituminous Coal:** A dense coal, usually black, sometimes dark brown, often with well-defined bands of bright and dull material, used primarily as fuel in steam-electric power generation, with substantial quantities also used for heat and power applications in manufacturing and to make coke. Bituminous coal is the most abundant coal in active U.S. mining regions. Its moisture content usually is less then 20 percent. The heat content of bituminous coal ranges from 21 to 30 million Btu per ton on a moist, mineral-matter-free basis. The heat content of bituminous coal consumed in the United States averages 24 million Btu per ton, on the as-received basis (i.e., containing both inherent moisture and mineral matter).

**Boiler:** A device for generating steam for power, processing, or heating purposes or for producing hot water for heating purposes or hot water supply. Heat from an external combustion source is transmitted to a fluid contained within the tubes in the boiler shell. This fluid is delivered to an end-use at a desired pressure, temperature, and quality.

**Capability:** The maximum load that a generating unit, generating station, or other electrical apparatus can carry under specified conditions for a given period of time without exceeding approved limits of temperature and stress.

**Capacity:** The amount of electric power delivered or required for which a generator, turbine, transformer, transmission circuit, station, or system is rated by the manufacturer.

**Coal:** A readily combustible black or brownish-black rock whose composition, including inherent moisture, consists of more than 50 percent by weight and more than 70 percent by volume of carbonaceous material. It is formed from plant remains that have been compacted, hardened, chemically altered, and metamorphosed by heat and pressure over geologic time.

**Cogenerator:** A generating facility that produces electricity and another form of useful thermal energy (such as heat or steam), used for industrial, commercial, heating, or cooling purposes. To receive status as a qualifying facility (QF) under the Public Utility Regulatory Policies Act (PURPA), the facility must produce electric energy and "another form of useful thermal energy through the sequential use of energy," and meet certain ownership, operating, and efficiency criteria established by the Federal Energy Regulatory Commission (FERC). (See the Code of Federal Regulations, Title 18, Part 292.)

**Coke (Petroleum):** A residue high in carbon content and low in hydrogen that is the final product of thermal decomposition in the condensation process in cracking. This product is reported as marketable coke or catalyst coke. The conversion is 5 barrels (of 42 U.S. gallons each) per short ton. Coke from petroleum has a heating value of 6.024 million Btu per barrel.

**Combined Cycle:** An electric generating technology in which electricity is produced from otherwise lost waste heat exiting from one or more gas (combustion) turbines. The exiting heat is routed to a conventional boiler or to a heat recovery steam generator for utilization by a steam turbine in the production of electricity. This process increases the efficiency of the electric generating unit.

**Combined Cycle Unit:** An electric generating unit that consists of one or more combustion turbines and one or more boilers with a portion of the required energy input to the boiler(s) provided by the exhaust gas of the combustion turbine(s).

**Combined Pumped-Storage Plant:** A pumped-storage hydroelectric power plant that uses both pumped water and natural streamflow to produce electricity.

**Commercial:** The commercial sector is generally defined as non-manufacturing business establishments, including hotels, motels, restaurants, wholesale businesses, retail stores, and health, social, and educational institutions. The utility may classify commercial service as all consumers whose demand or annual use exceeds some specified limit. The limit may be set by the utility based on the rate schedule of the utility.

**Consumption (Fuel):** The amount of fuel used for gross generation, providing standby service, start-up and/or flame stabilization.

**Cooperative Electric Utility:** An electric utility legally established to be owned by and operated for the benefit of those using its service. The utility company will generate, transmit, and/or distribute supplies of electric energy to a specified area not being serviced by another utility. Such ventures are generally exempt from Federal income tax laws. Most electric cooperatives were initially financed by the Rural Electrification Administration, U.S. Department of Agriculture.

**Current (Electric):** A flow of electrons in an electrical conductor. The strength or rate of movement of the electricity is measured in amperes.

**Deregulation:** The elimination of regulation from a previously regulated industry or sector of an industry.

**Distillate Fuel Oil:** A general classification for one of the petroleum fractions produced in conventional distillation operations. It is used primarily for space heating, on-and-off-highway diesel engine fuel (including railroad engine fuel and fuel for agriculture machinery), and electric power generation. Included are Fuel Oils No. 1, No. 2, and No. 4; and Diesel Fuels No. 1, No. 2, and No. 4.

**Distribution:** The delivery of electricity to retail customers (including homes, businesses, etc.).

**Electric Plant (Physical):** A facility containing prime movers, electric generators, and auxiliary equipment for converting mechanical, chemical, and/or fission energy into electric energy.

**Electric Utility:** A corporation, person, agency, authority, or other legal entity or instrumentality that owns and/or operates facilities within the United States, its territories, or Puerto Rico for the generation, transmission, distribution, or sale of electric energy primarily for use by the public and files forms listed in the Code of Federal Regulations, Title 18, Part 141. Facilities that qualify as cogenerators or small power producers under the Public Utility Regulatory Policies Act (PURPA) are not considered electric utilities.

**Energy:** The capacity for doing work as measured by the capability of doing work (potential energy) or the conversion of this capability to motion (kinetic energy). Energy has several forms, some of which are easily convertible and can be changed to another form useful for work. Most of the world's convertible energy comes from fossil fuels that are burned to produce heat that is then used as a transfer medium to mechanical or other means in order to accomplish tasks. Electrical energy is usually measured in kilowatt-hours (kWh), while heat energy is usually measured in British thermal units.

**Energy Source:** The primary source that provides the power that is converted to electricity through chemical, mechanical, or other means. Energy sources include coal, petroleum and petroleum products, gas, water, uranium, wind, sunlight, geothermal, and other sources.

**Facility:** An existing or planned location or site at which prime movers, electric generators, and/or equipment for converting mechanical, chemical, and/or nuclear energy into electric energy are situated, or will be situated. A facility may contain more than one generator of either the same or different prime mover type. For a cogenerator, the facility includes the industrial or commercial process.

**Federal Energy Regulatory Commission (FERC):** A quasi-independent regulatory agency within the Department of Energy having jurisdiction over interstate electricity sales, wholesale electric rates, hydroelectric licensing, natural gas pricing, oil pipeline rates, and gas pipeline certification.

**Federal Power Act:** Enacted in 1920, and amended in 1935, the Act consists of three parts. The first part incorporated the Federal Water Power Act administered by the former Federal Power Commission, whose activities were confined almost entirely to licensing non-Federal hydroelectric projects. Parts II and III were added with the passage of the Public Utility Act. These parts extended the Act's jurisdiction to include regulating the interstate transmission of electrical energy and rates for its sale as wholesale in interstate commerce. The Federal Energy Regulatory Commission is now charged with the administration of this law.

**Federal Power Commission:** The predecessor agency of the Federal Energy Regulatory Commission. The Federal Power Commission (FPC) was created by an Act of Congress under the Federal Water Power Act on June 10, 1920. It was charged originally with regulating the electric power and natural gas industries. The FPC was abolished on September 20, 1977, when the Department of Energy was created. The functions of the FPC were divided between the Department of Energy and the Federal Energy Regulatory Commission.

**Flue Gas Desulfurization Unit (Scrubber):** Equipment used to remove sulfur oxides from the combustion gases of a boiler plant before discharge to the atmosphere. Chemicals, such as lime, are used as the scrubbing media.

**Flue Gas Particulate Collectors:** Equipment used to remove fly ash from the combustion gases of a boiler plant before discharge to the atmosphere. Particulate collectors include electrostatic precipitators, mechanical collectors (cyclones), fabric filters (baghouses), and wet scrubbers.

**Fly Ash:** Particulate matter from coal ash in which the particle diameter is less than 1 x 10-4 meter. This is removed from the flue gas using flue gas particulate collectors such as fabric filters and electrostatic precipitators.

**Fossil Fuel:** Any naturally occurring organic fuel, such as petroleum, coal, and natural gas.

**Fossil-Fuel Plant:** A plant using coal, petroleum, or gas as its source of energy.

**Fuel:** Any substance that can be burned to produce heat; also, materials that can be fissioned in a chain reaction to produce heat.

**Gas:** A fuel burned under boilers and by internal combustion engines for electric generation. These include natural, manufactured and waste gas.

**Gas Turbine Plant:** A plant in which the prime mover is a gas turbine. A gas turbine consists typically of an axial-flow air compressor, one or more combustion chambers, where liquid or gaseous fuel is burned and the hot gases are passed to the turbine and where the hot gases expand to drive the generator and are then used to run the compressor.

**Generating Unit:** Any combination of physically connected generator(s), reactor(s), boiler(s), combustion turbine(s), or other prime mover(s) operated together to produce electric power.

**Generation (Electricity):** The process of producing electric energy by transforming other forms of energy; also, the amount of electric energy produced, expressed in watthours (Wh).

**Generation Company:** A regulated or non-regulated entity (depending upon the industry structure) that operates and maintains existing generating plants. The generation company may own the generation plants or interact with the short-term market on behalf of plant owners. In the context of restructuring the market for electricity, the generation company is sometimes used to describe a specialized "marketer" for the generating plants formerly owned by a vertically integrated utility.

**Gross Generation:** The total amount of electric energy produced by the generating units at a generating station or stations, measured at the generator terminals.

**Net Generation:** Gross generation less the electric energy consumed at the generating station for station use.

**Generator:** A machine that converts mechanical (kinetic) energy into electrical energy.

**Generator Nameplate Capacity:** The full-load continuous rating of a generator, prime mover, or other electric power production equipment under specific conditions as designated by the manufacturer. Installed generator nameplate rating is usually indicated on a nameplate physically attached to the generator.

**Geothermal Plant:** A plant in which the prime mover is a steam turbine. The turbine is driven either by steam produced from hot water or by natural steam that derives its energy from heat found in rocks or fluids at various depths beneath the surface of the earth. The energy is extracted by drilling and/or pumping.

**Gigawatt (GW):** One billion watts.

**Gigawatthour (GWh):** One billion watthours.

**Gross Generation:** The total amount of electric energy produced by a generating facility, as measured at the generator terminals.

**Heavy Oil:** The fuel oils remaining after the lighter oils have been distilled off during the refining process. Except for start-up and flame stabilization, virtually all petroleum used in steam plants is heavy oil.

**Hydroelectric Plant:** A plant in which the turbine generators are driven by falling water.

**Independent Power Producers:** Entities that are also considered nonutility power producers in the United States. These facilities are wholesale electricity producers that operate within the franchised service territories of host utilities and are usually authorized to sell at market-based rates. Unlike traditional electric utilities, Independent Power Producers do not possess transmission facilities or sell electricity in the retail market.

**Industrial:** The industrial sector is generally defined as manufacturing, construction, mining agriculture, fishing and forestry establishments Standard Industrial Classification (SIC) codes 01-39. The utility may classify industrial service using the SIC codes, or based on demand or annual usage exceeding some specified limit. The limit may be set by the utility based on the rate schedule of the utility.

**Intermediate Load (Electric System):** The range from base load to a point between base load and peak. This point may be the midpoint, a percent of the peakload, or the load over a specified time period.

**Internal Combustion Plant:** A plant in which the prime mover is an internal combustion engine. An internal combustion engine has one or more cylinders in which the process of combustion takes place, converting energy released from the rapid burning of a fuel-air mixture into mechanical energy. Diesel or gas-fired engines are the principal types used in electric plants. The plant is usually operated during periods of high demand for electricity.

**Investor-Owned Utility:** A class of utility whose stock is publicly traded and which is organized as a tax-paying business, usually financed by the sale of securities in the capital market. It is regulated and authorized to achieve an allowed rate of return.

**Kilowatt (kW):** One thousand watts.

**Kilowatthour (kWh):** One thousand watthours.

**Light Oil:** Lighter fuel oils distilled off during the refining process. Virtually all petroleum used in internal combustion and gas-turbine engines is light oil.

**Lignite:** The lowest rank of coal, often referred to as brown coal, used almost exclusively as fuel for steam-electric power generation. It is brownish-black and has a high inherent moisture content, sometimes as high as 45 percent. The heat content of lignite ranges from 9 to 17 million Btu per ton on a moist, mineral-matter-free basis. The heat content of lignite consumed in the United States averages 13 million Btu per ton, on the as-received basis (i.e., containing both inherent moisture and mineral matter).

**Load (Electric):** The amount of electric power delivered or required at any specific point or points on a system. The requirement originates at the energy-consuming equipment of the consumers.

**Mcf:** One thousand cubic feet.

**Megawatt (MW):** One million watts.

**Megawatthour (MWh):** One million watthours.

**MMcf:** One million cubic feet.

**Natural Gas:** A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in porous geological formations beneath the earth's surface, often in association with petroleum. The principal constituent is methane.

**Net Generation:** Gross generation minus plant use from all electric utility owned plants. The energy required for pumping at a pumped-storage plant is regarded as plant use and must be deducted from the gross generation.

**Net Summer Capability:** The steady hourly output, which generating equipment is expected to supply to system load exclusive of auxiliary power, as demonstrated by tests at the time of summer peak demand.

**Net Winter Capability:** The steady hourly output which generating equipment is expected to supply to system load exclusive of auxiliary power, as demonstrated by tests at the time of winter peak demand.

**Nonutility Power Producer:** A corporation, person, agency, authority, or other legal entity or instrumentality that owns electric generating capacity and is not an electric utility. Nonutility power producers include qualifying cogenerators, qualifying small power producers, and other nonutility generators (including independent power producers) without a designated franchised service area, and which do not file forms listed in the Code of Federal Regulations, Title 18, Part 141.

**Nuclear Fuel:** Fissionable materials that have been enriched to such a composition that, when placed in a nuclear reactor, will support a self-sustaining fission chain reaction, producing heat in a controlled manner for process use.

**Nuclear Power Plant:** A facility in which heat produced in a reactor by the fissioning of nuclear fuel is used to drive a steam turbine.

**Peak Demand:** The maximum load during a specified period of time.

**Peak Load Plant:** A plant usually housing old, low-efficiency steam units; gas turbines; diesels; or pumped-storage hydroelectric equipment normally used during the peak-load periods.

**Peaking Capacity:** Capacity of generating equipment normally reserved for operation during the hours of highest daily, weekly, or seasonal loads. Some generating equipment may be operated at certain times as peaking capacity and at other times to serve loads on an around-the-clock basis.

**Petroleum:** A mixture of hydrocarbons existing in the liquid state found in natural underground reservoirs, often associated with gas. Petroleum includes fuel oil No. 2, No. 4, No. 5, No. 6; topped crude; Kerosene; and jet fuel.

**Petroleum (Crude Oil):** A naturally occurring, oily, flammable liquid composed principally of hydrocarbons. Crude oil is occasionally found in springs or pools but usually is drilled from wells beneath the earth's surface.

**Plant:** A facility at which are located prime movers, electric generators, and auxiliary equipment for converting mechanical, chemical, and/or nuclear energy into electric energy. A plant may contain more than one type of prime mover. Electric utility plants exclude facilities that satisfy the definition of a qualifying facility under the Public Utility Regulatory Policies Act of 1978.

**Plant-Use Electricity:** The electric energy used in the operation of a plant. This energy total is subtracted from the gross energy production of the plant; for reporting purposes the plant energy production is then reported as a net figure. The energy required for pumping at pumped-storage plants is, by definition, subtracted, and the energy production for these plants is then reported as a net figure.

**Power:** The rate at which energy is transferred. Electrical energy is usually measured in watts. Also used for a measurement of capacity.

**Power Pool:** An association of two or more interconnected electric systems having an agreement to coordinate operations and planning for improved reliability and efficiencies.

(In Texas, generating plants are primarily in the Electric Reliability Council of Texas. In addition a few plants are members of other power pools such as the Southwest Power Pool, Southeastern Electric Reliability Council, Western States Coordinating Council)

**Prime Mover:** The engine, turbine, water wheel, or similar machine that drives an electric generator; or, for reporting purposes, a device that converts energy to electricity directly (e.g., photovoltaic solar and fuel cell(s)).

**Pumped-Storage Hydroelectric Plant:** A plant that usually generates electric energy during peak-load periods by using water previously pumped into an elevated storage reservoir during off-peak periods when excess generating capacity is available to do so. When additional generating capacity is needed, the water can be released from the reservoir through a conduit to turbine generators located in a power plant at a lower level.

**PURPA:** The Public Utility Regulatory Policies Act of 1978, passed by the U.S. Congress. This statute requires States to implement utility conservation programs and create special markets for co-generators and small producers who meet certain standards, including the requirement that States set the prices and quantities of power the utilities must buy from such facilities.

**Qualifying Facility (QF):** A cogeneration or small power production facility that meets certain ownership, operating, and efficiency criteria established by the Federal Energy Regulatory Commission (FERC) pursuant to the Public Utility Regulatory Policies Act (PURPA).

**Regulation:** The governmental function of controlling or directing economic entities through the process of rulemaking and adjudication.

**Renewable Resources:** Naturally, but flow-limited resources that can be replenished. They are virtually inexhaustible in duration but limited in the amount of energy that is available per unit of time. Some (such as geothermal and biomass) may be stock-limited in that stocks are depleted by use, but on a time scale of decades, or perhaps centuries, they can probably be replenished. Renewable energy resources include: biomass, hydro, geothermal, solar and wind. In the future, they could also include the use of ocean thermal, wave, and tidal action technologies. Utility renewable resource applications include bulk electricity generation, on-site electricity generation, distributed electricity generation, non-grid-connected generation, and demand-reduction (energy efficiency) technologies.

**Reserve Margin (Operating):** The amount of unused available capability of an electric power system at peakload for a utility system as a percentage of total capability.

**Residential:** The residential sector is defined as private household establishments which consume energy primarily for space heating, water heating, air conditioning, lighting, refrigeration, cooking and clothes drying. The classification of an individual consumer's account, where the use is both residential and commercial, is based on principal use. For the residential class, do not duplicate consumer accounts due to multiple metering for special services (water, heating, etc.). Apartment houses are also included.

**Residual Fuel Oil:** The topped crude of refinery operation, includes No. 5 and No. 6 fuel oils as defined in ASTM Specification D396 and Federal Specification VV-F-815C; Navy Special fuel oil as defined in Military Specification MIL-F-859E including Amendment 2 (NATO Symbol F-77); and Bunker C fuel oil. Residual fuel oil is used for the production of electric power, space heating, vessel bunkering, and various industrial purposes. Imports of residual fuel oil include imported crude oil burned as fuel.

**Running and Quick-Start Capability:** The net capability of generating units that carry load or have quick-start capability. In general, quick-start capability refers to generating units that can be available for load within a 30-minute period.

**Small Power Producer (SPP):** Under the Public Utility Regulatory Policies Act (PURPA), a small power production facility (or small power producer) generates electricity using waste, renewable (water, wind and solar), or geothermal energy as a primary energy source. Fossil fuels can be used, but renewable resource must provide at least 75 percent of the total energy input. (See Code of Federal Regulations, Title 18, Part 292.)

**Sparge:** Spray or disperse

**Spinning Reserve:** That reserve generating capacity running at a zero load and synchronized to the electric system.

**Standard Industrial Classification (SIC):** A set of codes developed by the Office of Management and Budget, which categorizes business into groups with similar economic activities.

**Standby Facility:** A facility that supports a utility system and is generally running under no-load. It is available to replace or supplement a facility normally in service.

**Steam-Electric Plant (Conventional):** A plant in which the prime mover is a steam turbine. The steam used to drive the turbine is produced in a boiler where fossil fuels are burned.

**Stocks:** A supply of fuel accumulated for future use. This includes coal and fuel oil stocks at the plant site, in coal cars, tanks, or barges at the plant site, or at separate storage sites.

**Subbituminous Coal:** A coal whose properties range from those of lignite to those of bituminous coal and are used primarily as fuel for steam-electric power generation. It may be dull, dark brown to black, soft and crumbly at the lower end of the range, to bright, jet black, hard, and relatively strong at the upper end. Subbituminous coal contains 20 to 30 percent inherent moisture by weight. The heat content of subbituminous coal ranges from 17 to 24 million Btu per ton on a moist, mineral-matter-free basis. The heat content of subbituminous coal consumed in the United States averages 17 to 18 million Btu per ton, on the as-received basis (i.e., containing both inherent moisture and mineral matter).

**Sulfur:** One of the elements present in varying quantities in coal which contributes to environmental degradation when coal is burned. In terms of sulfur content by weight, coal is generally classified as low (less than or equal to 1 percent), medium (greater than 1 percent and less than or equal to 3 percent), and high (greater than 3 percent). Sulfur content is measured as a percent by weight of coal on an "as received" or a "dry" (moisture-free, usually part of a laboratory analysis) basis.

**Transformer:** An electrical device for changing the voltage of alternating current.

**Transmission System (Electric):** An interconnected group of electric transmission lines and associated equipment for moving or transferring electric energy in bulk between points of supply and points at which it is transformed for delivery over the distribution system lines to consumers, or is delivered to other electric systems.

**Turbine:** A machine for generating rotary mechanical power from the energy of a stream of fluid (such as water, steam, or hot gas). Turbines convert the kinetic energy of fluids to mechanical energy through the principles of impulse and reaction, or a mixture of the two.

**Useful Thermal Output:** The thermal energy made available for use in any industrial or commercial process, or used in any heating or cooling application, i.e., total thermal energy made available for processes and applications other than electrical generation.

**Watt:** The electrical unit of power. The rate of energy transfer equivalent to 1 ampere flowing under a pressure of 1 volt at unity power factor.

**Watthour (Wh):** An electrical energy unit of measure equal to 1 watt of power supplied to, or taken from, an electric circuit steadily for 1 hour.

**Wholesale Competition:** A system whereby a distributor of power would have the option to buy its power from a variety of power producers, and the power producers would be able to compete to sell their power to a variety of distribution companies.

**Wholesale Sales:** Energy supplied to other electric utilities, cooperatives, municipals, and Federal and State electric agencies for resale to ultimate consumers.

**Wholesale Power Market:** The purchase and sale of electricity from generators to resellers (who sell to retail customers), along with the ancillary services needed to maintain reliability and power quality at the transmission level.

# Appendix H
# Executive Administrator's Comments on Draft Report

## ATTACHMENT 1

**TEXAS WATER DEVELOPMENT BOARD**

Review of the Draft Final Report: Contract No. 2001-483-396

**"Power Generation Water Use in Texas for the Years 2000 through 2060"**

1. The methodology appears sound, however for staff to utilize the data located in the appendices, further meetings or phone calls with Greg Carter will be necessary. I'm looking forward to receiving the tables in electronic format (Excel).

2. Please provide an overview of summary of the steam electric power plants included in this study; such as the total number of the plants, if possible dropped or added compared to the last plan. Does the recent announcement of AEP's intention to close plants have any impact on the study?

3. Please explain why some of the power plants have blank fields with no data.

4. In Section 6, please provide an example of how a county's water demand is derived, with an explanation of how a county's demand can decline through 2020 and increase thereafter. (All reviewers made a variation of this comment, requesting more clarity regarding the derivation of county demands.)

5. The tables attached in the appendix were difficult to figure out. It would be helpful if those have footnotes for abbreviations used in the tables, data source for each table, explanations for the formulas or variables.

6. Appendix D (pp76) Annual Statewide Steam Electric Water Supply vs. Demand: the 6th column from the left, 'Study Minus TWDB Supply' should be changed to 'TWDB Supply Minus Study Demand'

7. Appendix B2: Please clarify whether the data was from the State Data Center or TWDB Projection numbers.