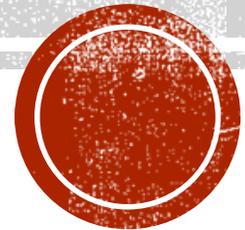


EMERGENCY RESPONSE PLAN COORDINATION

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- ❖ Located 35 miles north of the DFW
- ❖ Population of 136,000 residents
- ❖ Two Universities, two hospitals, and industrial district





The Electric Department of the City of Denton

- ❖ Service area of 108 square miles
- ❖ Serving 55,000 customers
- ❖ 370 MW of load
- ❖ Owns 33.5 miles of transmission line and operates another 34 miles



DME CONTINUED



- ❖ 893 miles of distribution lines with 60% underground
- ❖ 225 MW of gas fired quick response power plant, Denton Energy Center (DEC)
- ❖ Registered with North American Electric Reliability Corporation (NERC) as a GO, GOP, TO, TOP, DP, QSE, and RE
- ❖ Distributed Generation Program
 - ❖ Solar only rebates range from .40¢ to .80¢ /watt depending on the size of the unit
 - ❖ Solar with storage rebates range from .60¢ to \$1.20 /watt depending on the size of the unit
 - ❖ Full usage price is paid for all power generated back to the system
 - ❖ 310 customer owned PV systems installed totaling 3,500 KW
- ❖ 70% renewable energy
 - ❖ 180MW from wind
 - ❖ 30 MW from solar



WHY COORDINATE EMERGENCY PLANS

Last year was the first year that Electric System Operations was ask to review the City of Denton's Emergency Management Plan.

The Electric Emergency Operations plan and the City's plans did not complement each other and in some ways contradicted each other:

- ❖ The non-electric staff did not recognize that the electric department has regulations that have to be complied with during emergency situations
- ❖ Electric resources may not be available to other City departments as previously understood by Emergency Management
- ❖ Electric staff did not have a full understanding of police and fire procedures
- ❖ DME did not fully include other city departments needs or expectations in our plans
- ❖ DME underestimated non-electric staff's general knowledge of how the electric system functions.



IDENTIFIED AREAS OF CONCERN

- ❖ Create a common list of priorities and strategies
- ❖ Identify critical facilities and customers
- ❖ Assign roles and responsibilities
- ❖ Identify priority facilities for restoration
- ❖ Address any backup generation needs
- ❖ Efficient allocation of resources
- ❖ Include business continuity plans
- ❖ Review and revise all emergency plans that may be affected



WHY COORDINATION IS NEEDED DURING POWER CAPACITY SHORTAGES

- ❖ Cities need an overall understanding of how an electric company is required to respond to capacity shortages and blackout events
 - ❖ What to expect from each level of Energy Emergency Alerts
 - ❖ How rotating outages are planned for and executed, or how blackout events are restored
 - ❖ How electric resources will be utilized to support local critical loads
- ❖ Establishing critical loads and identify backup generation
 - ❖ Which critical facilities have backup generation or lack resources
 - ❖ Which of these facilities need priority
- ❖ Need for security of electric and city facilities
 - ❖ Protection of electric staff during travel to stations
 - ❖ Protection of electric facilities
- ❖ What to do with staff
 - ❖ Business continuity



ENERGY EMERGENCY ALERT PROCESS

- ❖ Energy Emergency Alert 1-Physical Responsive Capability falls below 2,300 MW
 - ❖ Media Alert may be issued detailing the situation and asking for energy conservation
 - ❖ Deployment of contracted ERS Resources
- ❖ Energy Emergency Alert 2-Physical Responsive Capability falls below 1,750 MW
 - ❖ Media Alert will be sent detailing the situation and asking for energy conservation
 - ❖ Reduction of load by using distribution voltage reduction measures, if beneficial
 - ❖ Implementation of Load Management Plans to reduce customer load, if available
 - ❖ Deployment of contracted ERS Resources
- ❖ Energy Emergency Alert 3-Physical Responsive Capability can not be maintained above 1375 and frequency falls below 59.91 HZ.
 - ❖ In addition of all the measures taken in EEA 1 and 2 Rotating outages may be requested
 - ❖ Implement load shed based off of the Load Shed Obligation established by ERCOT.



EMERGENCY LOAD SHED PROCESS

- ❖ Excludes facilities that protect the safety and health of the community and essential human needs of the citizens (Critical Loads)
 - ❖ Critical load may only be used to save the interconnection from collapse
- ❖ Open breakers to interrupt customer load to meet Load Shed Obligation
 - ❖ Rotate interrupted load every 30 minutes
 - ❖ Try not to affect the same customers for 1.5 hours



IDENTIFY CRITICAL FACILITIES

- ❖ Water and waste water plants
 - ❖ Lift stations
- ❖ Fire and Police stations
 - ❖ Emergency Operations Center
- ❖ Hospitals and Surgery Centers
 - ❖ Senior, Nursing Centers
- ❖ Electric Control Room
 - ❖ Substations
- ❖ Fueling stations
 - ❖ Natural Gas pressurizing stations
 - ❖ Vehicle fueling stations
 - ❖ Backup Generator fueling solutions



EMERGENCY PLAN COORDINATION EFFORTS

Last year the City of Denton hosted a tabletop exercise about an active shooter that started at one of the colleges and then concluded at the DME campus.

Identified improvements:

- ❖ DME had a employee emergency notification system but the rest of the City did not
 - ❖ The City of Denton is now addressing this by providing an employee emergency notification system across all departments, including upgrading DME to the new system.
- ❖ Facility lockdown efforts needed improvements
 - ❖ DME had a campus lockdown system, but it interfered with police and fire response.
 - ❖ Facility lock down prevented first responder access



FUTURE EMERGENCY PLAN COORDINATION EFFORTS

This year the City of Denton is hosting a tabletop exercise about an extended total blackout of the ERCOT electric grid.

We plan to address the issues we have identified so far and expose potential issues that may have been overlooked.



IN SUMMARY

- ❖ Cities need to make sure that emergency plans are coordinated at all levels with electric providers
 - ❖ Cities may use identification of critical facilities to start coordination efforts
- ❖ Emergency plans must comply with local, regional, and federal regulations
- ❖ Cities and electric providers must have strategic and prioritized action plans in place prior to contingency events
- ❖ Mutual understanding of the roles and responsibilities of each entity involved is essential to success
- ❖ Continuous detailed review and coordinated training exercises will improve collaboration and identify deficiencies



QUESTIONS?

