

Energy Security for Critical Buildings

CHP Requirement in HB1831 and HB4409

House Bills 1831 and 4409 passed by the 81st Texas Legislature create a number of new requirements that promote disaster preparedness and emergency management. One provision common to both laws is a requirement for all government entities to formally consider the feasibility of implementing combined heat and power (CHP) technology prior to new construction or major renovation of critical buildings and facilities.

Beginning September 1, 2009, all government entities must comply with the law by following these three steps:

- 1) Identify which government owned buildings and facilities are critical in an emergency situation.
- 2) Prior to constructing or making extensive renovations to a critical governmental facility, the entity in control of the facility must obtain a feasibility study to consider the technical opportunities and economic value of implementing CHP.
- 3) When the expected energy savings of the CHP system exceed the expected costs of purchasing, operating, and maintaining the system over a 20-year period, equipping the facility with a combined heating and power system is preferred to promote energy security.

What is Combined Heat and Power?

Combined heat and power (CHP) is a type of distributed generation. With CHP, small generators are located at a building or facility where they are operated 24 hours a day to provide the primary source of both electricity and thermal energy. CHP systems use well established and cost effective technologies. Typically, they use secure natural gas supplied by underground pipelines, so they provide secure, reliable power during an emergency when grid power is down.

To meet the requirements of the law, CHP systems must be able to provide all of the electricity needed for the facility's critical emergency operations for at least 14 days and at an overall efficiency exceeding 60 percent. For emergencies where the electricity grid is down for days or weeks, CHP systems are much more reliable than conventional diesel backup generators. In addition, CHP systems offer very low to zero emissions with attractive economic payback periods.

Have CHP systems been implemented in Texas?

Yes. Texas has about 20,000 MW of CHP, largely in industrial facilities. That's about 20% of the state's entire electricity demand. A number of CHP projects have been implemented in critical buildings and facilities, including the Dell Children's Hospital in Austin and Methodist Hospital in Houston.

What is a critical government building or facility?

To determine whether a government building or facility is critical, it must meet the following criteria:

- be owned by the state or a political subdivision of the state
- be expected to continue serving a critical public health or safety function throughout a natural disaster or other emergency situation, even when a widespread power outage may exist for days or weeks
- be continuously occupied and maintain operations for at least 6,000 hours each year, and
- have a peak electricity demand exceeding 500 kilowatts

Examples of government buildings and facilities that may meet the 'critical' definition include hospitals, nursing homes, command and control centers, shelters, prisons and jails, police and fire stations, communications and data centers, water or wastewater facilities, research facilities, food preparation or food storage facilities, hazardous waste storage facilities, and similar operations.

Who must comply?

The provisions in this bill relating to CHP apply to all state agencies and all political subdivisions of the state including cities, counties, school districts, institutes of higher education, and municipal utility districts. All government entities must comply with the law.

Additional Contact Information

The
Gulf Coast Clean Energy Application Center
is your primary point of contact for assistance in complying with HB 1831 and HB4409.

For more information, go to
www.txsecurepower.org

How do I get assistance?

To help facility managers, engineering firms, and architects comply with the requirements of HB1831 and HB4409, the Gulf Coast Clean Energy Center offers technical information and assistance including how to meet the mandates of Texas' energy security legislation, free or low cost CHP feasibility studies, project support services, and connections to service providers. CHP projects also may be eligible for funding through LoanSTAR, the state's low interest revolving loan program. Additional technical assistance is readily available from a wide variety of other organizations including the Texas State Energy Conservation Office, the U.S. Department of Energy, and the Environmental Protection Agency's CHP Partnership.

CHP: Secure Power Before, During, and After the Storm



Visit www.txsecurepower.org for more information.

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