

## Storm Response



### ■ Presentation Outline

- I. Storm Recap
- II. Timeline of Actions
- III. Austin Energy Key Questions
- IV. Commendable Efforts
- V. Areas for Improvement
- VI. Communication Plan

May 18, 2006

2

## Storm Recap



- Four separate widespread storms directly hit the area Thursday, Friday, Saturday, and Sunday (May 4, 2006 – May 7, 2006).
- Winds between 20 – 74 mph
  - Category 1 Hurricane force winds
- Five inches of rainfall over four days

May 18, 2006

3

## Storm Response: Timeline of Actions



### ▫ Thursday, May 4th

- 5:00 pm Storms Developing west/northwest of the City; moving west**
- 5:15 pm Austin Energy (AE) begins to monitor storm track
- 6:00 pm Office of Emergency Management (OEM) & Flood Early Warning System (FEWS) begin remote monitoring of track and forecast

May 18, 2006

4

## Thursday, May 4<sup>th</sup> (cont.)



- 8:30 pm - AE Energy Control Center (ECC) contacts Impact Weather Service for update – notified storms could be in the area within 2-3 hours
  - AE begins to coordinate line crews at service centers
- 9:00 pm OEM and FEWS personnel begin pre-planning activation of Emergency Operation Center (EOC)
- 9:30 pm **Storm shifted west/southwest and directly enter the City – wind gust of 74 mph (Category I Hurricane force winds: 74-95 mph)**

May 18, 2006

5

## Thursday, May 4<sup>th</sup> (cont.)



- 9:30 pm Public Works – (8) Street and Bridge 2-person crews on standby for tree and debris removal
- 10:00 pm **Immediate storm impact – 52,000 customers lose power due to 23 feeder breaker lock outs impacted by down wires, transformer and fuse outages**
  - AE mobilizes and dispatches crews:
    - 17 Restoration Crews (40 persons)
    - 8 Contract Tree Trimming Crews
    - 4 System Patrollers
  - FEWS personnel begin to close low water crossings
  - Public Works begins tree and debris removal from roadways

May 18, 2006

6

## Thursday, May 4<sup>th</sup> (cont.)



10:30 pm EOC fully activated – Public Safety, Public Works, Austin Energy, Parks, Watershed, and Travis County Sheriff's Office

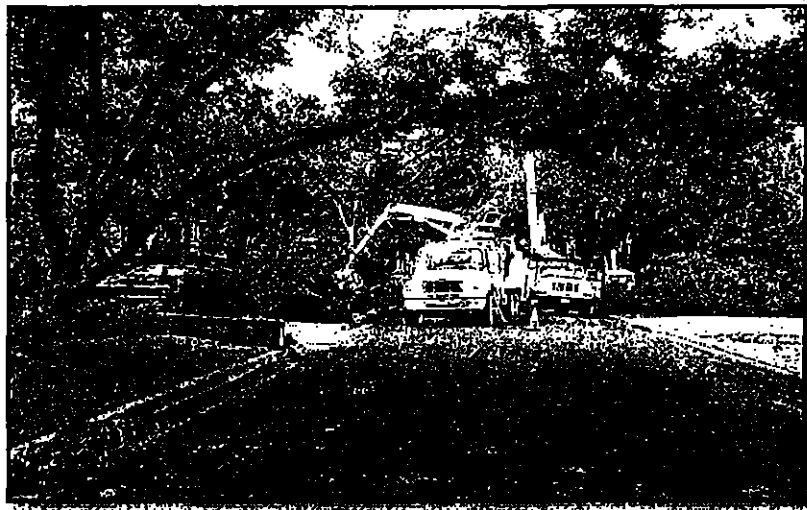
- Fire and EMS experience very high call volume – mostly down trees and power lines
- (4) Park Forestry crews begin tree and debris removal from roadways and City facilities; including assistance to Public Works
- AE plotting all power outages and down wires/trees for restoration planning efforts

**Heavy rain and sustained winds of 30mph – 55mph continue**

May 18, 2006

7

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May 18, 2006

8

## Friday, May 5th



12:00 am All work Crews and Public Safety responders continue efforts. Power restored to approximately 10,000 customers

AFD requests standby assistance from Travis County Fire Responders due to call volume. In addition to tree and power lines down calls for service, AFD responded to a 2-alarm apartment fire and a single family structure fire simultaneously; these two incidents required response by 16 units (pumpers and ladders)

May 18, 2006

9

## Friday, May 5<sup>th</sup> (cont.)



1:00 am OEM personnel begin to plot all reported debris and down trees for unified (Parks, Solid Waste Services, Public Works) removal planning efforts

3:00 am AE issued media release estimating power to be restored to ALL customers by Friday evening

7:00 am All 23 Feeder breaker lockouts repaired; power restored to additional 18,000 customers. Over 400 work orders remain outstanding (*final work orders completed: 2,300*); approximately 16,000 remain without power. AE crews assessing each work order.

May 18, 2006

10

## Friday, May 5<sup>th</sup> (cont.)



7:00 am - AE Restoration personnel:

(cont.)      20 Restoration crews (48 persons)  
              4 Contract Repair Crews  
              14 Contract Tree Trimming Crews  
              4 Patrollers

- Debris Removal Task Force begins citywide damage assessment

- Debris and Tree Removal personnel:

              33 Parks Crews (69 persons)  
              40 Public Works Crews (100 persons)  
              10 Solid Waste Services Crews (48 persons)

May 18, 2006

11



May 18, 2006

12

## Storm Response



- *AE and Parks crews worked 24 hours through Monday afternoon*
- *Public Works crews worked straight through the first 24 hours of the storm response and then 12 hour days from Saturday through Monday*
- *Solid Waste Services worked 12 hour days from Friday through Tuesday*

May 18, 2006

13

## Friday, May 5<sup>th</sup> (cont.)



- 2:00 pm Debris Removal Task Force develops coordinated strategy for tree and debris removal
- 300 trees were down or damaged at Jimmy Clay/Roy Kaiser Municipal Golf Courses...City hosting State High School golf championships tournaments scheduled to begin Monday at same golf course
- 3:00 pm - AE Restoration crews expanded:
- + 12 Restoration crews / Total 32 crews
  - + 5 Contract Tree Trimming Crews / Total 18 crews
  - + 8 Patrollers / Total 12 crews
- Contract Repair crews maintained at 4 crews
- AE issues media release estimating power to be restored to ALL customers by 8:00pm Saturday

May 18, 2006

14

## Friday, May 5<sup>th</sup> (cont.)



- 4:00 pm OEM issues media release on information regarding tree and debris removal efforts and guidelines to ensure expedited removal
- 10:00 pm AE determines significant individual infrastructure repairs at multiple locations; e.g. tree on wires, down poles, failed transformers, etc. Many worksites not accessible by repair trucks and require manual repairs, i.e. locate all necessary tools and equipment on ground, climb poles, use ladders, etc.  
AE request assistance from CenterPoint Energy (Houston) from existing mutual assistance agreement
- 11:00 pm AE issues media release estimating power to be restored to ALL customers by Sunday evening

May 18, 2006

15

## Saturday, May 6<sup>th</sup>



### 12:00 am Storms developing to the north of the City

- OEM and FEWS report to EOC to monitor storm; agencies placed on stand by for EOC activation
- AE monitoring storm from ECC
- AE updates map of outage and damage areas
- AE develops coordinated work plan for CenterPoint restoration efforts
- At this time approximately 13,000 customers remain without power

May 18, 2006

16



## Saturday, May 6<sup>th</sup> (cont.)



1:00 am Crews required to stand down for safety reasons due to impending storm

2:00 am **Second storm hits the area – heavy rainfall and winds over 20 mph**

**Additional 3,000 customers lose power**

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May 18, 2006

17

## Saturday, May 6<sup>th</sup> (cont.)



7:00 am All crews remain deployed:

AE Restoration Teams

32 Restoration Crews

4 Contract Crews

32 Contract Tree Trimming Crews

12 Patrollers

Debris and Tree Removal Crews

12 Parks Crews

20 Public Works Crews

16 Solid Waste Services Crews

- At this time 15,000 customers remain without power (increased from midnight)

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May 18, 2006

18

## Saturday, May 6<sup>th</sup> (cont.)



- 12:30 pm CenterPoint Energy mutual assistance arrive -  
deployed to Tarrytown and Pemberton areas  
15 Restoration Crews (45 persons)  
4 Patrollers  
2 Superintendents  
Trucks & Equipment  
CenterPoint Energy crews +12 hours work days until 10:00 pm
- 7:00 pm At this time approximately 9,000 customers remain without power
- 7:30 pm **Third storm hits the area – limited duration, however, heavy rainfall and strong winds**  
**Additional 2,300 customers lose power**

May 18, 2006

19

## Sunday May 7<sup>th</sup>



- 12:00 am Updated maps of outage and damage areas
- 7:00 am - All crews remain deployed:  
AE Restoration Teams  
40 Restoration Crews (inc. of 8 crews)  
4 Contract Crews  
32 Contract Tree Trimming Crews  
12 Patrollers  
CenterPoint Energy  
15 Crews  
Debris and Tree Removal Crews  
10 Parks Crews  
10 Public Works Crews  
No Solid Waste debris removal crews assigned on Sunday  
- At this 3,500 customers remain without power

May 18, 2006

20



May 18, 2006

21

## Sunday May 7<sup>th</sup> (cont.)



- 12:00 pm At this time, 1,900 customers remain without power. Media notified that AE will determine estimated time for full restoration at 4:00 pm
- 3:00 pm - Reverse 9-1-1 notifying all homes in remaining affected area of special garbage pickup for spoiled foods  
- Media release issued regarding special garbage pickup
- 4:30 pm Solid Waste Services begins special garbage pickup; all routes were covered twice

May 18, 2006

22

## Sunday May 7<sup>th</sup> (cont.)



- 5:00 pm Debris and Tree Removal Crews end emergency 24 hour work schedule
- 7:00 pm AE has press conference reviewing current status, recap of efforts, and estimated times for completion
- 9:00 pm At this time, approximately 700 customers remain without power; estimate complete restoration by noon Monday. AE begins to call ALL customers that have reported an outage to confirm power has been restored or additional work is required.

May 18, 2006

23

## Monday, May 8<sup>th</sup>



- 1:00 am **4<sup>th</sup> thunderstorm moves into area; limited duration of heavy rainfall and winds up to 24 mph**  
Additional 2,100 customers lose power due to circuit failure; circuit and power restored within one hour
- 7:00 am - All crews remain deployed:
  - AE Restoration Teams
    - 40 Restoration Crews (inc. of 8 crews)
    - 4 Contract Crews
    - 32 Contract Tree Trimming Crews
  - CenterPoint Energy
    - 15 Crews
  - Debris and Tree Removal
    - 12 Parks Crews
    - 8 Public Work Crews
    - 4 Solid Waste Services Crews

May 18, 2006

24

## Monday, May 8<sup>th</sup> (cont.)



2:00 pm Less than 100 customers remain without power

CenterPoint Energy crew released

5:00 pm Power restored to all customers

AE contacts all customers to confirm power restoration

May 18, 2006

25

## Austin Energy Key Questions



- Why did it take so long to restore power to all customers?
  - First storm immediately resulted in lost power to 52,000 customers due to feeder breaker lockouts, down wires, broken poles, failed transformers and fuse outages
  - Severe system damage – e.g. new poles, restring power lines, replace transformers, etc
  - Full restoration required repairs to over 2,000 individual locations
  - Tree and limb removal prior to actual power restoration efforts
  - Efforts were regularly delayed / temporarily stopped due to three additional storms. New storms increased infrastructure damage, and increased number of customers losing power
  - Many locations not accessible to work trucks

May 18, 2006

26

## Austin Energy Key Questions



- What is the mutual assistance program?
  - Network of utilities primarily in Texas
  - The primary objectives of the group
    - To facilitate effective response when an entity needs to call on others for assistance
    - Review events, response efforts and share lessons learned, best practices and develop a network to facilitate actual response
  - Participated in the network for 10 years and have had formal mutual assistance agreements in place

May 18, 2006

27

## Austin Energy Key Questions



- What is the methodology for determining restoration work sequence?
  - Priority to immediate Public Health & Safety facilities
  - Very large manufacturing and commercial facilities
  - Repair power distribution main lines with the highest number of impacted customers
  - Repair fuses with the highest number of impacted customers
  - Repair transformers with the highest number of impacted customers
  - Repair single meters and individual service connections

May 18, 2006

28

## Austin Energy Key Questions



- What is the status of the tree trimming program?
  - Austin Energy has received from the Land Use and Transportation Subcommittee the recommendations of the Tree Task Force
  - Austin Energy has implemented or agrees to implement several of the recommendations
  - Other recommendations require further time to study and analyze costs.
  - Austin Energy will report back through the Land Use and Transportation Subcommittee to the City Council.

May 18, 2006

29

## Commendable Efforts



- Technical, operational response was solid
  - Hard-working personnel
  - Dedicated employees working in dangerous environment
  - Professional and industrious personnel facing very difficult operating conditions ensured thorough, accurate and safe restoration and removal efforts
  - Focused on citizen safety, customer service and minimizing disruption to community
  - Coordinated and strategic planning efforts resulted in efficient and effective operations.
  - All agencies engaged in on-going communications.

May 18, 2006

30

## Commendable Efforts



- ❑ Maintained updated and accurate data on incident status, resource deployment, workload and damage assessment within the Austin Energy - Energy Control Center (ECC) and the City Emergency Operations Center (EOC)
- ❑ Previous planning efforts and systems in place to ensure a prompt, effective and efficient operational response
- ❑ Previously established participation (10 years) in the Texas Mutual Assistance Group provided a systematic and establish process to readily request and receive assistance for power restoration
- ❑ Previous cross-training efforts
- ❑ Constant communication to the media

May 18, 2006

31

## Areas for Improvement and Enhancements



Communication

Outside Resource Assistance

May 18, 2006

32



## **1. Customers should have been provided specific information**



### **■ Enhancements**

- A team of call center supervisors will be assigned to ECC
- Customer service representatives will have access to expanded and specific customer information
- Media release will include neighborhood updates

### **■ Future Enhancements**

- GIS Mobility Project
- Interactive Voice Response System

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May 18, 2006

33

## **2. Call center staffing level further maximized**



### **■ Enhancements**

- Contract for customer service representatives will be expanded

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May 18, 2006

34

### 3. Limited means of communication due to power outage



#### ■ Enhancements

- Outreach Teams made up of staff, volunteers, and neighborhood representatives
  - Functions:
    - Door to Door information distribution
    - Good will Teams
    - Neighborhood 'Town Hall' meeting locations
    - Distribute information in high traffic neighborhood areas, i.e. grocery stores, shops, etc.

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May 18, 2006

35

### 3. Limited means of communication due to power outage (cont.)



- CodeRed – Emergency Notification System
- Roadway Signs
- Community Registry Database – Neighborhood Association Presidents
- Web site

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May 18, 2006

36

#### 4. Outside assistance should have been initiated sooner



##### ■ Enhancements

- Patrollers - staff will be increased to expedite damage assessment and deploy crews
- Situational Analysis Team – staff and role will be expanded; direct access to all field and technical data

May 18, 2006

37

