

NRG ENERGY

LIMESTONE 3 EXPANSION PROJECT

HIGHLIGHTS

- Limestone 3 will be one of the cleanest and most environmentally friendly coal plants in Texas. It will be the first to use dry cooling on this scale to conserve water.
- The unit is part of NRG's carbon friendly approach to meet the growing resource needs of Texas through a balanced mix of nuclear, gas, coal and wind.
- The expansion leverages existing property, infrastructure and resources to create substantial cost advantages.
- Limestone's management and workforce are among the best in the business—top operational performance at Limestone 1 and 2 will extend to Limestone 3.

OVERVIEW

NRG is planning an expansion of the existing Limestone Electric Generating Station located in Limestone County near Jewett, Texas. An investment in the future of Texas, this expansion will increase generating capacity throughout the region, enhance the availability and reliability of low-cost electric power and reduce the state's dependence on fuel sources—such as natural gas—that are highly susceptible to price volatility. The new unit will be one of the cleanest pulverized coal-fueled electric generating units in North America and will use best available control technology to reduce air emissions and dry cooling to conserve our water resources.

The proposed expansion project would add a third generating unit to the facility and bring approximately 744 megawatts (MW) of low-cost, stable electric generating capacity to the



photo courtesy of Jackie Stone, Limestone

region—enough to supply approximately 600,000 households.

The new unit, unit 3, will be constructed adjacent to existing generating units 1 and 2 so that it will be located on land already in use for electrical generation. Unit 3 will include a new pulverized coal boiler, steam turbine, generator and the necessary additional plant equipment required for power generation and emissions control. The unit construction phase is expected to last approximately four years, employ over 1,000 construction workers, represent an investment of more than \$1 billion and will have a positive economic impact in Central Texas, specifically Limestone, Freestone and Leon Counties.

FACILITY BACKGROUND

Currently, the Limestone Electric Generating Station is comprised of two lignite/coal-fueled steam units, which generate over 1,700 MW of baseload generating capacity. The facility, which went into operation between 1985 and 1986, operates throughout the year and employs 250 people full time. The Limestone Generating Station is 100 percent owned and operated by NRG Texas, a wholly owned subsidiary of NRG Energy, Inc.

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ENVIRONMENTAL IMPROVEMENTS

With upwards of \$400 million in environmental controls, the new unit will help set the environmental standard for clean pulverized coal-fueled electric generation. Unit 3 will primarily use low sulfur coal as its fuel source and use best available control technology to minimize emissions.

Specifically, it will be equipped with low nitrogen oxides (NO_x) burners/over-fire air and selective catalytic reduction for NO_x control, flue gas desulfurization (scrubber) for sulfur dioxide (SO₂) control, and a fabric filter baghouse for particulate control. Emissions of mercury will be reduced through a combination of controls that will exceed current regulatory requirements. The project would also use much of the existing infrastructure at Limestone to minimize the amount of space required for the expansion.

To conserve scarce water resources in the area, Limestone 3 will use dry cooling to condense the steam back into water. Dry cooling uses a radiator-like system to allow air to cool the heated water instead of cold water. By using dry cooling, Limestone unit 3's water usage will be approximately one sixth of the water used by a traditional coal plant.

Since 1999, about \$75 million has been spent on environmental controls and other equipment that has dramatically reduced emissions from the current units at Limestone. Additional emissions controls at the current site mean that even with the addition of Limestone unit 3, overall plant emissions of NO_x, SO₂ and mercury will not increase. In addition, the Limestone Station is participating in several Department of Energy sponsored programs aimed at developing technology that further reduces emissions from electric generating units.

NRG has donated land adjacent to the Limestone Station as a possible home for the Department of Energy-sponsored FutureGen project.

ECONOMIC BENEFITS

According to an economic impact study conducted by leading economist Dr. M. Ray Perryman, improving the capacity and reliability of the electricity supply will benefit the entire state of Texas, contributing an anticipated \$3.1 billion in spending to the local economy. In addition, the expansion project will directly benefit Limestone, Freestone and Leon counties with the creation of approximately 90 permanent high-paying jobs at the plant.

The construction alone will create substantial economical benefits—both direct and indirect—leading to additional business activity within the state. Ongoing operations of the facility will also lead to sizable gains in business activity including approximately 1,400 jobs in the local area and approximately 1,800 jobs in the state.



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