



Control Number: 32182



Item Number: 16

Addendum StartPage: 0



RECEIVED

2006 JAN 19 PM 1:48

PUBLIC UTILITY COMMISSION
FILING CLERK

1005 Congress Avenue,
Suite 650
Austin, TX 78701
CenterPointEnergy.com

January 19, 2006

David Featherston
Director, Infrastructure Reliability Division
Public Utility Commission of Texas
1701 N. Congress Ave.
Austin, Texas 78701

RE: Project No. 32182 – *PUC Investigation of Methods to Improve Electric and Telecom Infrastructure that will Minimize Long Term Outages and Restoration Costs Associated with Gulf Coast Hurricanes*

Presentation for Workshop No. 2

Dear Mr. Featherston:

CenterPoint Energy Houston Electric, LLC (CenterPoint Energy) made the attached presentation at Workshop No. 2 held on January 18, 2006.

Thank you for your attention to this matter.

Yours truly,

A handwritten signature in dark ink, appearing to read "DeAnn T. Walker". The signature is fluid and cursive, with the first name "DeAnn" being more prominent.

DeAnn T. Walker
Senior Counsel

Hurricane Rita After Action Review

Presentation for PUC Workshop 1: Recap of Storm Damages & Restoration Efforts and Planned Changes due to Lessons Learned

January 17, 2006



Hurricane Rita Summary – Outages and damaged equipment on the CNP electric distribution system were substantial



Outage Summary	
Customers Out of Service (6:00 AM Sat, Sept 24)	718,995
Total # Circuits Locked Out	639
Partial Circuits Locked Out	145
Fuses Blown	3,066
Transformer Outages	1,755
L Level Outage Cases	1,399

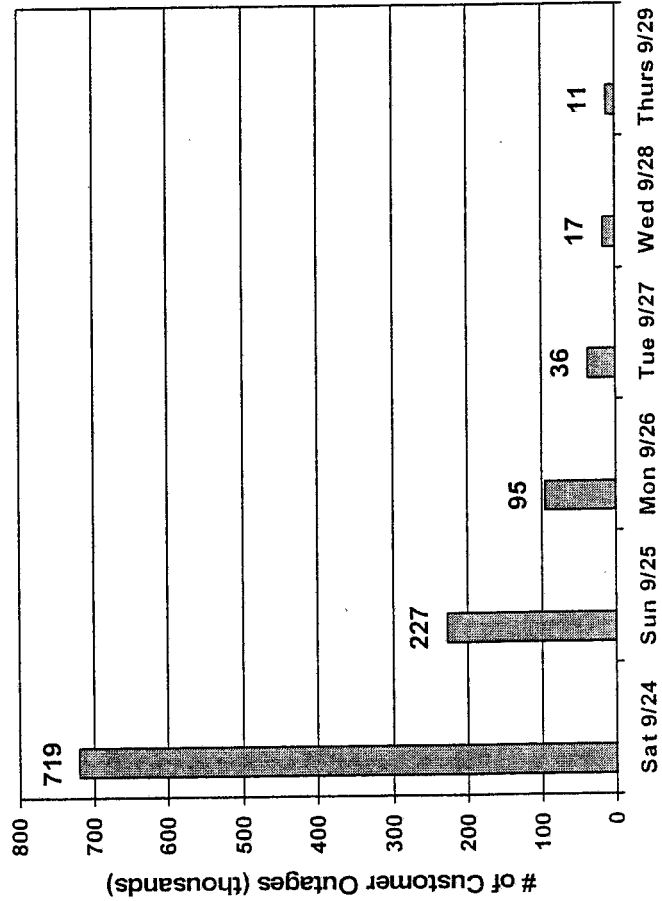
Damage Summary	
Spans of OH Primary Down	878
Spans of OH Secondary Down	1,069
Drops Down	1,044
Poles Down	222
Failed OH Transformers	223
Failed URD Transformers	43
Failed Disconnects	156

Source: Data as per OAS

Restoration Facts – CNP responded quickly with power restored to essentially all customers within 5 days

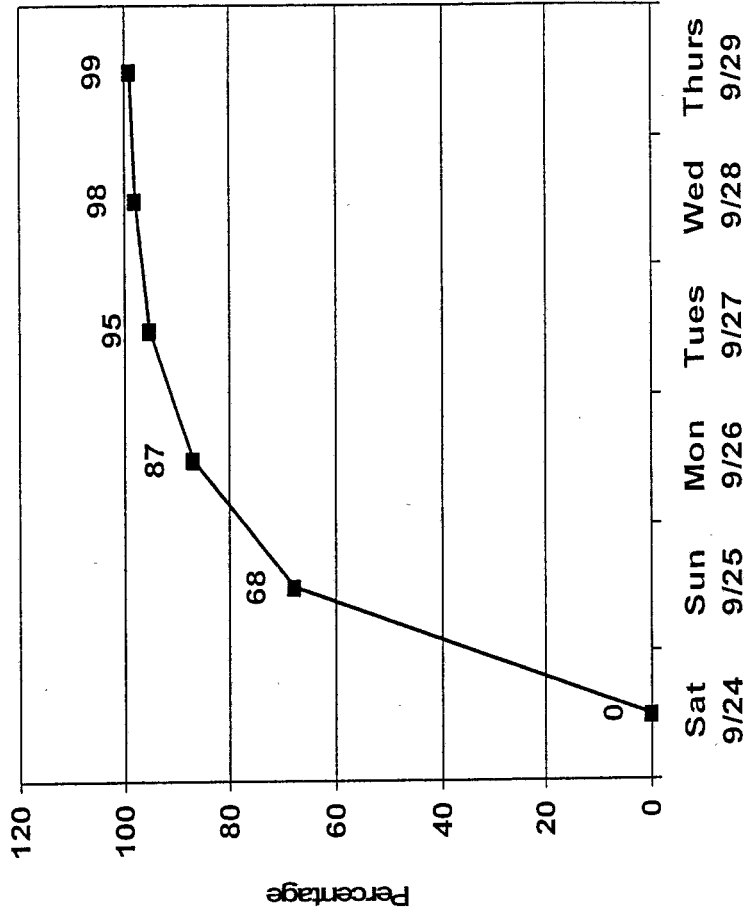
- Approximately 38% of customers were without power as a result of Rita
- Power was restored to 68% of customers within a day and to 95% of customers within 3 days

Simultaneous Customer Outages



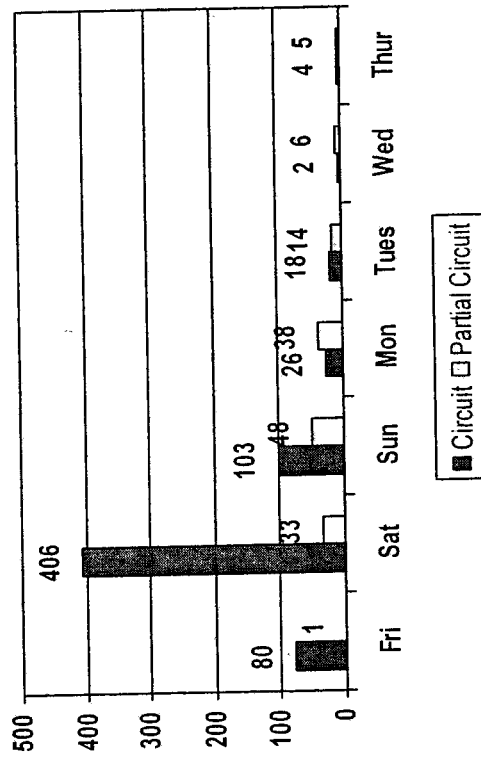
Note: Saturday Customer Outage Count was @ 6:00 am
Sunday -- Thursday was @ 7:00 am

% of Customers Restored

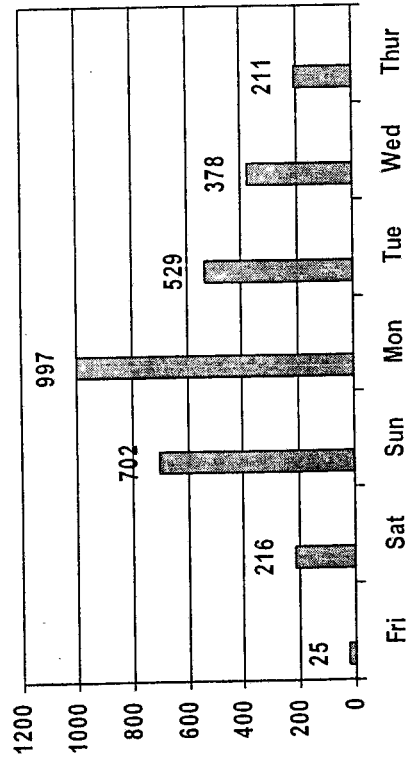


Restoration Facts – the charts below demonstrate CNP's strategy to restore: 1) circuits 2) fuses 3) transformers & 4) L level outages, in that order of priority

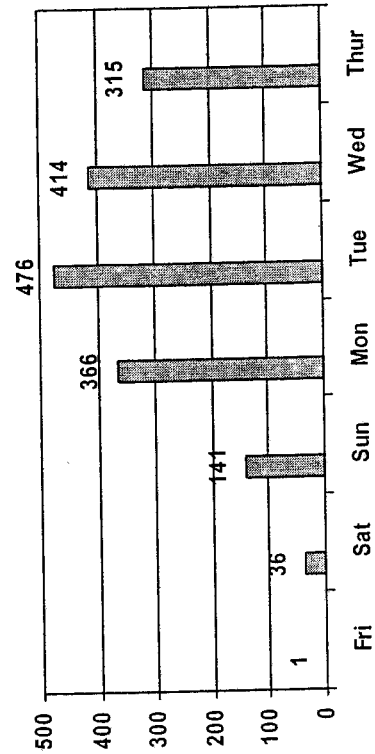
Circuits (639 Total) & Partial Circuits (145 Total) Restored



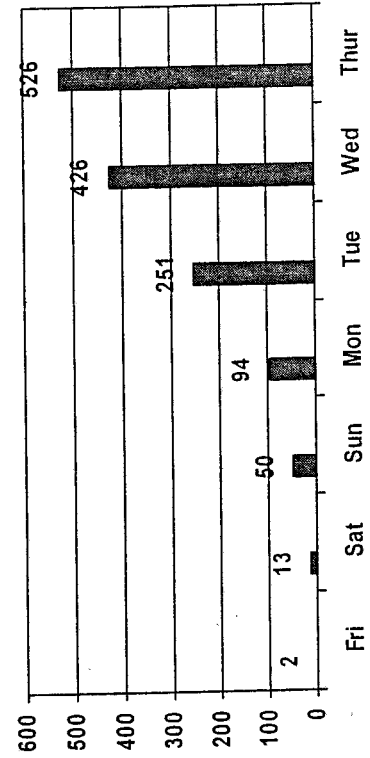
Fuses Restored - (3066 Total)



Transformers Restored - (1755 Total)



L Level Outage Cases Restored - (1399 Total)



The AAR Process

- **What is an After Action Review?**
 - A process to systematically and quickly identify improvement opportunities
 - A proven methodology developed by the US Army 20 years ago, refined by APQC & CNP to fit our needs
 - Consists of facilitated group meetings designed to identify differences between planned and actual performance and lessons learned for the next situation
 - CNP has performed an AAR after big storms for about 3 years
- **Why conduct an AAR for Rita?**
 - First test of EOP in many years
 - Want to identify improvements for the EOP

The AAR Process – a detailed and disciplined process was followed and involved many participants from across the company

- An AAR design workshop was held to organize the effort
 - 19 Functional teams (257 members) were identified and recruited (Appendix pp. 20,21)
 - 8 EOP Process Classifications were developed (Below right)
 - Facilitation teams (process expert, facilitator and recorder) were selected with 8-18 participants per team
- All Facilitation Teams trained on AAR process and tools for consistency
- 5 Executives were interviewed to determine lessons learned and recommendations

AAR Meeting Process

Teams answered the following questions for their functional areas considering each EOP process classification:

- *What was supposed to happen? (Plan)*
 - *What actually happened? (Actual)*
 - *Why were there differences? (Gap)*
 - *What can we learn? (Lessons Learned)*
- CNP specific questions:
- *What are your recommendations?*
 - *How would this change under a "worst storm" scenario?*

EOP Process Classification

1. Pre –Work (prior to Hurricane Season)
2. Monitoring (from threat until EOP activated)
3. Storm Activating (from EOP activation until storm response)
4. Resource Mobilization
5. Allocating Resources
6. Utilization of Resources
7. Deceleration of Resources
8. Closing/ Results

AAR Process - Functional Teams

Abbr.	Functional Area	Includes...
Call	Call Center	Call center
Con	Contractors	Contractors, Mutual Assistance, Tree Trimming
D	Dispatching	Dispatching - central or local dispatching issues and RTO (distribution)
Fi	Finance	Accounting, treasury, AP, AR
Gov/Com	Governance/Communications	Conference calls, storm phone, news media, priority customers, emergency care, evaluation centers, communications during storm, when to report, no shows, key personnel.
HR	HR/ Employee Training and Communication/ Employee assistance, Evacuations	Child care, employee assistance, employee evacuation, admin decisions to send people home, communications to employees, EOP roster
IT	IT	Info systems, OIS, GIS, Mobile data, Reporting systems, outage communication tool
L	Logistics/Facilities Management	Catering, lodging, ice, hotels, travel; facilities management, cots, trash
M	Material	Material, material depots, material handling
MUG	Major Underground	Major underground
O	Operations	Ops East, Ops West (Service Centers)
P	Patrols	Patrols, SDS, inspections, reports
Reg	Regulatory	Government, PUC, City of Houston, ERCOT,
Sa	Safety/Security	Safety, security
Sp	Spokespersons and crew guides	Spokespersons and crew guides
St	Staging sites, depot set up (and decisions around this)	Set up, decisions, organization
Sup	Distribution Support, Fleet, Environmental	Fleet and other support, GIS, Environmental, Gasoline Transmission, Substation, RTO (transmission), Energy interconnection
TS	Transmission/Substation	

The AAR Process – each team's deliverable was a series of Lessons Learned and Recommendations for their functional area

Illustrative Example of Team Deliverable

HURRICANE RITA AAR RECOMMENDATIONS

Lesson Learned: The Regulatory EOP should be reviewed and revised periodically to incorporate required changes that reflect electric industry restructuring and other requirements of regulatory/government stakeholders.

Priority: High

Referred to another team: No

Process Step: 1.1 EOP Manual Maintenance

Source Team: Regulatory

Recorder: Debbie Smith

Process Expert: Doug White

Differences between Planned and Actual Outcome:

The EOP plan did not address certain roles and assignments and procedures for all stakeholders (e.g. ERCOT, CRs). The EOP was not updated to incorporate changes due to electric industry restructuring.

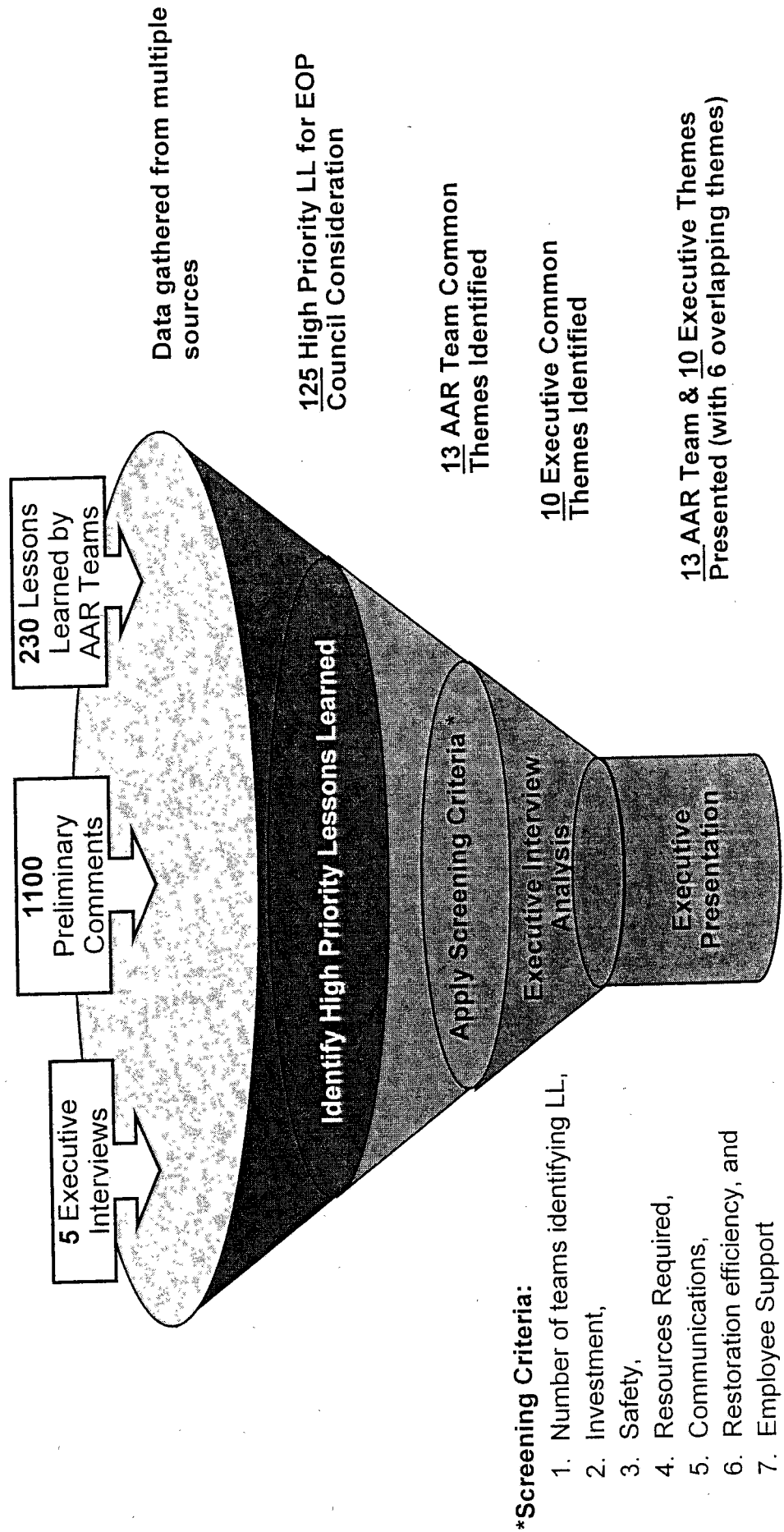
Recommended Actions:

- Update the Regulatory & Government EOP Plan to reflect required changes and stakeholders that resulted from deregulated electric markets (CR issues, ERCOT etc).
- Update the EOP to include the Governors Office (Tiger Team) communications plan.
- Update the EOP to incorporate the CR/ ERCOT transaction process that covers meter reading, usage estimation, estimation changes, staffing for error logs and settlement issues.
- The EOP needs to address how restoration from a CR perspective is addressed. Also need to develop procedures when a CR does not cooperate with our requests during an EOP event.

Modifications Needed Under "Worse Storm" Scenario:

- EOP to incorporate plans for liaisons to be on site at appropriate stakeholder locations (ERCOT, PUC, Governors Tiger Team) in the event of communication breakdowns.
- The EOP and Disaster Recovery and Business Continuation plan need to be linked

Lessons Learned & Recommendations Summary – screening criteria were applied to identify common themes for executive presentation and EOP implementation priority



Key Lessons Learned & Recommendations- although the AAR process focused on identifying improvements, there were many positive aspects of our EOP operation

- Power was restored to 68% of customers within 1 day, 95% of customers within 3 days and 99% (essentially all customers) within 5 days ahead of schedule
- All EOP evaluation centers and service center war rooms were quickly set up and activated
- EOP timeline provided guidelines for effective execution
- Executives made positive rapid adjustments to changing conditions
- Food and gasoline were made available to CNP when almost no one in Houston had them
- The restoration process was followed and was very effective
- New tools were utilized for the first time to better help us plan and visualize system status
- Outstanding safety record, no vehicle or lost time accidents
- Remobilized forces on the heels of working in Florida and with Katrina evacuees

Key Lessons Learned & Recommendations - AAR Team

- 1. Update EOP Manual to address new functions and requirements**
 - Add sections for: Call Center, Environmental, Safety, Retail Transactions
- 2. Create a web-based EOP Roster system and improve roster assignment process to align with skills**
- 3. Clarify and reinforce communications on EOP assignments to employees**
 - Define essential employees and improve Storm Hotline
- 4. Enhance EOP training and drills and require mandatory attendance**
 - Train employees for multiple roles
- 5. Incorporate storm levels and evacuation plans into the EOP**
 - Assess actual vs. planned storm level and modify response
- 6. Establish a central database to manage and track logistics support, mutual assistance, contractors and employees**
- 7. Review, revise and enforce conference call protocols**
 - Focus calls on executive decisions and action items

Key Lessons Learned & Recommendations - AAR Team

- 8. Improve coordination and provision of base logistics services**
 - Establish multiple vendors and P&L to coordinate and clarify contract requirements
- 9. Establish a consistent and accurate process to communicate estimated on time (EOT)**
- 10. Reevaluate the EOP activation timeline and adjust trigger points as appropriate to allow adequate time for certain low cost preparation (staging) activities**
- 11. Communicate accurate information on priority restorations of critical customers to all parties through a common system and/or process**
- 12. Evaluate and improve material storm kitting process**
 - Evaluate & select material, packaging alternatives, and package and deliver in advance
- 13. Develop a comprehensive (gas & electric) EOP to address common logistics support and avoid duplication of efforts**

Executive Interviews – the common themes and recommendations expressed by the executives will be incorporated in the action plan developed by the EOP Council

1. Modify the EOP to allow flexibility depending on the severity of the storm
 - Modify vendor contracts to include escape clauses and incorporate employee evacuation plans
2. Clarify EOP Roster & Assignments
 - Define “essential employee” and better utilize corporate resources
3. Update and Brief executives annually on the EOP
 - Require Executive approval of EOP changes
4. Update the EOP drills to reflect the new reality
5. Revise Logistics planning to accommodate evacuations and competing efforts
 - Engage multiple vendors, address hotel accommodations and acquire supplies for 3 day stand alone capability
6. Evaluate and identify optimum facility locations for the command center post and dispatching that considers impact of major storm

 = Executive Themes that were also identified by the AAR Review Teams

Executive Interviews – (continued)

7. Develop executive level reporting metrics and process to closely track restoration efforts
8. Consider developing a backup communications tower
9. Evaluate alternatives for “hardening” the system to make it less vulnerable to storm
 - Form a team to evaluate poles, tree trimming, underground and distribution automation
10. Work with the Cities/Counties to shape communications and mitigate negative public perception
 - Corporate Communications, Regulatory and Government Affairs to develop an EOP communications plan

Worse Storm Scenario Parameters

Worse Storm Scenario Parameters

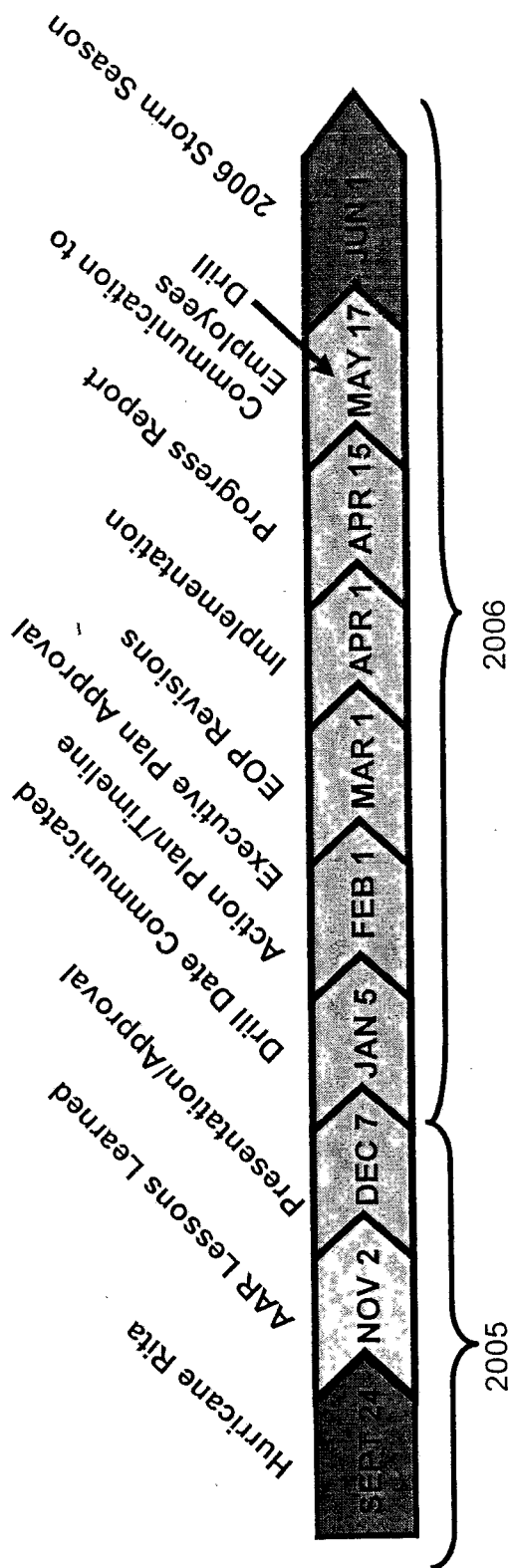
- Limited or no cell phone communications
- No LAN
- 10,000 outside contractors required
- 1.5 million customers without power
- 4000 poles down
- Local service providers without power
- Extensive surge damage in Galveston, Brazosport, South Houston and Baytown

Worse Storm Scenario Considerations – the AAR teams also considered recommendations associated with a Worse Storm scenario

Key Considerations For Worse Storm Parameters (see Appendix p. 26)

1. Plan for executive communications to operations and other employees, including communication options based on limited phones, cells, email, etc.
2. Train people at S/C's, Staging Sites, Logistics, etc. well enough to operate autonomously and empower them to proceed accordingly if no communications are possible.
3. Provide additional security at the S/C's.
4. Develop alternatives for housing to account for hotels that will not survive, which will create a bigger shortage of shelter for foreign crews.
5. Create plan to shelter employees whose homes sustain significant damage.
6. Identify critical "support" customers in our area for service restoration because will have a greater need for vendors/contractors outside of the service area.
7. Implement plan for S/C's to be self sufficient for food and water, including alternatives for meals, MRE's, etc.
8. Consider plan to develop enough qualified EOP roster people or material for all depots & 3-5 staging sites.

Next Steps & Timeline



EOP Council Action Plan

- Organize Working Teams (EOP Council)
- Assign lessons learned to responsible council member (EOP Council)
- Validate recommendations (Individual EOP teams)
- Perform economic analysis as required (Individual EOP Teams)
- Gain Executive approval