

Austin Energy System Operations and Rolling Blackouts

Texas Senate: Joint Hearing of Business and Commerce and
Natural Resources Committee

Mission: Deliver clean, affordable, reliable energy and excellent customer service.

Larry Weis, General Manager

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Austin Energy Blackout Response

- AE's system "shares the outage" within ERCOT
- Energy Control Center staff responded to ERCOT directive to begin load shedding immediately
- AE generation had minor interruptions
- Situation progressed rapidly
 - 12:01- 6:00 a.m. – Over 80 generating units trip & reduced output
 - 2:47 a.m. - Reserves shortage by ERCOT
 - 5:08 a.m. - ERCOT issued physical response below 2,500 MW notice
 - 5:17 a.m. - Energy Emergency Alert Level 2a (EEA2a) activated Emergency Interruptible Load Service (EILS) and Loads Acting as Resources (LaaRs)
 - 5:43 a.m. - Load shed ordered





Communications

- 5:42 a.m. - AE corresponded with City Of Austin Emergency Operations Center (EOC) shortly after ERCOT issued Energy Emergency Alert Level 2a (EEA2a) at 5:17 a.m.
- 6:14 a.m. - AE communicated with media and Corporate PIO initially followed by
 - Ongoing status reports throughout the day
- AE maintained staffing at City Of Austin Emergency Operations Center (EOC) once activated





Criteria for Load Shed Plan

- ERCOT requires AE to develop a load shed plan
- AE plan to shed 4% share of 1,000 MW or 40 MW via rolling blackouts
- Plan includes 44 circuits with rotations targeting about 7-10 minute outages for 10 circuits at a time
- Internal policy considers the function and service of each of AE's 376 circuits in service at any given time
- 332 circuits are excluded from load shed plan
 - **211** health and safety critical loads and industrial loads
 - **31** serving downtown network
 - **90** with automatic required under frequency load shed relays
- 48 circuits utilized for rolling blackouts impacting more than 80,000 or 20% of AE customers

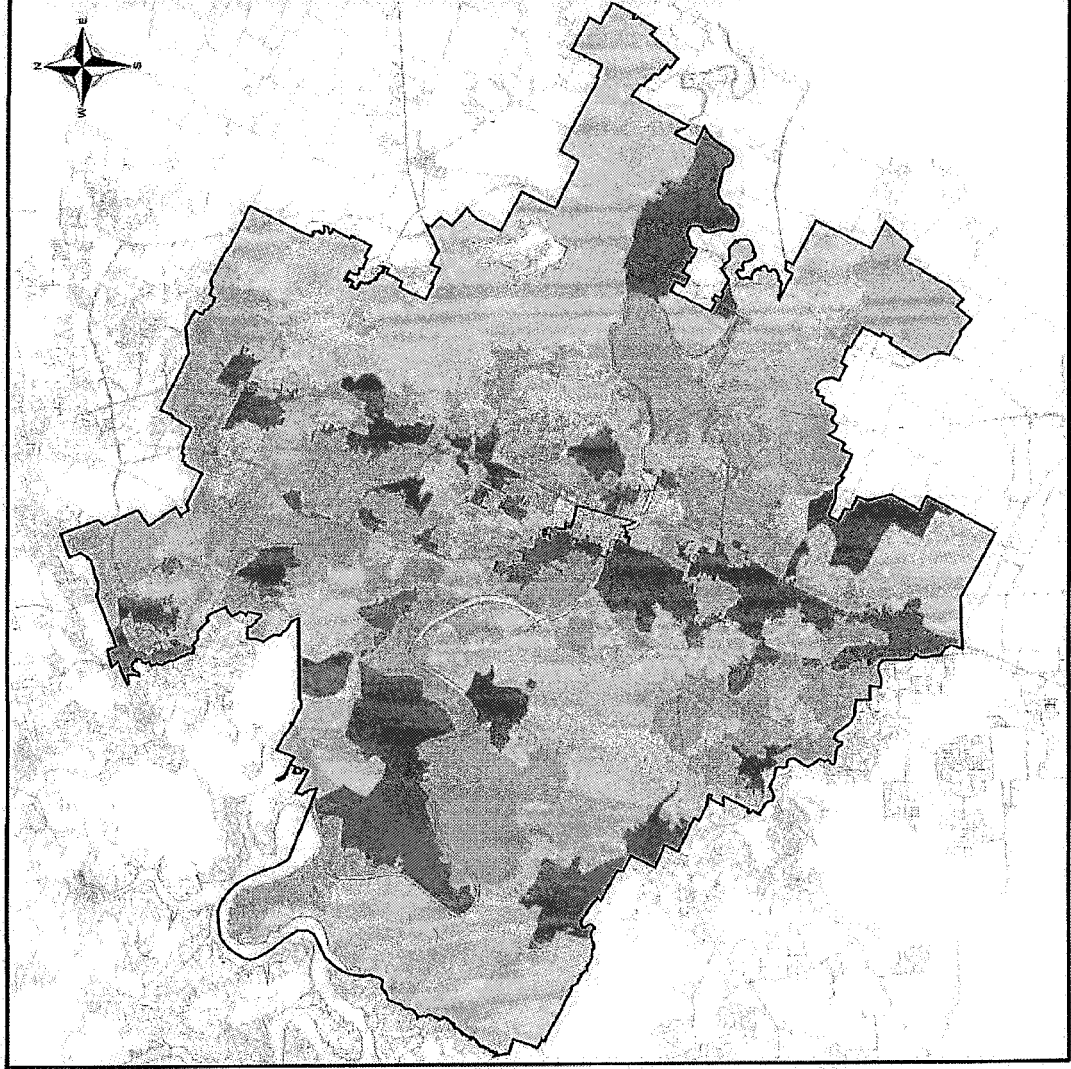




Austin Energy Distribution Circuits

Attachment 6

AE Distribution Circuits
Used for Load Reduction
February 2, 2011



Load Shed Circuits

Industrial Circuits

Critical Load Circuits

Under Frequency Circuits

Network

Austin Energy Service Area

Street Centerline

Note: Circuit areas are approximate boundaries.

0 mile 2 mile 4 mile 5 mile



02/03/2011

This map has been produced by Austin Energy for the sole purpose of geographic reference. No warranty is made by the City of Austin regarding specific accuracy or completeness.





Austin Downtown Network

- Serves Central Business District, State Capitol Complex and portions of West Campus
- Multiple circuits that backup each other
- Redundancy is automatic, not controlled remotely
- Dropping a circuit would not result in load reduction due to redundancy
- Dropping circuits could potentially cause overloading and damage to facilities





Health and Safety Critical Loads

- Defined as those benefiting public safety, security and health
 - Hospitals, inpatient treatment and surgery centers with overnight facilities
 - Licensed eldercare nursing facilities, dialysis facilities, residential hospice
 - Water and sewage treatment facilities
 - Airport
 - Public safety, military, detention facilities, 911 & 311
 - Media broadcasting facilities





Outages larger and longer than planned

- AE Plan based on 1,000 MW system wide load shed, 40 MW for AE
- ERCOT rapidly increased load shedding requirement to 4,000 MW system wide, 160 MW for AE
 - Duration of rolling blackout intervals increased to 30-45 minutes
 - Included up to 40 circuits at a time to meet ERCOT obligations
- Power outages also occurred outside load shed operation





Customers Responded

- About 45 commercial & industrial customers responded to AE's appeal for conservation on behalf of ERCOT
- AE staff in constant contact with 500+ customers to encourage load conservation and provide updates including:
 - State and local agencies
 - School districts (8), local colleges and universities
 - Hospitals
 - Industrial facilities
 - Large residential retirement communities
- AE staff expanded communications to include small businesses, national retail and social service non-profits





Austin Energy Power Plants Performed

- Austin Energy planned for the weather
- Outage crews were ready
- Some weather impact on AE units
 - 400 MW unit producing 90 MW tripped off line at 1:04 a.m. and was back online at 2:14 a.m. prior to rolling blackouts
 - 50 MW unit tripped at 8:53 a.m. and 11:17 a.m. and was running consistently by 12:54 p.m.
 - 25 MW unit failed to start at 4 a.m. and was online at 2:33 p.m.
- AE switched from gas to oil in a 325 MW Decker unit to mitigate potential gas supply issues





Next Steps: Evaluate process and identify improvements

- Assessment and lessons learned
- Policies and load shed plan
 - Voluntary load shedding
- Communications procedures
 - Reverse 911 calls
- Other alternatives
 - Educating the public

