



Texas Critical Infrastructure Policy for State Facilities

Policy Description

Between 2005 and 2010, the Gulf of Mexico was battered by multiple hurricanes. For Texas, the most damaging was Hurricane Ike in 2008. Ike landed as a Category 2 hurricane with sustained wind speeds of 110 mph, resulting in not only significant wind damage but also significant coastal flooding due to storm surge. With Hurricane Ike, 1.65 million Texas residents lost power, many for over two weeks. In 2008, Ike was one of four hurricanes to hit the state. The cumulative impact of four major hurricanes in one year was able to capture the attention of Texas state legislators. In the following 2009 legislative session, to reduce risk and help improve the resilience of state critical infrastructure, the Texas legislature passed HB 1831 and HB 4409 requiring all critical government facilities to consider the feasibility of combined heat and power (CHP). In 2013, HB 1864 was passed to develop guidelines to assist critical infrastructure assets to meet requirements of the 2009 legislation.

The policy requires that the state identify which government-owned buildings and facilities are critical in a power outage emergency. Secondly, 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. The policy applies to all state agencies and all political subdivisions of the state, including cities, counties, school districts, institutions of higher education, and municipal utility districts.

Policy Development

The 2008 hurricane season was a primary motivator for Texas state policymakers to act to prevent power outages during and after major natural disaster events. Keeping critical government facilities at the state and local level operational ensures rescue operations and recovery efforts have the necessary support.

HB 1831 and HB 4409 both amended the Texas Government Code with a new section, "Chapter 2311 Energy Security Technologies for Critical Government Facilities." This amendment requires that if any state facility is under construction, undergoing extensive renovation,¹ or updating major mechanical systems,² that site must assess whether CHP would be appropriate. To implement CHP at a site, the expected energy savings must be greater than expected costs over a 20-year



period. Costs take into account purchasing, operating, and maintaining the system. If savings outweigh costs, then the site may consider CHP. It is not a requirement. To be considered critical infrastructure, the facility must be owned by the state or a political subdivision of the state; serve 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.

If a CHP plant is determined to be economically feasible and if the site chooses to install CHP, the system must meet multiple requirements. The

Examples of Critical Infrastructure Sites:

- Water or wastewater facilities
- Hospitals and nursing homes
- Command and control centers
- Datacenters
- Food processing and food storage
- Hazardous waste storage facilities
- Shelters
- Prisons and jails
- Police and fire stations

¹ Implementation cost is \$2 million or more, based on the initial cost estimate. (34 TAC Chapter 19, Subchapter C, Rule 19.33)

² A major HVAC replacement constitutes the replacement of all chillers in a facility with a chiller load greater than 100 tons.

CHP plant must be located at the site, it must be the primary source of electric and thermal energy, it must provide the power for critical emergency operations for at least 14 days, and it must have an overall efficiency greater than 60%.

Policy Outcomes

With the passage of HB 1831, a significant uptick in critical infrastructure screenings was expected. However, there were still several questions as to who must comply and about steps needed to comply. To provide greater clarity, HB 1864 was passed in the 2013 legislative session, amending HB 1831. HB 1864 required the Texas State Energy Conservation Office³ (SECO) to develop CHP assessment guidelines for state facilities. SECO worked with the Houston Advanced Research Center to develop the guidelines. The bill also required that all state agencies and subdivisions of the state, beginning September 1, 2013, must comply with HB 1831 requirements. In HB 1831, compliance was defined in the following way.

First, all state agencies must identify which government facilities are critical in an emergency. Second, all sites undergoing renovation or being newly constructed must obtain a feasibility study to consider the technical opportunities and economic value of implementing CHP. The details of what constitutes a feasibility study were developed through the guideline development process. The bill also clarified that when the expected energy savings of the CHP system exceed the expected costs of purchasing, operating, and maintaining over a 20-year period, equipping the facility with a CHP system is preferred to promote energy security. The cost–benefit ratio over a lifecycle period of 20 years should be greater than 1.0. The bill also clarified the meaning of “major renovation” and the type of mechanical work that would trigger a feasibility study (see footnotes on previous page).

The amendment of HB 1831 by HB 1864 gave state agencies better clarity. Compliance has not been across the board. However, many of the state’s larger agencies with critical infrastructure have assessed CHP for their sites. The most comprehensive assessments were conducted by the Texas Military Department and the Texas Department of Corrections.

Additional Policy Examples

- **Louisiana** – In 2012, Louisiana passed LA SR. 171-2012. The Gulf Coast Clean Energy Application Center⁴ worked to educate regulators and key policymakers about the opportunities and possible benefits of adopting such a policy.
- **New York** – In 2013, New York created PON 2568⁵ – CHP Acceleration Program. This program provides incentives for systems up to 3 MW that are grid-connected and can continue operations during a power outage.
- **New Jersey** – The New Jersey Clean Energy CHP/WHP program provides incentives for CHP installations. New in 2018, this program provides a 10% increase in incentives for CHP installations with black-start and islanding capability.⁶

Lessons To Share

- Guidelines must be clear and should be required in any critical infrastructure legislation. HB 1831, which set guidelines for CHP assessments and clarified HB 1864, led to an uptick in compliance.
- Enforcement mechanisms must be clear and supported by legislation.

Resources:

- [Texas SECO Critical Infrastructure Guidelines](#)
- [Better Buildings – CHP for Resiliency](#)
- [CHP: Enabling Resilient Energy Infrastructure for Critical Facilities](#)

For More Information

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More CHP Policy Profiles:
www.sschptap.org

Date produced: 2019

³ <https://comptroller.texas.gov/programs/seco/resources/chp.php>

⁴ A precursor to the CHP Technical Assistance Partnerships.

⁵ <https://portal.nysderda.ny.gov/servlet/servlet.FileDownload?file=00Pt000000AixE4EAJ>

⁶ <http://www.njcleanenergy.com/chp>