

**BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

**In re: Petition for Approval of Storm  
Cost Recovery Clause for Extraordinary  
Expenditures Related to Hurricanes  
Charley, Frances, Jeanne, and Ivan**

DOCKET NO. 041272-EI  
Submitted for filing: November 24, 2004

**DIRECT TESTIMONY  
OF DAVID MCDONALD  
  
ON BEHALF OF  
PROGRESS ENERGY FLORIDA**

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IN RE: PROGRESS ENERGY FLORIDA, INC.'S PETITION  
FOR APPROVAL OF STORM COST RECOVERY CLAUSE FOR  
EXTRAORDINARY EXPENDITURES RELATED TO HURRICANES  
CHARLEY, FRANCES, JEANNE, AND IVAN.

DIRECT TESTIMONY OF DAVID MCDONALD

I. INTRODUCTION AND QUALIFICATIONS

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**Q. Please state your name, employer, and business address.**

**A.** My name is David McDonald. I am employed by Progress Energy Florida, Inc. (“PEF” or the “Company”). My business address is 100 Central Avenue, St. Petersburg, Florida.

**Q. Please tell us your position with Progress Energy Florida, Inc., and describe your duties and responsibilities in that position.**

**A.** I am the Director of Distribution Asset Management in PEF’s Energy Delivery Business Operations. I direct and manage the engineering personnel and program coordinators responsible for engineering complex relocation and infrastructure expansion work requests for the entire PEF system.

I am also the Storm Coordinator for PEF’s distribution system. Sarah Rogers is the Company’s Transmission System Coordinator, which is the Storm Coordinator position for transmission, and she will be providing testimony in this proceeding describing the Company’s transmission storm plan and the execution of that plan for Hurricanes Charley, Frances, Ivan, and Jeanne. My testimony describes the

1 Company's storm plan for its distribution system and how it was executed during the  
2 extraordinary circumstances of four back-to-back hurricanes in August and  
3 September 2004.  
4

5 **Q. Please summarize your educational background and employment experience.**

6 **A.** I have a Bachelor of Science in Electrical Engineering from the University of  
7 Kentucky in 1984. I am PEF's Director of Distribution Asset Management and Storm  
8 Coordinator. I personally participated in the discussions reviewing the storm plan  
9 following each storm to improve the plan for subsequent storms should they strike  
10 PEF's service territory.

11 Prior to assuming my current roles for PEF, I was the Distribution Control  
12 Center Director, which focused on the operation of the distribution system grid and  
13 the coordination of PEF's nineteen (19) operating centers throughout its service  
14 territory. Earlier, I served as a Distribution Region General Manager for PEF and a  
15 Distribution Region Engineering Supervisor for Progress Energy in the Carolinas.  
16 Prior to joining Progress Energy in 1998, I held a number of supervisory and  
17 management positions for Florida Power & Light Company.  
18

19 **II. PURPOSE AND SUMMARY OF TESTIMONY**

20 **Q. What is the purpose of your testimony in this proceeding?**

21 **A.** I am testifying on behalf of PEF in support of recovery of the Company's storm-  
22 related costs due to Hurricanes Charley, Frances, Ivan, and Jeanne. The total storm-  
23 related costs to the Company are approximately \$366 million. I will discuss the

1 operation of the storm plan, which commences well before the storm strikes to  
2 prepare for its impact, continues through the storm as the Company responds to and  
3 recovers from the storm damage, and ends with the Company's attempts to identify  
4 and correct further storm damage that was not addressed during the restoration  
5 process but must be addressed to restore the distribution system as much as possible  
6 to its pre-storm condition. I will include the Company's goals and priorities as it  
7 prepares for, responds to, and recovers from the storm's impact on its distribution  
8 system.

9 I will also take each hurricane in the order that the four hurricanes struck  
10 PEF's service territory and describe the storm's intensity, path of destruction, and the  
11 damage to PEF's facilities in its service territory caused by each storm. I will further  
12 describe the Company's successful efforts at implementing its plan to respond to the  
13 storms and, ultimately, to restore electric service to its customers.

14  
15 **Q. Are you sponsoring any exhibits to your testimony?**

16 **A.** Yes. I am sponsoring the following exhibits to my testimony:

17 **DM-1 PEF's Distribution Storm Plan.**

18 **DM-2 Sample ETR's for Hurricane Frances.**

19 **DM-3 Example of Daily Goals for Each Hurricane.**

20 **DM-4 Wind Field Map of Hurricane Charley's Impact on PEF's Service**  
21 **Territory.**

22 **DM-5 Wind Field Map of Hurricane Frances' Impact on PEF's Service**  
23 **Territory.**

- 1            **DM-6            Wind Field Map of Hurricane Ivan’s Impact on PEF’s Service**
- 2                                 **Territory.**
- 3            **DM-7            Wind Field Map of Hurricane Jeanne’s Impact on PEF’s Service**
- 4                                 **Territory.**
- 5            **DM-8            Composite Exhibit of Pictures of Distribution Storm Damage.**

6            Each of these exhibits was prepared under my direction, and each is true and accurate.

7

8    **Q.       Please summarize your testimony.**

9    **A.**    The Company has a storm plan with centralized control of overall mobilization,  
 10        staging of crews, logistics support, and damage assessment. The plan defines key  
 11        roles and responsibilities of those who work in the storm center as well as those in  
 12        support roles. Our organizational structure and storm response plans allow our local  
 13        field offices to focus entirely on restoration of service and customer service.  
 14        The plan further represents the best practices of PEF and its sister company in the  
 15        Carolinas and, thus, incorporates the know-how gained in the Carolinas as a result of  
 16        more recent experience with hurricanes and ice storms there. The Company also  
 17        works on and drills on the plan in advance of storm season. As the storm season  
 18        approaches, implementation of the plan commences well before the impact of major  
 19        storms are felt on PEF’s service territory to adequately prepare to respond to them.  
 20        Advanced computer modeling tools are employed to predict the storm path, intensity  
 21        and damage in conjunction with an outside weather service. This is constantly  
 22        updated as the storm draws closer to have the most up-to-date information possible.  
 23        In advance of the storm, resource needs are identified and commitments are obtained,

1 logistical needs are planned and arrangements made, and material and equipment are  
2 obtained and readied to be deployed. All of this is accomplished in order to  
3 commence safe storm restoration efforts as soon as the storm passes.

4 Storm restoration begins with pre-established priority restoration work and  
5 damage assessment. The priorities are established as a cooperative effort with state  
6 and local government emergency relief personnel and to restore electric power to  
7 critical customers and the most customers as soon as possible. The damage  
8 assessment provides the information necessary to immediately direct crews to the  
9 areas that are in need of restoration work. This process is continued until all  
10 customers have been restored.

11 Our storm plan does not end with our restoration efforts. The goal of  
12 restoration is to get customers back in service as quickly as possible. After that is  
13 accomplished, we conduct sweeps of our system to identify storm damage that did not  
14 need to be addressed in order to restore service but nevertheless must be addressed to  
15 put the distribution system back in the condition it was in prior to the storms.

16 The impacts of Hurricanes Charley, Frances, Ivan, and Jeanne were  
17 devastating to customers in PEF's service territory. They presented unique  
18 challenges as PEF implemented its storm plan to prepare for, respond to, and recover  
19 from the four back-to-back hurricanes. Lessons were learned and incorporated into  
20 the storm plan as we moved from storm to storm. The greatest lesson learned,  
21 though, is that our storm plan works. It proved to be an effective and efficient tool to  
22 restore customer service as quickly as possible following the storms.

### III. THE COMPANY'S STORM PLAN

1  
2 **Q. Please provide a summary of PEF's storm plan and restoration process.**

3 **A.** Our restoration efforts from a hurricane or major storm begin months before the start  
4 of the storm season. We have developed a very comprehensive storm plan that  
5 incorporates the best practices from the restoration experiences of Progress Energy  
6 Carolinas, Inc. ("PEC"), PEF, and other industry leaders. This storm plan addresses  
7 three different phases of storm restoration response, varying response levels of our  
8 storm restoration model, and various roles that are necessary to support the storm  
9 restoration effort and effectively communicate to our customers the status of our  
10 efforts.

11 The different phases include pre-storm preparation, outage restoration, and  
12 distribution system restoration. Our pre-storm preparation begins as early as 120  
13 hours prior to projected landfall of the hurricane, and includes damage estimation,  
14 required resource supplementation, and supporting logistic needs. The outage  
15 restoration phase includes all the activities following the impact of the storm that  
16 restore service to all those customers capable of receiving it. The system restoration  
17 phase is where we restore our electrical infrastructure to its pre-hurricane condition.

18 There are four distinct levels of restoration response from a Level I model to a  
19 Level IV model. The difference in the response levels is driven by changes in the  
20 management of the restoration resources and the type of resources employed for the  
21 restoration. These varying levels determine the type of restoration effort that we must  
22 undertake to efficiently restore our system. The determination of the restoration level  
23 to establish is made by the storm management team as a result of modeling and

1 reviewing the damage assessment information. A level I response is our typical daily  
2 response under normal operating conditions. Using our outage management system  
3 as the damage assessment tool, and our own troublemen as our primary restoration  
4 resource, we restore outages under normal operating conditions based upon the  
5 hierarchy of the most customers affected by the interrupted device. Our highest level  
6 and most complex restoration process is our level IV response. This level is used  
7 when we encounter the most severe levels of devastation. It requires teams of  
8 damage assessors to identify and quantify the extent of damage and an extensive  
9 amount of off-system supplemental resources to aid in the restoration efforts.

10 Variations between a level I restoration and a level IV restoration are  
11 determined by the source of restoration resources, whether the Company is relying on  
12 resources from the same region where the work must be done, other regions of the  
13 Company, or outside resources, and who is managing those resources during the  
14 restoration process. The flexibility of the storm plan is that, for any given storm  
15 restoration effort, we may have a region that is operating within the Level IV model  
16 while another region is operating within a Level I model. This allows regions within  
17 the Company operating at a lower restoration level to release available resources for  
18 restoration work in regions operating at a higher restoration level.

19 Within the storm plan are a multitude of roles that facilitate an efficient  
20 restoration process. These roles are focused along four lines: (1) overall storm  
21 response; (2) operational response; (3) support response; and (4) customer response.  
22 The overall response deals with those functions that are responsible for managing all  
23 aspects of our restoration response. The operational response deals with those



1 functions that are focused on the actual restoration efforts. The support response  
2 concerns those functions that provide the necessary materials, equipment, supplies,  
3 and logistics to support the other functions. The customer response is focused on  
4 providing accurate and timely information to all of our customers.

5 Within each of these functional areas, there are structured processes and well-  
6 defined roles for all participants. The participants under the storm plan include PEF,  
7 PEC, and outside resources, all of whom may be called on to successfully execute the  
8 restoration efforts. The actual administration and management of the storm plan,  
9 however, is limited to PEF personnel, with the other resources providing support and  
10 supplemental roles.

11 The participants are assigned roles under the storm plan that may differ from  
12 their daily responsibilities under normal operation conditions and, as a result, it is  
13 imperative that they are effectively trained. This training is normally completed in  
14 the second quarter of each year throughout the system and within each of the  
15 functional areas of responsibility. To further ensure our storm preparedness, we  
16 conduct storm readiness drills in order to test the effectiveness of the training and the  
17 employee's ability to execute their assigned storm role. This drilling is completed in  
18 the month of May. Furthermore, to ensure that our storm restoration plan is  
19 coordinated with the state-wide storm preparedness, we participate in the state  
20 Emergency Operations Centers ("EOC") coordinated storm drill conducted each May  
21 in Tallahassee.

22 A critical component of our storm plan is the way in which we communicate  
23 the status of our efforts within the three restoration phases to our customers. It is

1 imperative that we communicate this status frequently to state and local governments,  
2 the Florida Public Service Commission staff, and to our customer base, including our  
3 retail commercial, industrial, governmental, residential and wholesale customers. All  
4 of these constituencies are dependent upon this information to make critical decisions  
5 of their own and, hence, the timeliness and accuracy of our status reports are critical.

6 A copy of our distribution storm plan is included as Exhibit \_\_\_ (DM-1) to my  
7 testimony.  
8

9 **IV. IMPLEMENTATION OF STORM PLAN: PRE-STORM PREPARATION**

10 **Q. When and how do you begin your preparations for a major storm?**

11 **A.** As part of our preparation, we continually monitor the weather information and when  
12 a tropical weather condition is identified that has the potential of impacting our  
13 territory within the next 120 hours, we initiate our pre-storm preparations. Our first  
14 focus is to initiate a dialogue with our weather service provider, WSI, so that we can  
15 ascertain more detailed weather information.

16 We are interested in determining the date, time, and strength of the hurricane  
17 when it impacts our system, the path of the storm, the size and strength of the wind  
18 fields, the associated amount of precipitation, when the wind exceeds and falls below  
19 35 mph, and the strength of the gusts. Although this information is very sketchy at  
20 the 120-hour mark, we use what we have in a storm modeling tool to predict the  
21 amount of damage to our system, where that damage will likely occur, and the  
22 amount of resources required for restoring the expected outages. More specifically,  
23 the tool estimates the number of personnel required, such as linemen, tree trimmers,

1 and damage assessors. This gives us an estimate of the type of restoration effort that  
2 is before us.

3 Once that model provides us the information, we conduct a system storm call  
4 that includes the management team representing the four functional areas (overall  
5 storm response, operational response, support response, and customer response) of  
6 our storm response. This call is to initiate those activities that are to be completed  
7 based upon the 120-hour information. At this point the efforts are more focused upon  
8 notifications to our customers and employees of a potential impact and the beginning  
9 of our storm readiness activities and our initial efforts to procure resources. We  
10 duplicate this process at the 96-, 72-, 48-, and 24-hour marks prior to system impact  
11 from the storm. At each successive 24- hour interval, with more and improved input  
12 data, the model refines each of the attributes that were identified at the 120-hour  
13 period.

14  
15 **Q. What do you do with the information from your predictive storm models?**

16 **A.** Once we have estimated the amount of resources required, the extent each region  
17 within our territory will be impacted, and where the damage is expected to occur,  
18 several subsequent processes begin in unison. First, our Resource Management  
19 function contacts the Southeastern Electric Exchange (“SEE”) in an effort to secure  
20 commitments from the participating companies to provide for our line and tree  
21 manpower resource requirements. This is facilitated by an existing mutual assistance  
22 agreement between all participating utilities. If that call is not successful in securing  
23 the requisite commitments, then the Resource Management function contacts other

1 utilities and contracting firms beyond the SEE. For Hurricane Jeanne, for example,  
2 we were able to secure a very limited amount of manpower commitments from the  
3 SEE, which required us to contact firms throughout the 48 continental states. As a  
4 result, we had to take extraordinary measures, including flying in resources from  
5 California to help in that restoration effort. Both of these manpower sources provide  
6 us with our non-native storm restoration crews. Non-native crews do not include PEF  
7 employees or PEF's regular, retained contract crews (both of whom comprise our  
8 native restoration crews).

9           The Resource Management function continues to contact companies until we  
10 reach the required level of resource commitments predicted by our storm model.  
11 Depending on the time and location of the storm's expected impact, a decision is  
12 made concerning when committed crews are activated, paid to be mobilized, and sent  
13 to an off-site resource. To expedite our restoration efforts, we want to mobilize  
14 resources prior to a hurricane impacting our service territory whenever possible. This  
15 has allowed us to have non-native crews mobilized from mustering sites to the  
16 restoration areas within 6 hours after the storm passes. To do this, we mobilize crews  
17 to system mustering sites located along Interstates 75, 4 & 95. The sites ultimately  
18 used depend upon the path of the storm, as we are extremely concerned about the  
19 safety of all resources involved in our restoration efforts. The number of crews  
20 mobilized, and where they are mustered, greatly depends on the accuracy of the  
21 forecast. A shift in resources like the one required when Hurricane Charley abruptly  
22 changed course can significantly impact our plans and result in higher mobilization  
23 costs.

1 Concurrent with acquiring resource commitments or the mobilization of  
2 resources, our Staging & Logistics function begins to establish mustering sites and  
3 regional staging areas and secures anticipated lodging needs. The use of mustering  
4 sites allows us to orient non-native crews to our safety policies, our technical  
5 specifications, and to prepare them for reassignment to a staging area. At these sites  
6 we have truck parking, refueling, meals, and lodging. These site resources must be  
7 put in place prior to the arrival of the first mobilized crew resource, which means that  
8 the Staging & Logistics teams are making arrangements to provide these  
9 accommodations based upon the predictive model.

10 The regional staging sites are also being established during this same time  
11 frame. Based upon the predictive model and its forecast of damage and personnel  
12 required for that region, the Operational Management team, the System Storm team  
13 and the Staging & Logistics team identify the highest priority staging sites. Once  
14 identified, the establishment of that site begins, and the anticipated number of rooms  
15 for our lodging needs are secured. To establish both types of sites (mustering &  
16 staging), it is imperative that we forecast the number of rooms needed and secure  
17 those rooms expeditiously. The productivity of the storm restoration personnel can  
18 be greatly impacted if we do not have lodging facilities within a short distance of the  
19 two types of sites. The distribution storm response team performs these logistics and  
20 staging functions for Transmission as well to reduce storm administrative costs and  
21 share resources and staging areas where possible.

1 **Q. What other planning activities are undertaken prior to the arrival of the storm?**

2 **A.** As I mentioned above, it is imperative that we repeatedly communicate to our entire  
3 customer base to ensure that they understand the status of our hurricane restoration  
4 preparations. We communicate through several media (print, radio, and television) to  
5 reach as many customers as possible to ensure that they have information about our  
6 restoration response. For example, we repeatedly alert them to the potential dangers  
7 of hurricanes, the impact of the storms on our facilities, the need to contact us and  
8 report their outage, and the safety precautions they need to take such as the use of  
9 generators.

10 In addition, we communicate extensively with our local and state EOCs. PEF  
11 has EOC representatives participate in a majority of the major storm pre-landfall  
12 briefings held by the local EOCs. Priority shelters are the primary pre-landfall  
13 discussion issues and they are identified the day before landfall is expected. The  
14 shelters, along with other local critical functions, are also prioritized in these  
15 briefings.

16

17 **Q. What do you do as the storm strikes PEF's service territory?**

18 **A.** When the storm force winds commence in PEF's service territory, the distribution  
19 storm center is in constant communication with the Energy Control Center ("ECC")  
20 and the transmission storm center. The ECC gives both storm centers a blow-by-  
21 blow description of what transmission lines and substations are dropping out of  
22 service as the storm passes, giving us our first real-time assessment of the location of  
23 the storm damage. This information flow continues throughout the storm, through

1 daily conference calls, and ECC and the distribution and transmission storm centers  
2 jointly establish restoration priorities and coordinate the distribution and transmission  
3 restoration efforts. Additionally, as soon as the storm winds drop below 35 miles per  
4 hour, the distribution storm center begins to send out its damage assessment teams to  
5 get a better understanding of the damage to the distribution system.

6  
7 **V. IMPLEMENTATION OF THE STORM PLAN: OUTAGE RESTORATION**

8 **Q. What is the first thing you do after the storm passes?**

9 **A.** Our initial response has three main components: (1) Governmental and EOC support  
10 and response; (2) feeder isolation and restoration efforts; and (3) statistical damage  
11 assessment. These three components of our storm restoration efforts are the highest  
12 priority to enable the local and state governments to respond to the storm's impact  
13 and do their jobs, to restore the highest priority customers first, and to estimate the  
14 amount of storm damage actually incurred by our distribution system. As a result of  
15 storm damage to our facilities, local government personnel may encounter situations,  
16 or they are contacted about situations that require an immediate response from our  
17 line personnel. We assign representatives to each region to communicate with local  
18 governmental officials and agencies and to man the EOCs. PEF EOC representatives  
19 are assigned several line personnel to use as needed for emergency restoration efforts.

20 As the local governments and EOCs encounter issues that require our  
21 immediate attention, we can promptly respond. These issues may involve, for  
22 example, a downed power line with police personnel standing by at the site. By  
23 having our personnel assigned to the EOC we can facilitate communication with the

1 various governmental agencies, such as fire departments also represented at the  
2 EOCs, to quickly respond to the site, take care of the downed line, and allow the  
3 government agency staff to pursue other critical assignments.

4 The Isolate and Restore process is a method by which we restore service and  
5 catalogue storm damage for further repair. This process is intended to quickly restore  
6 the feeder backbone through the operation of switches only, inventory sections of the  
7 feeder that we are not able to immediately restore, and identify what devices off the  
8 feeder are not in service. We begin planning for this Isolate and Restore effort prior  
9 to the storm season when each of the local management teams prioritize the order of  
10 restoration for each of the feeders within their jurisdiction. They prioritize the feeders  
11 using three criteria to determine the critical feeders that must be first restored.  
12 Priority one feeders have facilities such as water treatment plants, nuclear sirens,  
13 hospitals, and emergency shelters connected to them. Priority two feeders are  
14 connected to food distribution centers, law enforcement, fire/rescue stations, EOCs,  
15 and other services that are crucial to the health, safety, and welfare of the general  
16 public. Priority three feeders are all other feeders.

17 After the storm passes, PEF employees are assigned the highest priority  
18 feeders that are out of service. We assign two line personnel per feeder and they are  
19 responsible for patrolling from the substation to the end of the feeder. Upon  
20 completing this patrol, we restore as much of the feeder backbone as possible, we  
21 inventory the interrupted devices and they are used to update our outage numbers, and  
22 we catalogue any feeder work that can be assigned to supplemental forces.



1 Concurrent with these two activities we assess five percent (5%) of our total  
2 facilities to validate the damage and associated resources that were predicted by the  
3 model and to provide the operations management more information for determining  
4 the best restoration methodology. As part of our pre-storm season preparation, we  
5 identify segments of feeders and their associated branch lines in each area served by  
6 an operations center that are representative of the overall network of feeders and  
7 branch lines for the local area. These representative distribution line segments are  
8 assigned to damage assessment teams, who are responsible for a pole-by-pole survey  
9 of those representative segments, to inventory the extent of damage incurred and  
10 return that damage information to be entered in a database. Based upon the storm  
11 damage found in this representative sample, we extrapolate the amount of storm  
12 damage for the rest of the local distribution network and aggregate all local  
13 extrapolations to get a system-wide storm damage estimate. These estimates are used  
14 at the system level to validate resource needs and to aid in resource mobilization.

15  
16 **Q. What do you do next to restore power to customers?**

17 **A.** At this juncture of our restoration efforts, we are beginning to mobilize outside  
18 resources to the local operating areas to include them in the storm restoration plan.  
19 To efficiently use this first wave of manpower resources, we assign them to the storm  
20 damage that was identified through our feeder Isolate and Restore process. This  
21 allows us to assign them to the highest priority work on the most critical components  
22 of our distribution infrastructure.

1           Prior to the arrival of the next wave of manpower resources and following the  
2 completion of the statistical damage assessment, we begin a detailed pole-by-pole  
3 assessment of all feeders that require it. Based upon the information collected from  
4 the statistical assessment, any aerial storm damage assessments using helicopters,  
5 information reported to our outage management system, and the knowledge of local  
6 management, the management team has the information it needs to determine what  
7 feeders require the detailed damage assessment. When the detailed assessment of a  
8 selected feeder is complete, the results of that effort are entered into a database and an  
9 associated work package is prepared for subsequent assignment to line or tree crew  
10 resources.

11           This work package allows us to effectively communicate the scope of the  
12 work to be done and further assists us in managing productivity expectations of our  
13 line and tree crew resources. Additionally, the work package information assists local  
14 management in allocating resources and determining estimated time of restoration  
15 (ETRs). The ETR is based upon county or major areas within counties for  
16 communication to the customer and to the state and local governments.

17  
18 **Q. Do the Company's ETRs ever change during the restoration?**

19 **A.** Yes, they do. We are continuously updating our ETRs during the restoration to keep  
20 up with the information we are collecting and evaluating on the extent and severity of  
21 the storm damage, the critical and priority restoration needs from ECC, state and local  
22 governments and EOCs, and the availability of resources. We will shift line and tree  
23 crews, equipment, and material when needed to address new priorities or to increase

1 productivity. We are constantly striving during the restoration to improve our ETRs  
2 and meet or exceed our own ETR goals.

3

4 **Q. How do you wind down your restoration process?**

5 **A.** As we near the completion of storm restoration work within any part of our service  
6 territory we are beginning our demobilization efforts. We believe it is imperative that  
7 we use the most productive and cost effective resources during our restoration efforts.  
8 As a part of our demobilization efforts then, we survey local management to get their  
9 assessment on the productivity of the non-native line and tree personnel. Combining  
10 this information with the daily cost of the personnel, we start determining which  
11 crews should be released first. Obviously there are operational considerations that  
12 must be considered, but whenever prudent we demobilize resources based upon those  
13 considerations.

14

15 **VI. IMPLEMENTATION OF THE STORM PLAN: SYSTEM RESTORATION**

16 **Q. What about after restoration of customers is complete. Is there anything else**  
17 **that must be done?**

18 **A.** Yes, the final phase of our hurricane response is the restoration of the system to its  
19 pre- hurricane status. When we are in our storm outage restoration phase, we intend to  
20 perform the minimum amount of work necessary to restore the fundamental operating  
21 characteristics of our distribution infrastructure. For example, during the storm  
22 outage restoration phase, we may splint broken poles or cross arms, we do not restore

1 streetlights, capacitor banks and reclosers are returned to service only if immediately  
2 required, and animal mitigation hardware is not installed pursuant to standards.

3 To return the distribution system to its previous state before the hurricane,  
4 however, we conduct electrical sweeps of the feeders and identify the issues that  
5 require mitigation. This sweep process is normally begun prior to completion of the  
6 storm outage restoration phase. Once this work is identified and compiled, we  
7 integrate it into our overall work plan for our post-restoration storm work. We  
8 anticipate completion of the remaining storm-related work identified in our sweeps by  
9 2<sup>nd</sup> quarter 2005.

10 An additional system restoration effort that we conduct is a detailed sweep of  
11 our feeders to identify any storm damage to trees that was not mitigated during the  
12 storm restoration phase. This assessment is what we refer to as a “tree sweep.” We  
13 assign a lead and associated tree personnel to assess a feeder and its associated branch  
14 lines. They are responsible for identifying only trees or branches damaged by the  
15 storm and immediately mitigating any such damage.

## 16 17 **VII. EVALUATING AND IMPROVING THE STORM PLAN**

18 **Q. How do you measure the effectiveness of your storm planning and restoration**  
19 **process?**

20 **A.** Let’s start with how we assess our restoration effectiveness. One of the main  
21 measures that we use is the cumulative percentage of customers restored versus our  
22 projection of where we should be at the end of each day. Moving backward from our  
23 final ETR goals, we set milestones that must be achieved each day in order for us to

1 achieve our overall goal. We generate these milestones down to the operations center  
2 level based on the amount of storm damage on our system, the level of resources that  
3 we have at our disposal, and our own restoration history. This analysis tells us  
4 whether we are being as effective as we need to be and, if not, helps to highlight or  
5 correct any issues that may be impacting our performance. As an example, the ETR's  
6 for Hurricane Frances is included as Exhibit \_\_ (DM-2) to my testimony.

7 Planning effectiveness is more difficult to measure. In one respect, we know  
8 that we do an effective job of forecasting since the actual storm damage and resource  
9 requirements closely matched our predictions in all cases. Much more important than  
10 this, however, effective planning really comes down to ensuring we have the  
11 processes in place that give us maximum flexibility. Due to the nature of these  
12 storms, we will never be able to predict the location and timing of storms precisely. It  
13 is more important that our planning process ensures we have the flexibility to adapt to  
14 inevitable changes in the location, timing, and intensity of storms as they arise. In our  
15 judgment, our planning process did in fact provide us with the needed flexibility to  
16 cope effectively even with this extraordinary hurricane season.

17  
18 **Q. Have you made any improvements to your storm planning and restoration**  
19 **process?**

20 **A.** Yes, we incorporate lessons learned every time we implement our storm plan. In fact,  
21 this process of continuous improvement is itself a critical part of our comprehensive  
22 storm plan. Indeed, our storm plan was adopted as best practices for the Company as  
23 a result of the experience of our sister company in the Carolinas with recent

1 hurricanes and ice storms. And, given the number of times we put this plan to the test  
2 this summer, it is no surprise that we have made several improvements to the plan as  
3 a result of our own experience. As a general rule, I believe we gained efficiency and  
4 effectiveness in several areas of our storm operations as we progressed from storm to  
5 storm.

6 I would divide our lessons learned into two categories. First, we made several  
7 over-night changes based on what we were seeing each day. One example is the  
8 creation of a grading sheet for contract crews that allowed us to track and compare  
9 their cost and effectiveness. This tool proved useful in determining which resources  
10 to release or hold and which resources to contract for subsequent storms. On the  
11 other hand, some improvements were incorporated based on post-storm analysis and  
12 implemented in time for the next storm. For example, we found opportunities to  
13 improve the plan by increasing our efforts to communicate our daily goals within the  
14 company with each passing storm. We began a process of setting daily goals in areas  
15 such as safety, resource availability, and operations. These daily goals and a follow-  
16 up on the prior day's goals were communicated every morning during our restoration  
17 efforts. An example of these daily goals would be shown on Exhibit \_\_\_\_\_ (DM-3) to  
18 my testimony.

19 Likewise, we took advantage of an opportunity to increase our presence and  
20 therefore improve our communications with local governments and county  
21 emergency operations centers. By posting a company representative in each county  
22 EOC, we were able to improve the flow of communication, to improve our response

1 to specific issues that were monopolizing city and county resources, and to allow the  
2 cities and counties to be more efficient in their storm response activities.

3  
4 **VIII. THE 2004 HURRICANE SEASON**

5 **Q. Can you please describe your planning and response to Hurricane Charley and**  
6 **its impact on your system?**

7 **A.** Hurricane Charley posed several challenges to our planning and restoration efforts.  
8 The storm was projected to make landfall in the vicinity of Tampa Bay before it  
9 suddenly made a turn to the east and hit Punta Gorda in Charlotte County on August  
10 13, 2004 with winds of 145 miles per hour. After gearing up personnel, materials,  
11 staging areas, rooms and related resources in the Tampa Bay area, we were forced to  
12 quickly adapt to a more easterly storm path. These required but unpredictable  
13 changes in our storm preparation and response efforts, of course, had an impact on  
14 our storm costs.

15 Hurricane Charley proceeded on a north to northeast path across Florida,  
16 traveling through much of PEF's service territory, including the densely populated  
17 areas around Orlando, before leaving the state. 502,000 customers were left without  
18 electric service at the peak of Hurricane Charley's impact on PEF's service territory.  
19 This represents 32.7% of PEF's total customers. As a result of Hurricane Charley,  
20 PEF experienced extensive damage to its distribution system and we frequently found  
21 ourselves in a position to rebuild rather than repair. PEF had to replace 667 miles of  
22 primary and secondary wire, replace 3,820 poles, and replace 1,880 overhead and  
23 underground transformers. During Hurricane Charley, PEF mobilized 3,623 line and

1 service personnel and 1,499 tree personnel in addition to its own personnel to ensure  
2 repairs were completed as efficiently as possible. A wind field map of Hurricane  
3 Charley's impact on PEF's service territory is included as Exhibit \_\_ (DM-4) to my  
4 testimony.

5 Responding to a storm that left a significant impact on three out of our four  
6 regions stretched our internal resources to an extent never before seen during  
7 previous, more geographically compact storms. All customers that were able to  
8 receive power, however, were restored nine days after PEF started restoration work,  
9 even though we dealt with additional storm activity throughout our restoration effort.  
10 The restoration costs directly attributable to distribution as a result of Hurricane  
11 Charley are \$108 million.

12  
13 **Q. Can you please describe your planning and response to Hurricane Frances and**  
14 **its impact on your system?**

15 **A.** Hurricane Frances presented a different set of challenges than Hurricane Charley.  
16 The storm made landfall between Fort Pierce and West Palm Beach on September 4,  
17 2004 with sustained winds of 105 miles per hour. Over the next several days,  
18 Hurricane Frances crossed over Florida and entered the Gulf of Mexico north of  
19 Tampa in PEF's service territory. Strong winds with gusts near 100 miles per hour  
20 affected PEF's service territory for almost a full day. Throughout this time, we were  
21 forced to hold arriving crews in mustering sites until conditions were safe to begin  
22 restoration. By the time the storm left our territory, it had dumped 6 to 12 inches of



1 rain with some areas receiving considerably more rain. In several cases, flooding  
2 increased the degree of difficulty for our restoration crews.

3 The impact of Hurricane Frances was widespread, reaching 30 of the 35  
4 counties that PEF serves. 832,898 PEF customers lost power from Hurricane Frances  
5 during the course of the storm. This represents 54.4% of PEF's total number of  
6 customers. A wind field map of Hurricane Frances' impact on PEF's service territory  
7 is included as Exhibit \_\_ (DM-5) to my testimony.

8 We used nearly 500 miles of primary and secondary wire, replaced 2,800  
9 distribution poles, and replaced 1,560 overhead and underground transformers. Even  
10 more widespread than Hurricane Charley, Frances forced us to reach deep within our  
11 company to field storm support personnel. Beyond company personnel, PEF  
12 mobilized 2,819 system line and service personnel and 1,782 tree personnel to deal  
13 with the damage caused by Hurricane Frances. We were able to restore power to all  
14 customers who could receive it six days after commencing storm restoration work.  
15 The restoration costs directly attributable to distribution as a result of Hurricane  
16 Frances are \$95.8 million.

17  
18 **Q. Can you please describe your planning and response to Hurricane Ivan and its**  
19 **impact on your system?**

20 **A.** Hurricane Ivan was forecasted to make landfall in the Tampa Bay region. In the end,  
21 however, the storm went ashore near Gulf Shores, Alabama on September 16, 2004  
22 with sustained winds of 130 miles per hour. PEF customers in Bay, Franklin, Gulf,  
23 Jefferson, and Wakulla counties in PEF's service territory did, however, lose power

1 from Hurricane Ivan. At its peak, 8,891 PEF customers were without power, or 0.6%  
2 of PEF's total customers. A wind field map of Hurricane Ivan's impact on PEF's  
3 service territory is included as Exhibit \_\_ (DM-6) to my testimony.

4 Although this storm did minimal damage to our system, it did force us to  
5 retain contract crews, lodging, and other resources at the ready until the risk of impact  
6 to our service territory diminished. Beyond PEF's own personnel, we mobilized 300  
7 line and service personnel and 100 tree personnel to ensure repairs were completed as  
8 efficiently as possible. All customers who were able to receive power had their  
9 power restored in two days. The restoration costs directly attributable to distribution  
10 as a result of Hurricane Ivan are \$3.7 million.

11  
12 **Q. Can you please describe your planning and response to Hurricane Jeanne and**  
13 **its impact on your system?**

14 **A.** In many respects, Hurricane Jeanne was similar to Hurricane Frances although  
15 quicker moving. Hurricane Jeanne made landfall near Stuart, Florida on September  
16 25, 2004 with sustained winds of 120 miles per hour. It moved northwest across  
17 Florida and through PEF's service territory and proceeded north out of Florida.  
18 Again, the impact on PEF's service territory was widespread impacting customers in  
19 33 out of the 35 counties that PEF serves. At the hurricane's peak impact on PEF's  
20 service territory, 722,012 customers lost power, or 47% of PEF's total number of  
21 customers. As a result of Jeanne, PEF installed 222 miles of primary and secondary  
22 wire, replaced 100 poles, and installed 570 transformers. A wind field map of

1 Hurricane Jeanne's impact on PEF's service territory is included as Exhibit \_\_ (DM-  
2 7) to my testimony.

3 The fact that Hurricane Jeanne so closely followed Hurricane Ivan presented  
4 unique challenges for PEF. We had difficulty securing the level of resources that we  
5 would have liked. First, we were unable to rely on PEC personnel as they were  
6 grappling with Hurricane Ivan in their own service territory and unable to lend  
7 assistance in Florida. Second, utilities impacted by Ivan were continuing storm  
8 restoration and were reluctant to release resources for Jeanne. By bringing in crews  
9 and equipment from as far away as the West Coast, we were able to mobilize 2,622  
10 system line and service personnel and 1,065 tree personnel. Power was restored for  
11 all customers who could receive power five days after PEF commenced storm  
12 restoration work, beating our original goal by 2 days. The restoration costs directly  
13 attributable to Hurricane Jeanne are \$64.3 million.

## 14 IX. CONCLUSION

15  
16 **Q. Do you have an assessment of the Company's implementation of its Storm Plan**  
17 **during the 2004 hurricane season?**

18 **A.** I believe the Company faced a monumental challenge as a result of the four back-to-  
19 back hurricanes and the storm plan proved to be an effective and efficient tool to  
20 achieve our goal of restoring customer service as safely and expeditiously as possible.  
21 Never before have we faced four major hurricanes in a single year, let alone a span of  
22 less than six weeks. The sequence of the storms, their intensity, storm path, and other  
23 characteristics presented unique challenges to the Company. The Company further

1 experienced extensive and widespread storm damage to its distribution system as a  
2 result of the four hurricanes. Illustrative of this are the pictures of distribution system  
3 damage included as Composite Exhibit \_\_\_\_ (DM-8) to my testimony. Through it all,  
4 however, we found the storm plan processes worked. To be sure, we learned more  
5 about storm preparation and restoration as a result of the storms and quickly  
6 incorporated those lessons into our storm plan, but the storm plan proved to be  
7 invaluable to us in preparing for, responding to, and recovering from the storms. We  
8 proved the implementation of the storm plan works to meet our obligation to  
9 promptly restore electric service following each of these storms.

10

11 **Q. Does this conclude your testimony?**

12 **A. Yes.**

13

Document title

# Distribution Storm Plan - Overview

Document number

**EMG-EDGX-00010**

DOCKET NO. 041272  
WITNESS: DAVID McDONALD  
EXHIBIT \_\_\_\_ (DM-1)  
PAGE 9  
PEF'S DISTRIBUTION STORM PLAN

Applies to: Energy Delivery Group – Carolinas and Florida

Keywords: emergency; distribution storm plan; corporate emergency response plan; ERS

---

This procedure is Progress Energy's central-source guideline for repairing distribution facilities and restoring electric service due to storms, or other destructive situations. This procedure applies to Progress Energy Florida, Inc and Progress Energy Carolinas, Inc.

In addition, there are other procedures on the Intranet that are a portion of the Distribution Storm Plan. These procedures and plans can be viewed through the links below.

[Operations Center Model Storm Plan \(EMG-EDGX-00020\)](#)

## System and Region Information

[\(Server NT000070\Shares70\Distribution Storm Plan\)](#)

- Corporate Communications Storm Plan
- Current Crew Inventory – Carolinas
- Current Storm Information
- Customer Service Center Storm Plan
- Damage Assessment
- Maps to Operations Centers
- Maps to Staging Areas
- Region Storm Plans - Carolinas
- Region Storm Plans - Florida
- Safety Instructions
- Siren Restoration Plan
- Storm Cards
- SWARM
- System Logistics & Staging Plan
- System Storm Center – Carolinas
- System Storm Center - Florida
- System Storm Plan
- Telecommunications Storm Plan
- Transportation Storm Plan

**PEF-SR-00077**

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Distribution Storm Plan – Sec 1 - Introduction (EMG-EDGX-00011)

- 2.0 Summary
- 3.0 **Region Plans - Guidelines and Procedures**
- 4.0 **Operations Center Plans – Guidelines and Procedures**
- 5.0 Employee Role
- 6.0 Safety
- 7.0 Storm Plan Implementation
- 8.0 Storm Plan Levels
- 9.0 Weather Information
- 10.0 Definition of a Major Storm
- 11.0 Plan Revisions

Exhibit-1-Storm Plan Documents Diagrams

Exhibit-2-Communication Flow Chart

Exhibit-3-Carolinas Storm Coordinators Chart

Exhibit-4-Florida Storm Coordinators Chart

Exhibit-5-Region Organization Chart

Exhibit-6-Ops Center Organization Chart

Exhibit-7-Carolinas Transmission Organization Chart

Exhibit-8-Florida Transmission Organization Chart

Exhibit-9-System Storm Center Timeline

Distribution Storm Plan – Sec 2 - Planning & Preparing (EMG-EDGX-00012)

- 2.0 Storm Awareness
- 3.0 Distribution Storm Coordinator – Roles & Responsibilities
- 4.0 Region Storm Coordinator – Roles & Responsibilities
- 5.0 Operations Center Storm Coordinator – Roles & Responsibilities
- 6.0 Region Restoration Coordinator – Roles & Responsibilities
- 7.0 Region Public Information Coordinator
- 8.0 Bench Strength Employee Assignments (SWARM)
- 9.0 Staging Areas
- 10.0 Storm Response Teams
- 11.0 Storm Room Standards
- 12.0 Contractors
- 13.0 Testing the Plan

Exhibit-10-Carolinas Region Coordinator Phone Numbers

Exhibit-11-Florida Region Coordinator Phone Numbers

Exhibit-12-Storm Teams

Exhibit-14-Blank Storm Team Form

Exhibit-15-Storm Room Standards

Exhibit-16-Daily Thunderstorm Monitoring

**PEF-SR-00078**

Distribution Storm Plan – Sec 3 - Implementation (EMG-EDGX-00013)

- 2.0 Safety
- 3.0 Pre-Hurricane Deployment Guidelines
- 4.0 Feeder Breaker Operation
- 5.0 Damage Assessment
- 6.0 Restoration Priorities
- 7.0 **Off System Crew Mobilization & Tracking**
- 8.0 Fiber Optic System Restoration
- 9.0 Tree Removal Policy
- 10.0 Revenue Customer Callbacks
- 11.0 Contractors
- 12.0 GIS Data Integrity
- 13.0 Tracking of Road Closings During a Storm

Exhibit-20-Off System Crew Mobilization Guidelines

Exhibit-21-Revenue Customer Callbacks

Exhibit-22-Crew Registration Form

Exhibit-23-GIS Update Form

Exhibit-24-Pre-Hurricane Deployment Guidelines

Distribution Storm Plan – Sec 4 – Post Storm Functions (EMG-EDGX-00014)

- 2.0 Crews For Clean-up Work
- 3.0 Post-storm Recovery Plan
- 4.0 Extended Pay Procedures
- 5.0 Major Storm Approval Form
- 6.0 Lessons Learned Process

Exhibit-30-Post-storm Recovery Action Plan

Exhibit-31-Major Storm Approval Form

Document title

# Distribution Storm Plan – Sec 1 - Introduction

Document number

EMG-EDGX-00011

Applies to: Energy Delivery Group – Carolinas and Florida

Keywords: emergency; distribution storm plan; corporate emergency response plan; ERIS

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## 1.0 Table of Contents

Return to [Distribution Storm Plan - Overview \(EMG-EDGX-00010\)](#) for a Table of Contents listing of the entire Distribution Storm Plan.

### Distribution Storm Plan - Introduction (EMG-EDGX-00011)

- 2.0 Summary
- 3.0 Region Plans - Guidelines and Procedures
- 4.0 Operations Center Plans – Guidelines and Procedures
- 5.0 Employee Role
- 6.0 Safety
- 7.0 Storm Plan Implementation
- 8.0 Storm Plan Levels
- 9.0 Weather Information
- 10.0 Definition of a Major Storm
- 11.0 Plan Revisions

- Exhibit-1-Storm Plan Documents Diagrams
- Exhibit-2-Communication Flow Chart
- Exhibit-3-Carolinas Storm Coordinators Chart
- Exhibit-4-Florida Storm Coordinators Chart
- Exhibit-5-Region Organization Chart
- Exhibit-6-Ops Center Organization Chart
- Exhibit-7-Carolinas Transmission Organization Chart
- Exhibit-8-Florida Transmission Organization Chart
- Exhibit-9-System Storm Center Timeline

## 2.0 Summary

PEF-SR-00080

This Progress Energy Distribution Storm Plan covers both the Florida service area and the Carolinas service area. This plan covers only distribution facilities and is maintained by the Distribution Engineering & Operations Department. Transmission facilities are covered under the Transmission Storm Plan maintained by the Transmission Department.



For the complete timeline of major storm activities, view Exhibit-9-System Storm Center Timeline. This 120-hour timeline gives a good overview of the execution of our storm plan.

The objective of this storm plan is to provide the authority and coordination needed to make sure storm damage is repaired and service is restored in the most efficient way possible. The Distribution Storm Plan is a central source of storm plan requirements and guidelines that are generic to the Progress Energy distribution systems. Using this Storm Plan as a guide, each region will develop, maintain, and implement its own region-specific set of guidelines and procedures that are necessary to respond safely and efficiently to storm damage.

This plan is designed to provide the flexibility to respond to both small and large storms. For small storms this plan allows the Operations Centers and/or regions to have the authority to handle internal resources efficiently. For large storms where resources must be shared this plans consolidates the authority in a top down organizational structure.

The documents which make up the Progress Energy Distribution Storm Plan are shown in Exhibit-1-Storm Plan Documents Diagrams . This diagram describes the repositories and the inter-links between the many documents that make up the overall storm plan. The objective of this systematic method on document storage is to make the latest information accessible to anyone in the company at any time.

### **3.0 Region Plans - Guidelines and Procedures**

The region General Manager-Distribution is the Region Storm Coordinator. They have the authority to appoint all region storm coordinators in the Operations Centers and sub-Operations Centers. The typical region storm organization is shown in Exhibit-5-Region Organization Chart.

Each region is required to file its region-specific plans on the local LAN. In addition, all region-specific plans must be updated annually.

### **4.0 Operations Center Plans – Guidelines and Procedures**

Each Operations Center is required to operate under the Operations Center Model Storm Plan. Each Operations Centers shall fill out Operations Center-specific tables that are in the Model Plan and post on the local LAN. The typical Operations Center storm organization is shown in Exhibit-6-Ops Center Organization Chart.

**PEF-SR-00081**

Document title

# **Distribution Storm Plan - Overview**

Document number

**EMG-EDGX-00010**

Applies to: **Energy Delivery Group – Carolinas and Florida**

Keywords: **emergency; distribution storm plan; corporate emergency response plan; ERIS**

---

This procedure is Progress Energy's central-source guideline for repairing distribution facilities and restoring electric service due to storms, or other destructive situations. This procedure applies to Progress Energy Florida, Inc and Progress Energy Carolinas, Inc.

In addition, there are other procedures on the Intranet that are a portion of the Distribution Storm Plan. These procedures and plans can be viewed through the links below.

[Operations Center Model Storm Plan \(EMG-EDGX-00020\)](#)

System and Region Information  
[\(Server NT000070\Shares70\Distribution Storm Plan\)](#)

- Corporate Communications Storm Plan
- Current Crew Inventory – Carolinas
- Current Storm Information
- Customer Service Center Storm Plan
- Damage Assessment
- Maps to Operations Centers
- Maps to Staging Areas
- Region Storm Plans - Carolinas
- Region Storm Plans - Florida
- Safety Instructions
- Siren Restoration Plan
- Storm Cards
- SWARM
- System Logistics & Staging Plan
- System Storm Center – Carolinas
- System Storm Center - Florida
- System Storm Plan
- Telecommunications Storm Plan
- Transportation Storm Plan

**PEF-SR-00082**

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Distribution Storm Plan – Sec 1 - Introduction (EMG-EDGX-00011)

- 2.0 Summary
- 3.0 Region Plans - Guidelines and Procedures
- 4.0 Operations Center Plans – Guidelines and Procedures
- 5.0 Employee Role
- 6.0 Safety
- 7.0 Storm Plan Implementation
- 8.0 Storm Plan Levels
- 9.0 Weather Information
- 10.0 Definition of a Major Storm
- 11.0 Plan Revisions

Exhibit-1-Storm Plan Documents Diagrams

Exhibit-2-Communication Flow Chart

Exhibit-3-Carolinas Storm Coordinators Chart

Exhibit-4-Florida Storm Coordinators Chart

Exhibit-5-Region Organization Chart

Exhibit-6-Ops Center Organization Chart

Exhibit-7-Carolinas Transmission Organization Chart

Exhibit-8-Florida Transmission Organization Chart

Exhibit-9-System Storm Center Timeline

Distribution Storm Plan – Sec 2 - Planning & Preparing (EMG-EDGX-00012)

- 2.0 Storm Awareness
- 3.0 Distribution Storm Coordinator – Roles & Responsibilities
- 4.0 Region Storm Coordinator – Roles & Responsibilities
- 5.0 Operations Center Storm Coordinator – Roles & Responsibilities
- 6.0 Region Restoration Coordinator – Roles & Responsibilities
- 7.0 Region Public Information Coordinator
- 8.0 Bench Strength Employee Assignments (SWARM)
- 9.0 Staging Areas
- 10.0 Storm Response Teams
- 11.0 Storm Room Standards
- 12.0 Contractors
- 13.0 Testing the Plan

Exhibit-10-Carolinas Region Coordinator Phone Numbers

Exhibit-11-Florida Region Coordinator Phone Numbers

Exhibit-12-Storm Teams

Exhibit-14-Blank Storm Team Form

Exhibit-15-Storm Room Standards

Exhibit-16-Daily Thunderstorm Monitoring

**PEF-SR-00083**

Distribution Storm Plan – Sec 3 - Implementation (EMG-EDGX-00013)

- 2.0 Safety
- 3.0 Pre-Hurricane Deployment Guidelines
- 4.0 Feeder Breaker Operation
- 5.0 Damage Assessment
- 6.0 Restoration Priorities
- 7.0 Off System Crew Mobilization & Tracking
- 8.0 Fiber Optic System Restoration
- 9.0 Tree Removal Policy
- 10.0 Revenue Customer Callbacks
- 11.0 Contractors
- 12.0 GIS Data Integrity
- 13.0 Tracking of Road Closings During a Storm

Exhibit-20-Off System Crew Mobilization Guidelines

Exhibit-21-Revenue Customer Callbacks

Exhibit-22-Crew Registration Form

Exhibit-23-GIS Update Form

Exhibit-24-Pre-Hurricane Deployment Guidelines

Distribution Storm Plan – Sec 4 – Post Storm Functions (EMG-EDGX-00014)

- 2.0 Crews For Clean-up Work
- 3.0 Post-storm Recovery Plan
- 4.0 Extended Pay Procedures
- 5.0 Major Storm Approval Form
- 6.0 Lessons Learned Process

Exhibit-30-Post-storm Recovery Action Plan

Exhibit-31-Major Storm Approval Form

**PEF-SR-00084**

Document title

# Distribution Storm Plan – Sec 1 - Introduction

Document number

EMG-EDGX-00011

Applies to: Energy Delivery Group – Carolinas and Florida

Keywords: emergency; distribution storm plan; corporate emergency response plan; ERIS

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## 1.0 Table of Contents

Return to [Distribution Storm Plan - Overview \(EMG-EDGX-00010\)](#) for a Table of Contents listing of the entire Distribution Storm Plan.

### Distribution Storm Plan - Introduction (EMG-EDGX-00011)

- 2.0 Summary
- 3.0 Region Plans - Guidelines and Procedures
- 4.0 Operations Center Plans – Guidelines and Procedures
- 5.0 Employee Role
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- 7.0 Storm Plan Implementation
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- 9.0 Weather Information
- 10.0 Definition of a Major Storm
- 11.0 Plan Revisions

- Exhibit-1-Storm Plan Documents Diagrams
- Exhibit-2-Communication Flow Chart
- Exhibit-3-Carolinas Storm Coordinators Chart
- Exhibit-4-Florida Storm Coordinators Chart
- Exhibit-5-Region Organization Chart
- Exhibit-6-Ops Center Organization Chart
- Exhibit-7-Carolinas Transmission Organization Chart
- Exhibit-8-Florida Transmission Organization Chart
- Exhibit-9-System Storm Center Timeline

## 2.0 Summary

This Progress Energy Distribution Storm Plan covers both the Florida service area and the Carolinas service area. This plan covers only distribution facilities and is maintained by the Distribution Engineering & Operations Department. Transmission facilities are covered under the Transmission Storm Plan maintained by the Transmission Department.

For the complete timeline of major storm activities, view Exhibit-9-System Storm Center Timeline. This 120-hour timeline gives a good overview of the execution of our storm plan.

The objective of this storm plan is to provide the authority and coordination needed to make sure storm damage is repaired and service is restored in the most efficient way possible. The Distribution Storm Plan is a central source of storm plan requirements and guidelines that are generic to the Progress Energy distribution systems. Using this Storm Plan as a guide, each region will develop, maintain, and implement its own region-specific set of guidelines and procedures that are necessary to respond safely and efficiently to storm damage.

This plan is designed to provide the flexibility to respond to both small and large storms. For small storms this plan allows the Operations Centers and/or regions to have the authority to handle internal resources efficiently. For large storms where resources must be shared this plan consolidates the authority in a top down organizational structure.

The documents which make up the Progress Energy Distribution Storm Plan are shown in Exhibit-1-Storm Plan Documents Diagrams . This diagram describes the repositories and the inter-links between the many documents that make up the overall storm plan. The objective of this systematic method on document storage is to make the latest information accessible to anyone in the company at any time.

### **3.0 Region Plans - Guidelines and Procedures**

The region General Manager-Distribution is the Region Storm Coordinator. They have the authority to appoint all region storm coordinators in the Operations Centers and sub-Operations Centers. The typical region storm organization is shown in Exhibit-5-Region Organization Chart.

Each region is required to file its region-specific plans on the local LAN. In addition, all region-specific plans must be updated annually.

### **4.0 Operations Center Plans – Guidelines and Procedures**

Each Operations Center is required to operate under the Operations Center Model Storm Plan. Each Operations Centers shall fill out Operations Center-specific tables that are in the Model Plan and post on the local LAN. The typical Operations Center storm organization is shown in Exhibit-6-Ops Center Organization Chart.

Document title

# Distribution Storm Plan - Overview

Document number

EMG-EDGX-00010

Applies to: Energy Delivery Group – Carolinas and Florida

Keywords: emergency; distribution storm plan; corporate emergency response plan; ERIS

---

This procedure is Progress Energy's central-source guideline for repairing distribution facilities and restoring electric service due to storms, or other destructive situations. This procedure applies to Progress Energy Florida, Inc and Progress Energy Carolinas, Inc.

In addition, there are other procedures on the Intranet that are a portion of the Distribution Storm Plan. These procedures and plans can be viewed through the links below.

[Operations Center Model Storm Plan \(EMG-EDGX-00020\)](#)

System and Region Information  
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- Region Storm Plans - Florida
- Safety Instructions
- Siren Restoration Plan
- Storm Cards
- SWARM
- System Logistics & Staging Plan
- System Storm Center – Carolinas
- System Storm Center - Florida
- System Storm Plan
- Telecommunications Storm Plan
- Transportation Storm Plan

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- 5.0 Employee Role
- 6.0 Safety
- 7.0 Storm Plan Implementation
- 8.0 Storm Plan Levels
- 9.0 Weather Information
- 10.0 Definition of a Major Storm
- 11.0 Plan Revisions

Exhibit-1-Storm Plan Documents Diagrams

Exhibit-2-Communication Flow Chart

Exhibit-3-Carolinas Storm Coordinators Chart

Exhibit-4-Florida Storm Coordinators Chart

Exhibit-5-Region Organization Chart

Exhibit-6-Ops Center Organization Chart

Exhibit-7-Carolinas Transmission Organization Chart

Exhibit-8-Florida Transmission Organization Chart

Exhibit-9-System Storm Center Timeline

### Distribution Storm Plan – Sec 2 - Planning & Preparing (EMG-EDGX-00012)

- 2.0 Storm Awareness
- 3.0 **Distribution Storm Coordinator – Roles & Responsibilities**
- 4.0 **Region Storm Coordinator – Roles & Responsibilities**
- 5.0 **Operations Center Storm Coordinator – Roles & Responsibilities**
- 6.0 **Region Restoration Coordinator – Roles & Responsibilities**
- 7.0 Region Public Information Coordinator
- 8.0 **Bench Strength Employee Assignments (SWARM)**
- 9.0 Staging Areas
- 10.0 Storm Response Teams
- 11.0 Storm Room Standards
- 12.0 Contractors
- 13.0 Testing the Plan

Exhibit-10-Carolinas Region Coordinator Phone Numbers

Exhibit-11-Florida Region Coordinator Phone Numbers

Exhibit-12-Storm Teams

Exhibit-14-Blank Storm Team Form

Exhibit-15-Storm Room Standards

Exhibit-16-Daily Thunderstorm Monitoring



Distribution Storm Plan – Sec 3 - Implementation (EMG-EDGX-00013)

- 2.0 Safety
- 3.0 Pre-Hurricane Deployment Guidelines
- 4.0 Feeder Breaker Operation
- 5.0 Damage Assessment
- 6.0 Restoration Priorities
- 7.0 Off System Crew Mobilization & Tracking
- 8.0 Fiber Optic System Restoration
- 9.0 Tree Removal Policy
- 10.0 Revenue Customer Callbacks
- 11.0 Contractors
- 12.0 GIS Data Integrity
- 13.0 Tracking of Road Closings During a Storm

Exhibit-20-Off System Crew Mobilization Guidelines

Exhibit-21-Revenue Customer Callbacks

Exhibit-22-Crew Registration Form

Exhibit-23-GIS Update Form

Exhibit-24-Pre-Hurricane Deployment Guidelines

Distribution Storm Plan – Sec 4 – Post Storm Functions (EMG-EDGX-00014)

- 2.0 Crews For Clean-up Work
- 3.0 Post-storm Recovery Plan
- 4.0 Extended Pay Procedures
- 5.0 Major Storm Approval Form
- 6.0 Lessons Learned Process

Exhibit-30-Post-storm Recovery Action Plan

Exhibit-31-Major Storm Approval Form

Document title

# Distribution Storm Plan – Sec 1 - Introduction

Document number

EMG-EDGX-00011

Applies to: Energy Delivery Group – Carolinas and Florida

Keywords: emergency; distribution storm plan; corporate emergency response plan; ERIS

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## 1.0 Table of Contents

Return to [Distribution Storm Plan - Overview \(EMG-EDGX-00010\)](#) for a Table of Contents listing of the entire Distribution Storm Plan.

### Distribution Storm Plan - Introduction (EMG-EDGX-00011)

- 2.0 Summary
- 3.0 Region Plans - Guidelines and Procedures
- 4.0 Operations Center Plans – Guidelines and Procedures
- 5.0 Employee Role
- 6.0 Safety
- 7.0 Storm Plan Implementation
- 8.0 Storm Plan Levels
- 9.0 Weather Information
- 10.0 Definition of a Major Storm
- 11.0 Plan Revisions

- Exhibit-1-Storm Plan Documents Diagrams
- Exhibit-2-Communication Flow Chart
- Exhibit-3-Carolinas Storm Coordinators Chart
- Exhibit-4-Florida Storm Coordinators Chart
- Exhibit-5-Region Organization Chart
- Exhibit-6-Ops Center Organization Chart
- Exhibit-7-Carolinas Transmission Organization Chart
- Exhibit-8-Florida Transmission Organization Chart
- Exhibit-9-System Storm Center Timeline

## 2.0 Summary

This Progress Energy Distribution Storm Plan covers both the Florida service area and the Carolinas service area. This plan covers only distribution facilities and is maintained by the Distribution Engineering & Operations Department. Transmission facilities are covered under the Transmission Storm Plan maintained by the Transmission Department.

For the complete timeline of major storm activities, view Exhibit-9-System Storm Center Timeline. This 120-hour timeline gives a good overview of the execution of our storm plan.

The objective of this storm plan is to provide the authority and coordination needed to make sure storm damage is repaired and service is restored in the most efficient way possible. The Distribution Storm Plan is a central source of storm plan requirements and guidelines that are generic to the Progress Energy distribution systems. Using this Storm Plan as a guide, each region will develop, maintain, and implement its own region-specific set of guidelines and procedures that are necessary to respond safely and efficiently to storm damage.

This plan is designed to provide the flexibility to respond to both small and large storms. For small storms this plan allows the Operations Centers and/or regions to have the authority to handle internal resources efficiently. For large storms where resources must be shared this plans consolidates the authority in a top down organizational structure.

The documents which make up the Progress Energy Distribution Storm Plan are shown in Exhibit-1-Storm Plan Documents Diagrams . This diagram describes the repositories and the inter-links between the many documents that make up the overall storm plan. The objective of this systematic method on document storage is to make the latest information accessible to anyone in the company at any time.

### **3.0 Region Plans - Guidelines and Procedures**

The region General Manager-Distribution is the Region Storm Coordinator. They have the authority to appoint all region storm coordinators in the Operations Centers and sub-Operations Centers. The typical region storm organization is shown in Exhibit-5-Region Organization Chart.

Each region is required to file its region-specific plans on the local LAN. In addition, all region-specific plans must be updated annually.

### **4.0 Operations Center Plans – Guidelines and Procedures**

Each Operations Center is required to operate under the Operations Center Model Storm Plan. Each Operations Centers shall fill out Operations Center-specific tables that are in the Model Plan and post on the local LAN. The typical Operations Center storm organization is shown in Exhibit-6-Ops Center Organization Chart.

Document title

# **Distribution Storm Plan - Overview**

Document number

**EMG-EDGX-00010**

Applies to: **Energy Delivery Group** – Carolinas and Florida

Keywords: **emergency; distribution** storm plan; corporate emergency response plan; ERIS

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This procedure is Progress Energy's central-source guideline for repairing distribution facilities and restoring electric service due to storms, or other destructive situations. This procedure applies to Progress Energy Florida, Inc and Progress Energy Carolinas, Inc.

In addition, there are other procedures on the Intranet that are a portion of the Distribution Storm Plan. These procedures and plans can be viewed through the links below.

[Operations Center Model Storm Plan \(EMG-EDGX-00020\)](#)

System and Region Information  
[\(Server NT000070\Shares70\Distribution Storm Plan\)](#)

- Corporate Communications Storm Plan
- Current Crew Inventory – Carolinas
- Current Storm Information
- Customer Service Center Storm Plan
- Damage Assessment
- Maps to Operations Centers
- Maps to Staging Areas
- Region Storm Plans - Carolinas
- Region Storm Plans - Florida
- Safety Instructions
- Siren Restoration Plan
- Storm Cards
- SWARM
- System Logistics & Staging Plan
- System Storm Center – Carolinas
- System Storm Center - Florida
- System Storm Plan
- Telecommunications Storm Plan
- Transportation Storm Plan

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Exhibit-1-Storm Plan Documents Diagrams

Exhibit-2-Communication Flow Chart

Exhibit-3-Carolinas Storm Coordinators Chart

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Exhibit-5-Region Organization Chart

Exhibit-6-Ops Center Organization Chart

Exhibit-7-Carolinas Transmission Organization Chart

Exhibit-8-Florida Transmission Organization Chart

Exhibit-9-System Storm Center Timeline

Distribution Storm Plan – Sec 2 - Planning & Preparing (EMG-EDGX-00012)

- 2.0 Storm Awareness
- 3.0 Distribution Storm Coordinator – Roles & Responsibilities
- 4.0 Region Storm Coordinator – Roles & Responsibilities
- 5.0 Operations Center Storm Coordinator – Roles & Responsibilities
- 6.0 Region Restoration Coordinator – Roles & Responsibilities
- 7.0 Region Public Information Coordinator
- 8.0 Bench Strength Employee Assignments (SWARM)
- 9.0 Staging Areas
- 10.0 Storm Response Teams
- 11.0 Storm Room Standards
- 12.0 Contractors
- 13.0 Testing the Plan

Exhibit-10-Carolinas Region Coordinator Phone Numbers

Exhibit-11-Florida Region Coordinator Phone Numbers

Exhibit-12-Storm Teams

Exhibit-14-Blank Storm Team Form

Exhibit-15-Storm Room Standards

Exhibit-16-Daily Thunderstorm Monitoring

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Distribution Storm Plan – Sec 3 - Implementation (EMG-EDGX-00013)

- 2.0 Safety
- 3.0 Pre-Hurricane Deployment Guidelines
- 4.0 Feeder Breaker Operation
- 5.0 Damage Assessment
- 6.0 Restoration Priorities
- 7.0 **Off System Crew Mobilization & Tracking**
- 8.0 Fiber Optic System Restoration
- 9.0 Tree Removal Policy
- 10.0 Revenue Customer Callbacks
- 11.0 Contractors
- 12.0 GIS Data Integrity
- 13.0 Tracking of Road Closings During a Storm

Exhibit-20-Off System Crew Mobilization Guidelines

Exhibit-21-Revenue Customer Callbacks

Exhibit-22-Crew Registration Form

Exhibit-23-GIS Update Form

Exhibit-24-Pre-Hurricane Deployment Guidelines

Distribution Storm Plan – Sec 4 – Post Storm Functions (EMG-EDGX-00014)

- 2.0 Crews For Clean-up Work
- 3.0 Post-storm Recovery Plan
- 4.0 Extended Pay Procedures
- 5.0 Major Storm Approval Form
- 6.0 Lessons Learned Process

Exhibit-30-Post-storm Recovery Action Plan

Exhibit-31-Major Storm Approval Form

Document title

# Distribution Storm Plan – Sec 1 - Introduction

Document number

EMG-EDGX-00011

Applies to: Energy Delivery Group – Carolinas and Florida

Keywords: emergency; distribution storm plan; corporate emergency response plan; ERIS

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## 1.0 Table of Contents

Return to [Distribution Storm Plan - Overview \(EMG-EDGX-00010\)](#) for a Table of Contents listing of the entire Distribution Storm Plan.

### Distribution Storm Plan - Introduction (EMG-EDGX-00011)

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- Exhibit-9-System Storm Center Timeline

## 2.0 Summary

This Progress Energy Distribution Storm Plan covers both the Florida service area and the Carolinas service area. This plan covers only distribution facilities and is maintained by the Distribution Engineering & Operations Department. Transmission facilities are covered under the Transmission Storm Plan maintained by the Transmission Department.

## AUTHORIZED COPY

For the complete timeline of major storm activities, view Exhibit-9-System Storm Center Timeline. This 120-hour timeline gives a good overview of the execution of our storm plan.

The objective of this storm plan is to provide the authority and coordination needed to make sure storm damage is repaired and service is restored in the most efficient way possible. The Distribution Storm Plan is a central source of storm plan requirements and guidelines that are generic to the Progress Energy distribution systems. Using this Storm Plan as a guide, each region will develop, maintain, and implement its own region-specific set of guidelines and procedures that are necessary to respond safely and efficiently to storm damage.

This plan is designed to provide the flexibility to respond to both small and large storms. For small storms this plan allows the Operations Centers and/or regions to have the authority to handle internal resources efficiently. For large storms where resources must be shared this plan consolidates the authority in a top down organizational structure.

The documents which make up the Progress Energy Distribution Storm Plan are shown in Exhibit-1-Storm Plan Documents Diagrams. This diagram describes the repositories and the inter-links between the many documents that make up the overall storm plan. The objective of this systematic method on document storage is to make the latest information accessible to anyone in the company at any time.

### 3.0 Region Plans - Guidelines and Procedures

The region General Manager-Distribution is the Region Storm Coordinator. They have the authority to appoint all region storm coordinators in the Operations Centers and sub-Operations Centers. The typical region storm organization is shown in Exhibit-5-Region Organization Chart.

Each region is required to file its region-specific plans on the local LAN. In addition, all region-specific plans must be updated annually.

### 4.0 Operations Center Plans – Guidelines and Procedures

Each Operations Center is required to operate under the Operations Center Model Storm Plan. Each Operations Centers shall fill out Operations Center-specific tables that are in the Model Plan and post on the local LAN. The typical Operations Center storm organization is shown in Exhibit-6-Ops Center Organization Chart.

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## **5.0 Employee Role**

The most critical element of our storm plan is to ensure that all employees are informed and aware of the roles that they serve in the event of a major storm. Many employees whose jobs do not normally require involvement in service restoration are called upon to offer their talents and services for such tasks as staging and logistics support, guiding crews, answering telephones at the Customer Service Center, as well as other very critical roles.

All employees should sign up for a storm plan role in SWARM. Our expectation is that all Energy Delivery employees have a storm assignment in SWARM. The SWARM process is fully described in Section 2 – Planning & Preparing.

Employees will be released to prepare their homes and families before a storm. Employees are expected to secure their family and properties as quickly as possible following a storm. Our Human Resource Department will help coordinate employee assistance needs.

When the storm abates employees are required to report to their assigned storm location during daylight hours. In the event catastrophic damage has occurred, and access to assigned storm locations is impossible, employees shall report to a designated alternate location.

## **6.0 Safety**

Safety is the shared responsibility of all employees. The safety of our fellow employees as well as the safety of the general public is the most important consideration when your Storm Plan is in effect, just as it is under normal operating conditions.

- Under no circumstances will safety be sacrificed for speed.
- Communication in the form of job briefings will be the cornerstone of all work to be performed. It is crucial to clearly communicate any unique operating procedures and/or distribution system characteristic to outside personnel assigned to work in your area.
- No employee shall attempt any restoration activities or set up staging areas during weather conditions that are deemed to be unsafe.
- Zone Coordinators are responsible for electrical safety tagging within their assigned zone.
- Every effort shall be made to notify the general public of hazards that may exist.
- Work at night shall be well planned and organized.

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## 7.0 Storm Plan Implementation

The Distribution Storm Plan maintains four interrelated storm plan levels. In a damage situation, one or more, or all the plans, may be implemented, depending on the intensity of the storm, the amount of damage and the capability of the service area to handle repairs and restoration timely.

The System Storm Plan (Level 4) coordinates resources and action when more than one region is affected, or involved, and when resources outside the Energy Delivery Group are needed. Resources outside the Energy Delivery Group are identified as other utilities (including their line and tree contractors), other company employees, Corporate Services, the Telecommunications Department, and the Corporate Communications Department. Authority is given to the System Storm Coordinator to mobilize additional resources beyond those available at the regional level and from one region to another. See Exhibit-2-Communication Flow Chart

Coordinators within the regions are responsible for being prepared to implement and for implementing a Storm Plan at three levels:

- Sub-Operations Center Storm Plan - Level 1
- Operations Center Plan - Level 2
- Region Storm Plan - Level 3

The Region Storm Plan is put into action when resources outside an Operations Center are required for repairing facilities and for restoring timely service.

## 8.0 Storm Plan Levels

A storm is rated 1, 2, 3, or 4, depending on severity and extent of damage incurred plus the capability of the service area to handle timely repairs and restoration. A storm rated No. 4 is the most severe and/or extensive. A storm in a region may require involvement by all four Storm Plan levels: **System, Region, Operations Area, Local**. If all Storm Plan Levels are required, the storm is a Level 4. However, if the local service area is able to repair/restore service without assistance, the storm is a Level 1.

The following paragraphs describe each storm level:

### Level 4 – System Level Storm

Personnel within affected regions are not able to restore timely service. Assistance from other regions or utility companies is needed. The Distribution System Coordinator is actively involved in coordinating the movement of crews from one region to another region as requested by the region coordinators. Region coordinators move crews around region as needed.

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**Level 3 – Region Level Storm**

Personnel within affected region are able to restore timely service. Assistance from other regions is not needed. Region coordinator moves crews around region as needed. Region coordinator communicates conditions and the potential need for assistance to the system coordinator

**Level 2 - Operations Center Level Storm**

Personnel within an affected operations area are able to restore timely service. Assistance from outside the operations area is not needed. Operations area coordinator authorized to move crews within the operations area as needed. Operations area coordinator communicates conditions and the potential need for assistance to the region coordinator.

**Level 1 – Local or Sub-Operations Center Level**

Personnel within an affected local service area are able to restore timely service. Assistance from other local service areas is not needed.

**9.0 Weather Information**

Progress Energy has a contract with a professional weather forecasting service, Weather Services International (WSI). In addition to providing Carolinas weather data, WSI will provide data for hurricane events for both the Carolinas and Florida. Since tracking maps are of great importance during a tropical event, WSI will send special maps to the System Storm Center via E-mail as soon as the maps are produced. The System Storm Center will forward these maps on to the units and departments that support our storm plan.

The forecast information is accessed from the ProgressNet Storm Center web site. On the left sidebar is a link to Florida storm tracking. On the right sidebar is a link to the Carolinas storm tracking. The tropical storm wind and track maps will be posted on these sites under the severe weather link as soon as they are available. A second method you can use away from the office is the Internet site. The address is <http://www.energycast.wsicorp.com>.

When accessing this site, choose the "Log into your account" option.

The name and password are in small letters. To compliment their major storm communications, WSI provides a daily 2:00 PM update outline specifically designed to meet the needs of Progress Energy Carolinas and Progress Energy Florida. The weather updates are distributed through the respective Distribution Control Centers (DCC) who in turn forwards the information to selected individuals via e-mail.

A second weather vendor contracted solely for tropical weather events is Impact Weather. This forecaster is utilized for a second opinion. Impact Weather will send the DCC their storm tracking maps. The DCC will forward these maps on to selected individuals via email.

**PEF-SR-00099**

## **10.0 Definition of a Major Storm**

Damage to facilities may be caused by hurricanes, tornadoes, ice, and other natural causes or disasters, or the damage may be caused by civil disturbances.

The following is from IEEE Std 85901987, section 6.3.2 (page 10).

“Major storm” designates weather which exceed design limits of facilities, and which result satisfies all of the following:

1. Extensive damage to facilities.
2. More than a percentage of customers out of service.
3. Service restoration time is longer than a specified time.

**Note:** Typical industry criteria are 10% of customers out of service and 24 hours or more restoration time. Percentage of customers out of service may be related to a company operating area rather than to an entire company.

There are no specific measures to EXTENSIVE MECHANICAL damage. However, it does not include electrical damage such as internal failures of transformers or conductors. Extensive refers to the magnitude of damage and the distance over which the damage extends. Therefore, it would be expected that the storm was of sufficient severity to cause damage of an unusual magnitude at multiple locations on the system.

The following measures will help quantify damage. These measures can be applied on a regional, operations area, or line & service area basis.

The specified PERCENTAGE of customers out of service is 10% of the customers in the affected area office. This is determined by dividing the total number of customers out of service during the storm by the number of customers in the area and multiplying by 100.

A customer experiencing another unrelated outage, after having service restored, can be counted again in the calculation of customer minutes out.

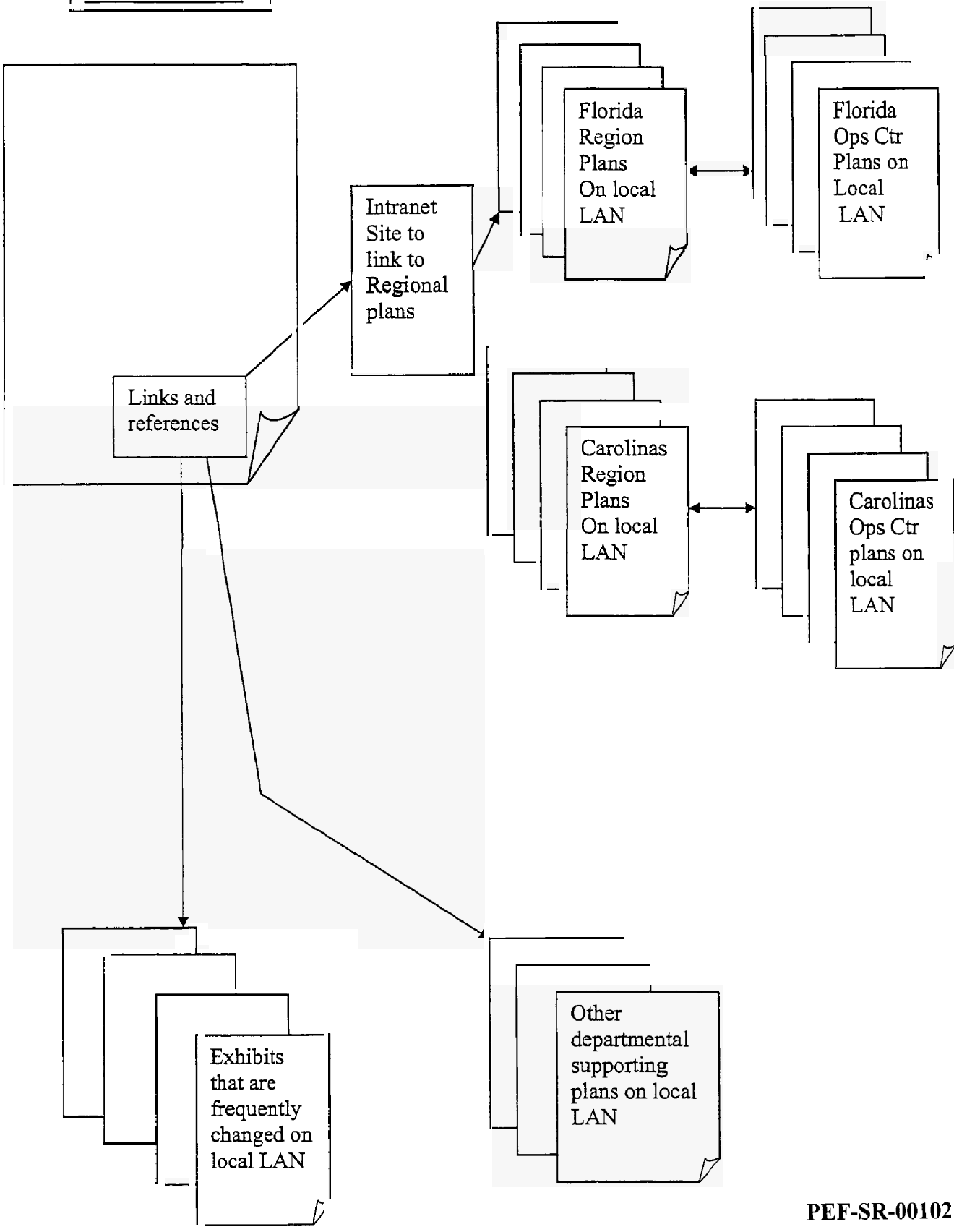
Storm RESTORATION is complete when storm damaged facilities which are essential for supplying service to customers have been repaired.

The RESTORATION TIME of 24 hours is reasonable for signifying extensive damage to the system. This time can be adjusted to account for outside construction forces applied to the restoration. This is accomplished by multiplying the restoration time by the total construction force man-hours applied to restoration (includes area CP&L and contract construction crews). For example, if restoration time is 18 hours, the five area crews worked an average of 16 hours each (80 crews hours) and three crews from another area worked an average of 10 hours each (30 crew hours). The ADJUSTED RESTORATION TIME would be 18 hours  $(80+30)/80=24.75$  hours. (Note: Man hours or crews can be used in these calculations).

**PEF-SR-00100**

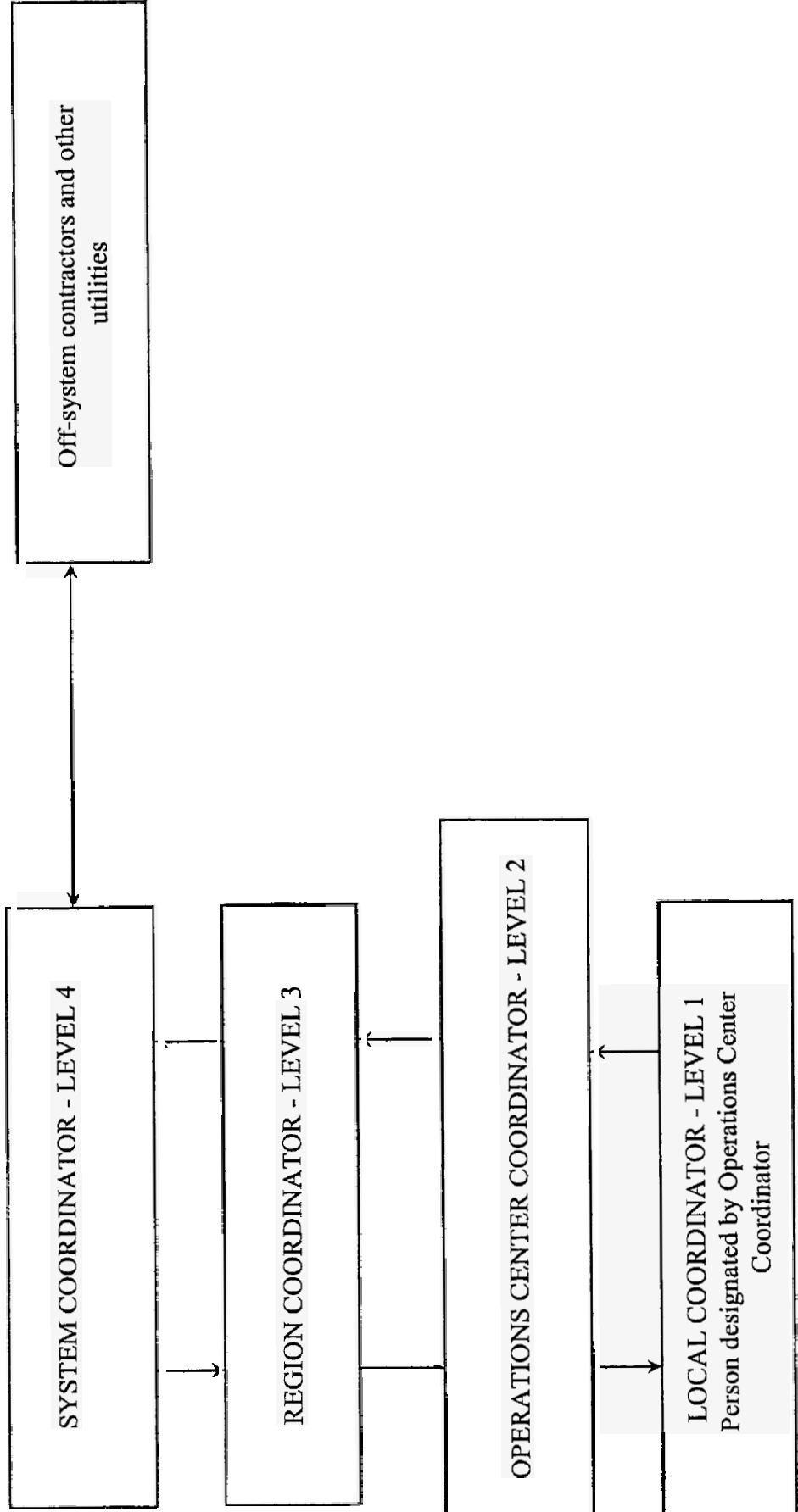
**11.0 Plan Revisions**

Telephone numbers and critical personnel assignments should be updated on the LAN folders on an ongoing basis. In addition, each April the System Storm Plan and the region storm plans shall be reviewed and updated with changes that are needed. The region storm coordinators should verify that all of their Operations Centers have updated their plans.

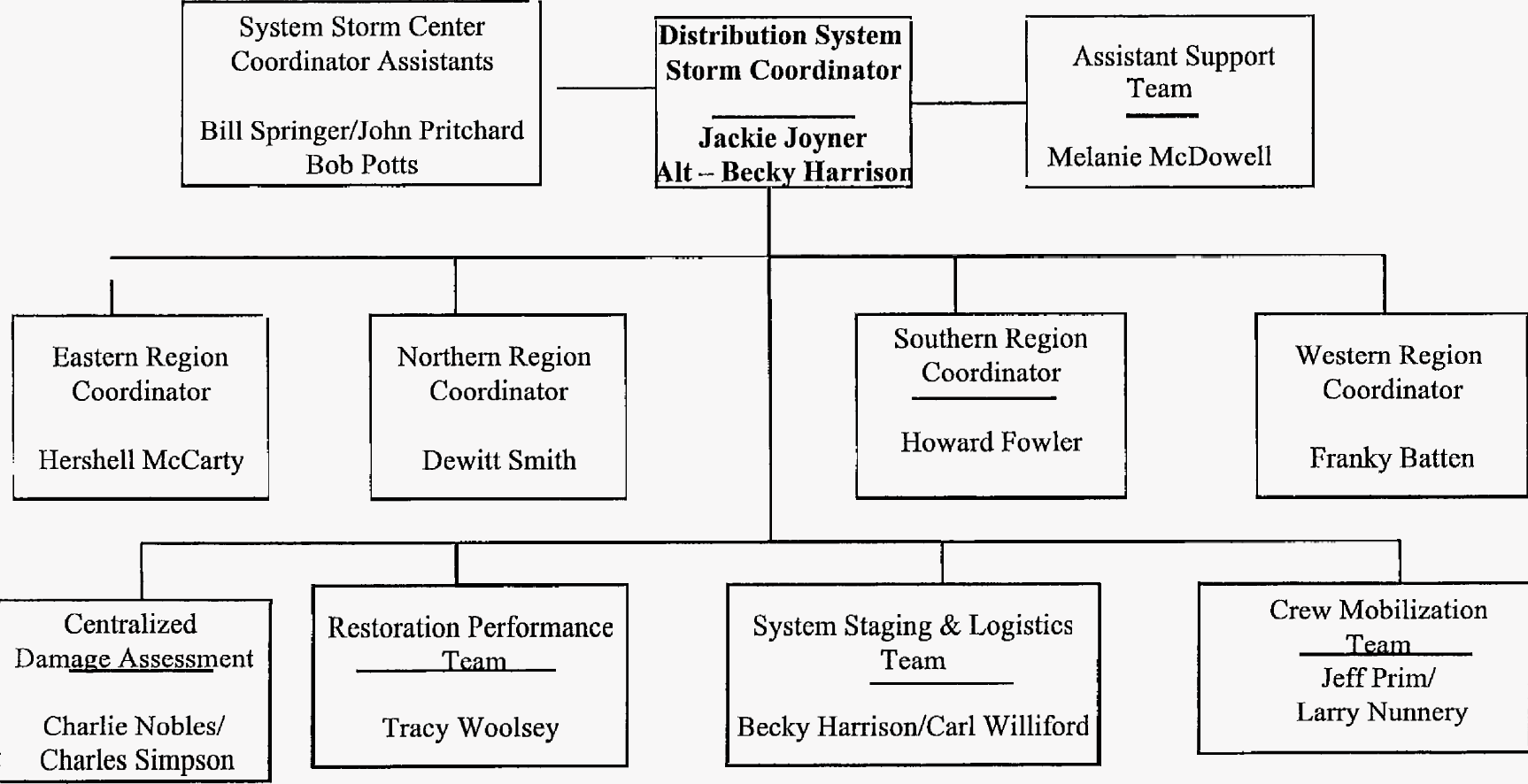


PEF-SR-00102

# COMMUNICATIONS FLOW Requesting and Providing Assistance

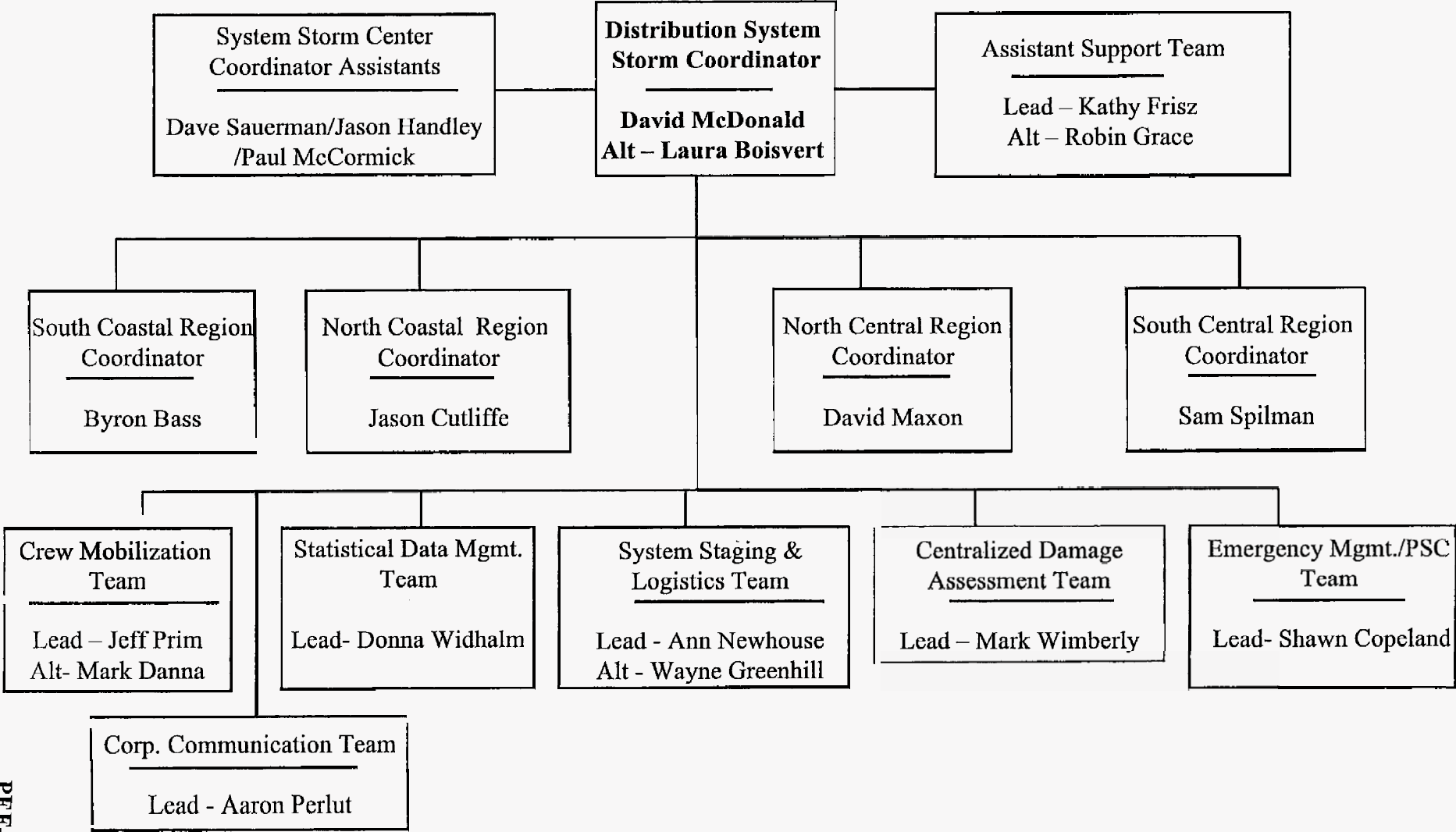


# CAROLINAS DISTRIBUTION SYSTEM STORM COORDINATORS





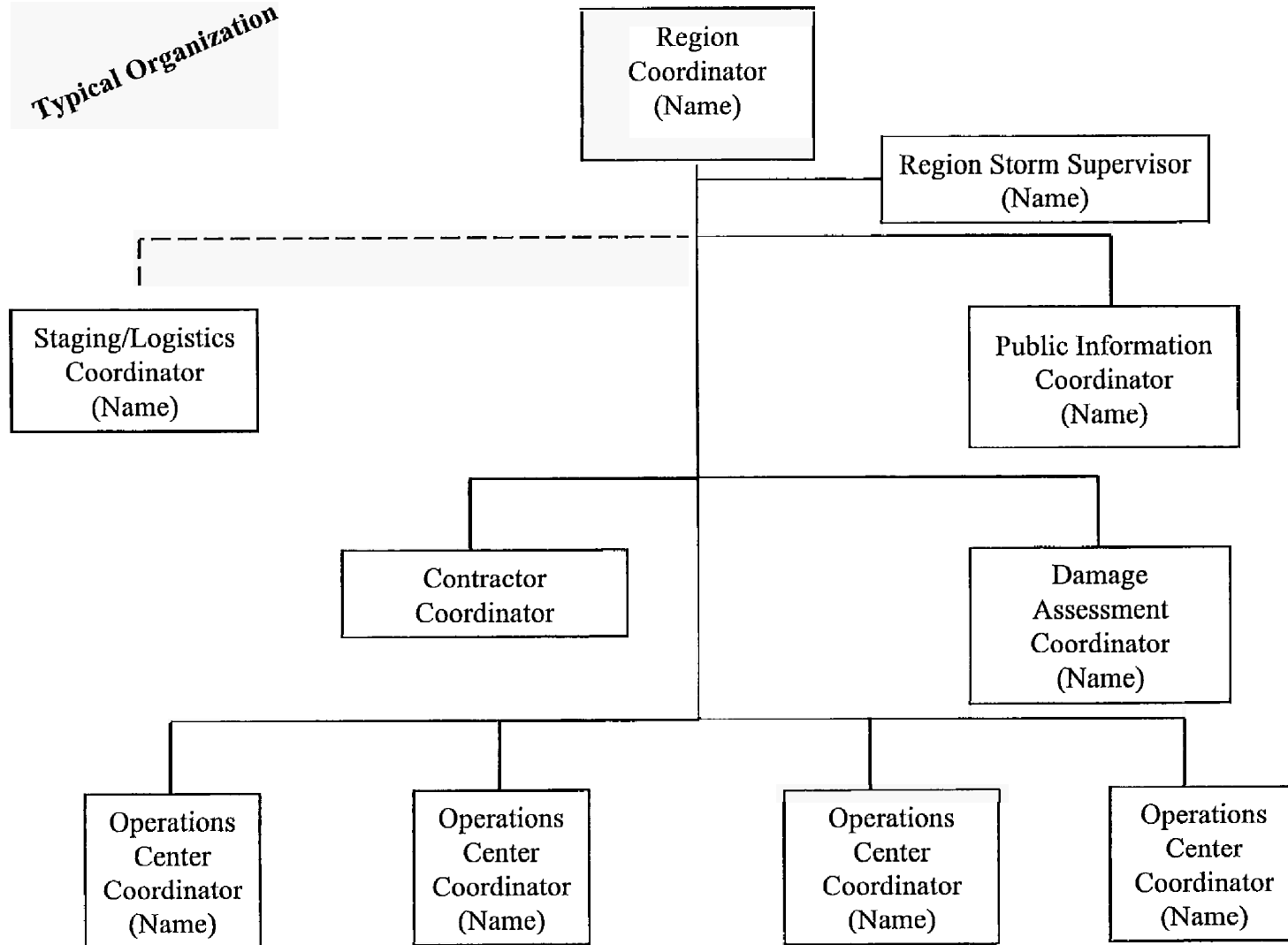
# FLORIDA DISTRIBUTION SYSTEM STORM COORDINATORS



# REGION

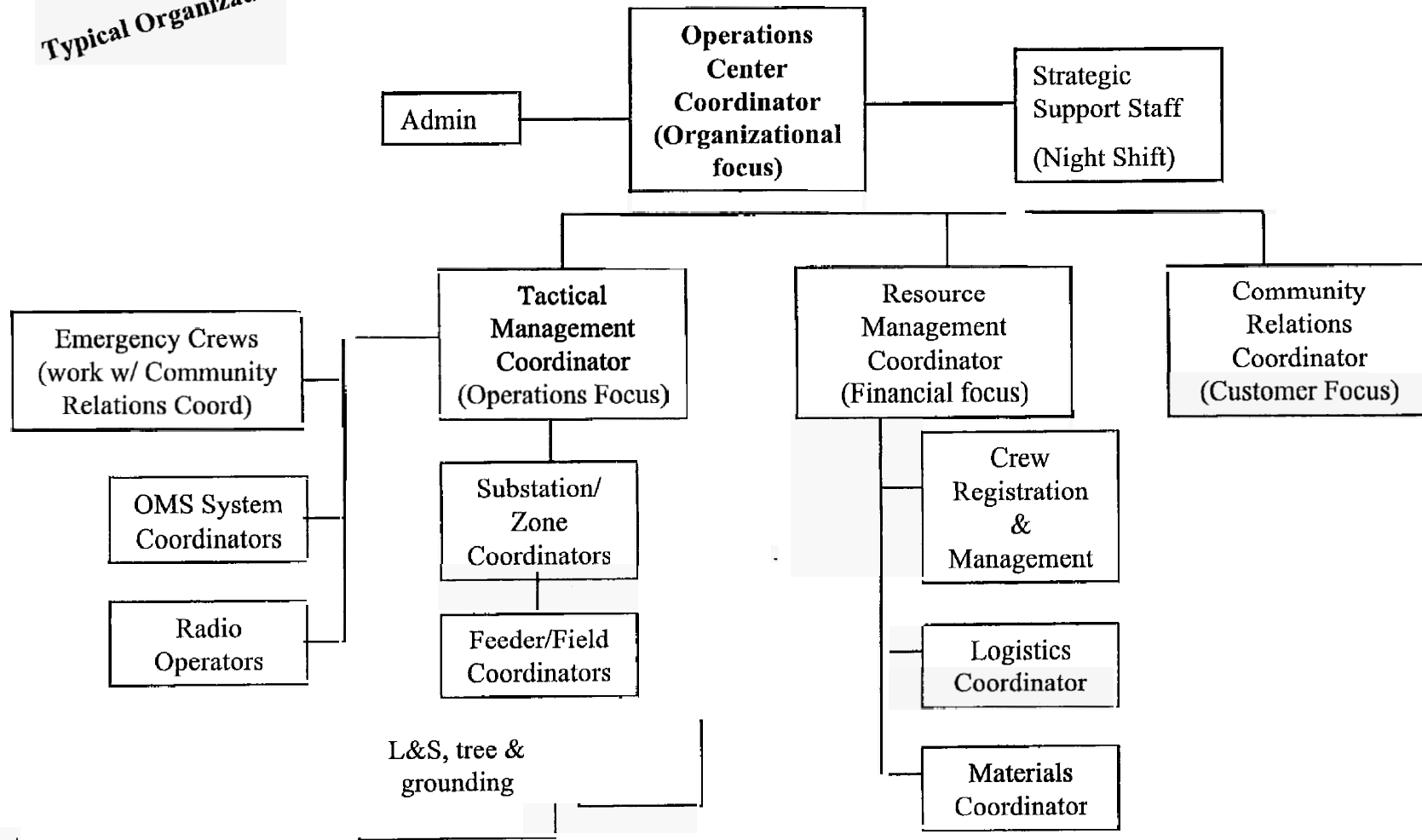
Introduction - Exhibit #5

*Typical Organization*



# OPERATIONS CENTER

Typical Organization



# Carolinas Transmission Storm Team Storm Plan Organization

TRANSMISSION SYSTEM COORDINATOR
Jeff Lyash 919-546-2571

ASSISTANT TRANSMISSION SYSTEM COORDINATORS
Robert Simpson 919-546-3029 Donna Graham 919-546-6570 Mark Byrd 919-546-7937

LOGISTICS SUPPORT COORDINATORS
Donald Broadhurst 919-546-5499 Mick Vander Ploeg 919-546-6577 Lee Mazzocchi 919-546-2586 Jeff Prim 919-546-7832 Rodney Hutcherson 919-546-4456 Rhonda Webb 919-546-3070

CORPORATE MATERIAL & SUPPLIES COORDINATOR
Mike Marshall 919-662-6119

ASSIGN PRIORITY OF RESTORATION & DIRECT OPERATIONS
Vacant 919-546-4385

TRANSMISSION COORDINATOR CENTRAL AREA
Leo Gladney 910-944-5256

TRANSMISSION COORDINATOR EASTERN AREA
Ray Davis 910-686-2201

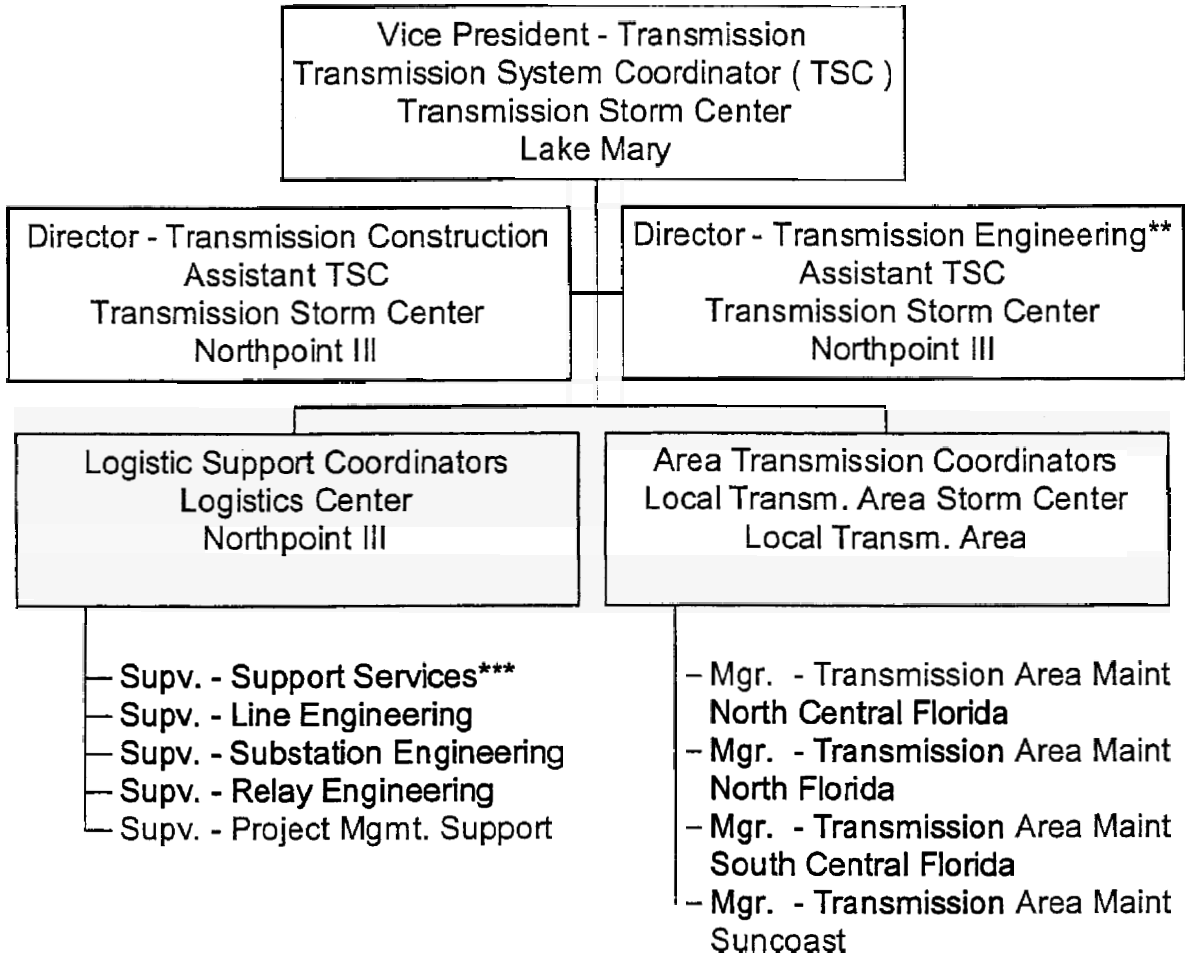
TRANSMISSION COORDINATOR NORTHERN AREA
Rick Bagley 919-878-1441

TRANSMISSION COORDINATOR SOUTHERN AREA
Glenn Dooley 843-661-2258

TRANSMISSION COORDINATOR WESTERN AREA
Mike Kirkland 828-258-4314

PEF-SR-00108

### Florida Transmission Storm Team



\*\* Storm Center Sponsor

\*\*\* Logistics Center Sponsor

## Florida Transmission – Storm Centers

Description	Location	Bell #	Voicenet #	Fax Bell #	Fax Voicenet #
Transmission Storm Center	Northpoint III ECC ( alternate location )	407-804-3081 727-344-4340 727-344-4341	280-3081 220-4340 220-4341	407-804-8804	280-2804
Transmission Logistics Support Center	Northpoint III	407-475-2412	280-2412	407-475-2487*	280-2487*
Northern Storm Center	Transmission Maint. Bldg MO16, Monticello	850-997-2232	224-1222	850-997-1584	224-1321
North Central Storm Center	Jamestown Building C Meeting Room	407-359-4464	239-4464	407-359-4889	239-4889
South Central Storm Center	Lake Wales Operation Center  Backup Number	863-678-4510 863-678-4511 863-678-4424	280-3510 280-3511 280-3424	863- 678-4515	280-3515
Suncoast Storm Center	Clearwater Operations Center Building A	727-562-5759	220-5759	727-562-3815	220-3815
Distribution System Storm Center ( HECC )	Northpoint III  ECC ( alternate location )	407-942-9581  727-384-7984	280-2581  220-4948		

\* this fax machine is located outside the Director -- Transmission Engineering office

## **INTRO - EXHIBIT #9 - SYSTEM STORM CENTER TIMELINE**

This timeline is designed for a major hurricane entering our service area. Smaller events would require the timing of some of the activities to be adjusted. A near miss could require not only the timing to be adjusted but also some of the activities might not occur.

### **AT ALL TIMES**

Be flexible.

Work safely

Have a sense of urgency, but think before you communicate.

### **120 HOURS (5 DAYS) PRIOR TO STORM**

Obtain a comprehensive weather track and report from our weather contractor.

Conduct a conference call with Region and Transmission Department Storm Coordinators and weather contractor to discuss weather situation and possibilities. Decide if an alert is needed.

Schedule next conference call for system/regional decisions. Also schedule conference call for supporting storm plan personnel.

Issue an email and/or telephone call to key distribution storm plan personnel and supporting personnel to place them on alert and notify them of scheduled conference calls for the next 24 hours. Include Corporate Communications, materials, Staging & Logistics, crew mobilization, safety, transportation, dispatch operations, Customer Service Center, weather contractor, security and IT/telecommunications.

Place contractors on alert

Run a crew resource model of projected track. Also look at probable "worst case" track shift and run crew resource models for those tracks.

Schedule an SEE Mutual Assistance conference call.

Initiate plans for obtaining needed 4 wheel drive vehicles and damage assessment teams.

### **96 HOURS (4 DAYS) PRIOR TO STORM**

Update crew resource model based on latest track

Conduct system conference call

Conduct an SEE Mutual Assistance conference call.

Continue acquisition of 4 wheel drive vehicles and damage assessment teams.

Obtain probable crew numbers from contractors.

Start a crew planning/tracking sheet.

### **72 HOURS (3 DAYS) PRIOR TO STORM**

Update crew resource model based on latest track

Conduct system conference call

Conduct an SEE Mutual Assistance conference call.

Continue acquisition of 4 wheel drive vehicles and damage assessment teams.

Determine any pre-storm crew mobilization plans which will occur. Start this in action

Determine any pre-staging areas needed for crew mobilization plans. Issue the schedule to set up these staging areas.

Develop preliminary plans for staging areas needed in impacted areas to restore service.

Issue order to open system storm center if pre-storm off-system mobilization will be occurring.

Place order for leased handheld radios.

Direct regions in areas that will not be directly impacted by the storm to put storm strike teams on alert and send in team list.

### **48 HOURS (2 DAYS) PRIOR TO STORM**

Update crew resource model based on latest track

Review staging area plans

Conduct system conference call

Conduct an SEE Mutual Assistance conference call.

Continue acquisition of 4 wheel drive vehicles and damage assessment teams.

Notify regions, state Division of Emergency Management, cooperatives and municipal systems contact coordinators, and Corporate Safety when system storm center is open.

Notify Business Operations to activate storm credit cards and issue storm project numbers.

Contact state Division of Emergency Management office. Discuss preliminary crew mobilization plans, request any necessary DOT waivers for in-coming off-system personnel, and determine helicopter resources that may be available.

### **24 HOURS (1 DAYS) PRIOR TO STORM**

Update crew resource model based on latest track

Conduct system conference call

Conduct an SEE Mutual Assistance conference call.

Develop and implement a 24 hour shift schedule for the system storm room.

Direct Business Operations to issue storm project numbers

Contact state Division of Emergency Management office. Update them on crew mobilization plans and verify we have any necessary DOT waivers for in-coming off-system personnel.

Finalize plans for staging areas. Issue orders to Staging & Logistics to prepare for setting up these staging areas immediately after the storm has passed.

Finalize centralized damage assessment plans.

Reserve motel rooms for system storm center personnel that will be staying downtown the night of the storm.



## **IMMEDIATE POST STORM ITEMS**

Schedule conference calls for next 24 hours.

Assess personnel needs of system storm center personnel. Revise 24 hour storm center schedule as needed to account for personnel needs to attend to storm damage or family emergencies.

Assess condition of System Storm Center. Relocate to alternate storm center if necessary.

Obtain a preliminary damage report from each impacted area. Determine which storm centers are operational.

Verify condition and usability of planned staging areas. Adjust plans as needed.

Review crew mobilization plans and adjust as needed.

Issue deadline to have statistical damage assessments conducted.

Review statistical damage assessment data. Determine if any second wave of off-system personnel is needed. Determine if any resources need relocation among the impacted areas.

Contact state Emergency Management office. Obtain copy of any Declaration of Emergency.

Release any system storm center personnel that can now be better utilized in the field.

## **POST STORM FOLLOW-UP ACTIVITIES**

Issue order to close down system storm center. Notify regions and state Division of Emergency Management that center is closed. Leave an appropriate message on the storm center voice-mail greeting.

Obtain all crew release times for crew mobilization reports. Verify all crew numbers.

Forward to Business Operations for a storm cost estimate.

Assist regions as needed with obtaining any additional personnel for post-storm inspections and contractors for storm clean up work.

Obtain a mailing list of all off-system companies that provided assistance and forward to Corporate Communications and management.

Decide which areas will automatically qualify for a major storm as "no brainers" and notify regions. Tell regions they must send in a Major Storm Approval Form for any other areas. Send list of areas that qualify for a major storm to Distribution Dispatch Operations for adjustment of OMS data.

Direct regions and other storm support personnel to conduct a lessons learned process per the storm plan.

Conduct a lessons learned review with the system storm center personnel. Develop an action plan for the storm center items. Forward the system-wide items up for inclusion in system-wide action plan.

Issue a storm performance report and an action plan of all system-wide improvement items.

Document title

# **Distribution Storm Plan – Sec 2 - Planning and Preparation**

Document number

**EMG-EDGX-00012**

Applies to: Energy Delivery Group – Carolinas and Florida

Keywords: emergency; distribution storm plan; corporate emergency response plan; ERIS

## **1.0 Table of Contents**

Return to Distribution Storm Plan - Overview (EMG-EDGX-00010) for a Table of Contents listing of the entire Distribution Storm Plan.

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- 3.0 Distribution Storm Coordinator – Roles & Responsibilities
- 4.0 Region Storm Coordinator – Roles & Responsibilities
- 5.0 Operations Center Storm Coordinator – Roles & Responsibilities
- 6.0 Region Restoration Coordinator – Roles & Responsibilities
- 7.0 Region Public Information Coordinator
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Exhibit-14-Blank Storm Team Form

Exhibit-15-Storm Room Standards

Exhibit-16-Daily Thunderstorm Monitoring

**PEF-SR-00114**

## **2.0 Storm Awareness**

For level 1 and 2 storms (Operations Center level and below), dispatching personnel and the Region Restoration Coordinators monitor weather Internet sites, commercial weather reports, and the special weather radio bands. These resources are used to track development and movement of storms, to make decisions about holding crews (whether to dismiss at 5:00,

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for example), and to place additional crews on call. The DCC will send out a daily text forecast that contains any forecasted severe weather. This will alert the Operations Center Storm Coordinators of possible storm conditions. Region Restoration Coordinators will assist the Operations Center Storm Coordinators in coordinating the response for these storms. See Exhibit-16-Daily Thunderstorm Monitoring for a diagram of this process.

For level 3 and 4 storms (region level or system level), the System Storm Coordinator will be notified by Weather Services International (WSI), our contracted weather service, about upcoming events. System Storm Coordinator will then use conference calls with the Region Storm Coordinators to keep the Energy Delivery Group notified of major storm developments and plan the storm response. Region Storm Coordinators will then schedule storm conference calls with their Operations Centers on these events.

### 3.0 Distribution System Storm Coordinator – Roles and Responsibilities

The Distribution System Storm Coordinator has the overall responsibility of ensuring that Energy Delivery is prepared and ready to execute the storm plan for any system-wide storm. They are responsible for the management of all resources during a major storm. They are responsible for ensuring the storm plan is followed on all levels by performing the following functions:

- Maintain the System Distribution Storm Plan. Review the Distribution Storm Plan each April for changes that may need to be incorporated. Coordinate the review with the Region Storm Coordinators and other departments which support the Distribution System Storm Plan. Make necessary changes in the System Storm Plan and keep Energy Delivery informed of these changes.
- Assign the following critical centralized storm support roles to support the major storm restoration efforts:
  - System Staging & Logistics Coordinator
  - System Damage Assessment Coordinator
  - Crew Mobilization Team Leaders
  - System Stats Team Leader
  - Restoration Performance Team Leader
  - Emergency Management/PSC Team Leader (Florida only)
- Maintain an inventory of and a plan of action for utilizing Company-wide crews and equipment, plus an up-to-date EEI Mutual Assistance Roster of other utility companies, for use if needed during a severe storm or other disaster.
- Develop a plan of action for providing assistance to other utilities during a severe storm or other disaster. Coordinate with other utility storm coordinators in the SEE on the SEE crew mobilization storm response.
- Maintain a System Storm Center Plan that includes assignments and an up-to-date listing of system Storm Center personnel and telephone numbers. Maintain an area that

- is used for the System Storm Center. Keep this area equipped with the communication facilities necessary for Storm Center operations.
- Ensure the coordination of the other departments within Progress Energy and governmental agencies to assist in major storm restoration efforts. During a major storm they will keep these other departments notified via scheduled conference calls. These departments and agencies include:

Fleet Services	Safety
IT&T	Corporate Security
Corporate Communications	Materials Management
Transmission Department	<b>System Energy Control Center</b>
Customer Service Center	<b>Senior Management</b>
Human Resources (SWARM activities)	<b>National Guard</b>
State emergency management agencies	<b>FEMA</b>

- In the aftermath of destructive storms, engage the Human Resources department in providing assistance to employees homes and families while employees are on restoration assignments.

#### **4.0 Region Storm Coordinator – Roles and Responsibilities**

The Region Storm Coordinator has the overall responsibility of ensuring that their region is prepared and ready to execute the storm plan for any region-wide storm. They are responsible for the management of all region resources during a major storm. Their responsibilities include the following functions:

- Maintain a Region Storm Plan. Conduct an annual review in April of the Region Storm Plan. Make sure that all levels of Storm Plans within the region are maintained and that Plan reviews are performed. Maintain the Region Storm Plan files on the LAN.
- Develop and maintain a procedure for coordinating action within the region when damage extends beyond one service area, or when support is needed from outside a service area.
- Assign the following region storm support roles to support regional Operations Centers in storm restoration:
  - Region Restoration Coordinators
  - Region Public Information Coordinator
  - Region Damage Assessment Coordinator
  - Region Contractor Coordinator

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- When directed by the System Storm Coordinator to provide assistance to other regions or utilities, coordinate the formation and deployment of the region Storm Teams.
- Provide for storm center bench strength by verifying the region and Operations Center plans involve employees from other departments to assist in the restoration efforts. Coordinate the utilization and assignment of SWARM resources among the region and the Operations Centers.

## **5.0 Operations Center Storm Coordinators – Roles and Responsibilities**

The Operations Center Storm Coordinators have the overall responsibility of ensuring that their Operations Center is prepared and ready to execute the restoration response for any level 1 or 2 storm. In addition, they have the responsibility of ensuring their Operations Center activities in a level 3 and 4 storm are conducted according to the System Storm Plan. The format for these responsibilities is detailed in the Operations Center Model Storm Plan.

## **6.0 Region Restoration Coordinators – Roles and Responsibilities**

The Region Restoration Coordinators are responsible for daily thunderstorm monitoring and coordination of Operations Center resources for Level 1 and 2 storms. They facilitate the coordination and management of the Regional storm plans by supplying information to the General Managers and Operations Center/Local Distribution Managers to enable them to make informed decisions with regard to storm restoration within their respective regions.

In Florida, the Region Restoration Coordinators also have responsibility for the following:

- Assisting in the implementation of the integrated Progress Energy Distribution Storm Plan for their respective regions.
- Facilitate the DOM's in the recruitment and storm assignment of personnel to storm teams through employee sign up campaign (SWARM) and data base management for each Region and Operating Center.
- Provide materials (training modules), facilities and logistics for the training of personnel. Keep current on storm and hurricane information and attend meetings and seminars, such as Hurricane Exposition held annually.
- Locate one staging area for each Operating Center capable of handling a Level 1 through Level 3 storm and negotiate acquisition of same.
- Create standardized list of internal resources for each Region for DOM's to utilize in storm situations.
- Facilitate GM's and DOM's in the deployment of staff by maintaining an up-to-date employee database with necessary information.

**7.0 Region Public Information Coordinator – Roles and Responsibilities**

The Region Public Information Coordinator is responsible for working closely with Corporate Communications to ensure all media activities within the region are coordinated. No one within the region is authorized to have any media contact or activity unless it has been authorized by the Region Public Information Coordinator. Their functions include the coordination with Corporate Communications of the following media activities:

- Reporting of any outage figures.
- Release of any overall estimated restoration times
- Coordination and arrangement of TV shots of crews working
- Coordination and arrangement of any TV or radio interviews

**8.0 Bench Strength Employee Assignments (SWARM)**

Having all available, qualified employees assigned and trained to perform specific functions before the need arises to implement the Storm Plan is a required pre-storm activity. During the storm planning phase, specific functions must be designated for each plan level, and employees must be assigned to perform these functions.

The Energy Delivery Group resources are usually adequate to respond to Level 1, 2 or 3 storms. For Level 4 system-wide storms, other employees throughout the company must be utilized. These employees shall be assigned a storm role to add depth and bench strength to region and Operations Center plans.

The SWARM (Supplemental Workforce Availability, Readiness and Mobilization) system is a tool used to identify and manage these volunteer employees. It is the expectation that all company employees sign up in SWARM for a storm role. This process is shown in detail on the LAN in the Distribution Storm Plan/SWARM folder

Being prepared for a storm role means that every employee assigned to a Storm Plan activity has specific knowledge, skill and an understanding of their assigned duties. The responsibility for training these volunteer employees belongs to the particular storm coordinator where these employees will report.

**9.0 Staging Areas**

For major storms the normal Line & Service facility is not able to handle the volume of resources required to restore service. Within the Carolinas service area, the Operations Center Storm Coordinator is responsible for coordinating the identification of staging sites in their area with the System Staging and Logistics Coordinator. In the Florida service area, the Region Restoration Coordinators are responsible for coordinating the identification of staging sites within their assigned region.

Ideally, there should be at least two staging areas identified in each Operations Center. This would allow for a backup in the event of flooding or inability to secure the preferred

staging area site. The System Storm Coordinator will determine which staging areas will be opened. This depends on the storm track and the crew mobilization response.

A full service staging area in each Operations Center shall be identified and secured. The preferred staging area would be capable of handling at least 500 linemen and 250 line trucks. This staging area should have a prepared layout that includes traffic flow, security area, pole storage, transformer storage, refueling arrangements, office space, fax machines and telephones, restroom facilities, water and ice storage, lighting, electricity, and old material storage. The staging area will usually be staffed by a Staging Area Coordinator, Materials Coordinator, Logistics Coordinator, and other staff as the Staging Coordinator deems necessary.

In addition to the full-service staging area, there is a need to identify and arrange for intermediate staging areas(mustering sites) which are used for short duration. These transition staging areas are used as a stopover point for resources moving into a region. Depending on the crew mobilization response, the System Storm Coordinator will determine the need for these transition staging areas. The opening and closing of these areas will be done by the System Staging & Logistics teams.

## **10.0 Storm Response Teams**

For small Level 3 storms, the assistance sent to the impacted region from the other regions will generally be individual line crews. The organization and management of the crews will be left to the impacted region.

For major Level 3 and 4 storms, the impacted region usually needs help managing the restoration effort. Assistance sent from an unaffected region to the impacted region should be an organized storm team containing management and support personnel. This storm team should be capable of restoring service with minimal assistance from the impacted region. Exhibit-12-Storm Team Guidelines contains the guidelines for on and off system storm teams.

In addition to the team coordinator, there are company line crew coordinators, contract line crew coordinators and tree crew coordinators. Support for materials, logistics, vehicles, and telecommunications are sent if needed or requested.

Each Region Storm Coordinator is responsible for assigning the roles and responsibilities of a storm response team. This storm response team should be prepared to travel either on-system or off-system and operates for up to one week on a 24-hour notice. Exhibit-14-Blank Storm Team Roster is a blank roster that shall be used as the format for all storm team rosters.

### **11.0 Storm Room Standards**

The Storm Room is the command and communication center for the Region/Ops Center/Area while the storm plan is in effect. Effective operation in the storm room is critical to efficient and speedy restoration of service. The following standards apply to storm rooms. See Exhibit-15-Storm Room Standards for guidelines on storm room standards.

### **12.0 Contractors**

The Manager - Distribution Contracts is responsible for maintaining a complete list of contractors in the service area who have a contract agreement with the company. The Region Contract Projects Supervisor is responsible for keeping an up-to-date list of contractors available for use during a storm situation to support storm restoration. This list should include, but is not limited to, the following contractors:

- Distribution and transmission line contractors
- Tree contractors
- Crane and heavy equipment
- Specialized track and off-road vehicles

### **13.0 Testing the Plan**

Storm Plan coordinators are responsible for determining if and when testing is necessary for effective storm plan implementation. Testing should follow the organization chart from system storm coordinator through local coordinator, as needed. Preparedness and action plans to test can include, but are not limited to:

- Simulated emergency conditions
- Drills
- Communication flow review
- Personnel and duties assignment listings review
- Resource listings review
- Evaluation of action plan readiness for each degree of severity
- Priority circuits and customer listings review
- Damage assessment plans
- Relevance of forms and reports format review.

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**Planning – Exhibit #10 – Carolinas Region Storm Coordinators Phone Numbers  
(May 12, 2004)**

**Eastern Region**

<u>Name</u>	<u>Company No</u>	<u>Bell Number</u>	<u>Home Number</u>	<u>Cell Number</u>
Hershell McCarty	835-7230	910-256-7230	[REDACTED]	[REDACTED]
Bill Dumas	835-7240	910-256-7240	[REDACTED]	[REDACTED]
Stephen Middlekauf	835-7258	910-256-7258	[REDACTED]	[REDACTED]
Storm Center	835-7310	910-256-7301	[REDACTED]	[REDACTED]

**Southern Region**

<u>Name</u>	<u>Company No</u>	<u>Bell Number</u>	<u>Home Number</u>	<u>Cell Number</u>
Howard Fowler	440-2321	843-661-2321	[REDACTED]	[REDACTED]
Jimmy Watkins	440-2227	843-661-2227	[REDACTED]	[REDACTED]
Anthony Zeno	440-2508	843-679-2508	[REDACTED]	[REDACTED]
Storm Center	440-2570	843-679-2570	[REDACTED]	[REDACTED]

**Northern Region**

<u>Name</u>	<u>Company No</u>	<u>Bell Number</u>	<u>Home Number</u>	<u>Cell Number</u>
Dewitt Smith	722-6130	919-481-6130	[REDACTED]	[REDACTED]
Jim Anderson	722-2900	919-468-2900	[REDACTED]	[REDACTED]
Lynn Pendelton	726-3820	919-818-3820	[REDACTED]	[REDACTED]
Storm Center	722-6174	919-481-6174	[REDACTED]	[REDACTED]

**Western Region**

<u>Name</u>	<u>Company No</u>	<u>Bell Number</u>	<u>Home Number</u>	<u>Cell Number</u>
Franky Batten	340-4300	828-258-4300	[REDACTED]	[REDACTED]
Ron Cooper	340-4363	828-258-4363	[REDACTED]	[REDACTED]
Steve Pope	340-6260	828-271-6260	[REDACTED]	[REDACTED]
Dan O'Hannon	340-6323	828-258-6323	[REDACTED]	[REDACTED]
Storm Center	340-5007	828-258-5007	[REDACTED]	[REDACTED]

**Customer Service Center**

<u>Name</u>	<u>Company No</u>	<u>Bell Number</u>	<u>Home Number</u>	<u>Cell Number</u>
Tucker Mann	747-5500	919-508-5500	[REDACTED]	[REDACTED]
Richard Rackley	747-5700	919-508-5700	[REDACTED]	[REDACTED]
Danny Ray	747-5729	919-508-5729	[REDACTED]	[REDACTED]
Ellen Fagan	747-5580	919-508-5580	[REDACTED]	[REDACTED]
*Dispatchers (all regions)	747-5714	919-508-5714	[REDACTED]	[REDACTED]

Region / Name / Title / Location	MAC	Internal	Outside Office	Cell	Home
<b>South Central Florida Region:</b>					
Sam Spilman - GM	WG13	284-3317	407-905-3317		
Larry Bonner - DOM - Winter Garden/Clermont	WG14	284-3301	407-905-3301		
Lyndon Dupont - DOM - Buena Vista	BV13	280-6620	407-938-6620		
George Baxter - DOM - Lake Wales	LW13	280-3420	863-678-4420		
Corey Zeigler - DOM - Highlands	HL14	280-5856	863-471-5856		
Michael Nix - DOM - Conway	CY14	222-4441	407-646-8441		
Susan Mendez - Regional Engineering Manager	WG13	284-3319	407-905-3319		
Roger Peterson - Regional Restoration Coordinator	BV13	280-6636	407-938-6636		
Jeff Kirkpatrick - Resource Foreman	WG13	284-3326	407-905-3326		
Brent Guyton - Region Resource Manager	WG13	284-3411	407-905-3411		
<b>North Central Florida Region:</b>					
Dave Maxon - GM	JT13	239-4455	407-359-4455		
Steve McKinnie - DOM - Jamestown	JT14	239-4402	407-359-4402		
Bob Duncan - DOM - Apopka	AK13	237-5500	407-646-8500		
Keith Blander - DOM - Longwood	AS13	283-5313	407-772-5313		
Warren DiNapoli - DOM - Deland	DL14	280-3901	386-943-3901		
Kevin Price - Regional Engineering Manager	JT13	239-4418	407-359-4418		
Steve Burlison - Regional Restoration Coordinator	JT13	239-4417	407-359-4417		
Mark Lacey - Resource Foreman	AK13	237-5559	407-646-8559		
David Amato - Region Resource Manager	JT13	239-4410	407-359-4410		
<b>South Coastal Region:</b>					
Byron Bass - GM	CW13	220-5688	727-562-5688		
Tony Pearcey - DOM - St. Petersburg	SP14	220-3340	727-893-9340		
Garry Riley - DOM - Tarpon Springs	TS13	232-4300	727-939-4300		
Steve Swift - DOM - Walsingham	WC13	220-3428	727-588-7428		
Ron Lippelt - DOM - Clearwater	CW14	220-3855	727-562-3855		
Alina Haines - DOM - Seven Springs/Zephyrhills	7S13	220-5150	727-372-5150		
Jason Flynt - Regional Engineering Manager	CW13	220-5652	727-562-5652		
Ivon Collins - Regional Restoration Coordinator	CW13	220-5612	727-562-5612		
J. David Cole - Resource Foreman	SP13	220-3212	727-893-9212		
Karen Hayden - Region Resource Manager	SP14	220-3327	727-893-9327		
<b>North Coastal Region:</b>					
Jason Cutliffe - GM	IV12	220-5190	727-372-5190		
Henry Goldsmith - DOM - Inverness	IV12	240-4931	352-563-4931		
Steve Mandakunis - DOM - Monticello	MO13	224-2292	850-342-2292		
Jim Ginley (Interim) - DOM - Ocala	OC14	220-6523	352-694-8523		
Martin Lopez(Interim)- Regional Engineering Manager	7S13	220-5115	727-372-5115		
Ronnie Bassett - Regional Restoration Coordinator	OC13	220-6536	352-694-8536		
Dennis Spellicy - Resource Foreman	IV12	240-4585	352-563-4585		
Brian Marley - Region Resource Manager	7S13	220-5194	727-372-5194		
<b>System Storm Center:</b>					
David McDonald - System Storm Coordinator	CX1N	230-5062	727-820-5062		
David Sauerman - Resource Foreman DO&S	NP4D	280-2263	407-942-9263		
Kathy Fisz - Admin. Supp. Team Lead	NP4D	280-2432	407-942-9432		

## Guideline For On & Off System Storm Response Teams

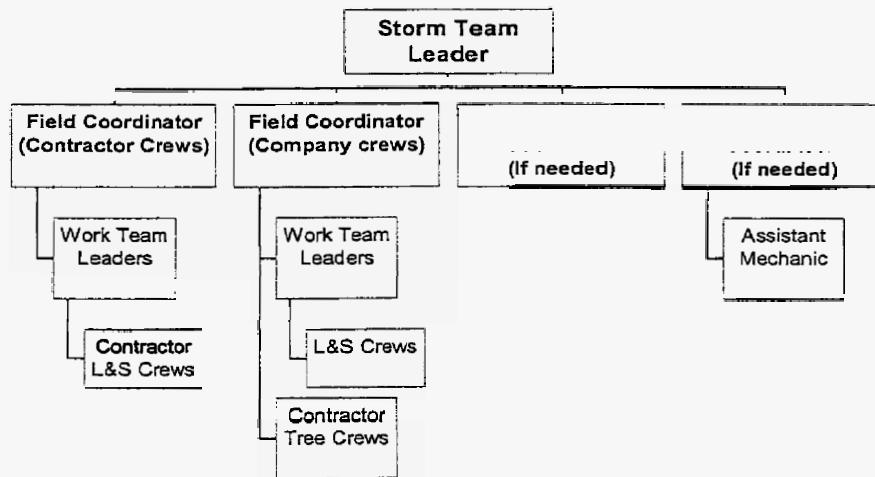
### Introduction

A storm response team is a self-sufficient work unit consisting of design/engineering, construction and support personnel intended to provide emergency electric power restoration support both internal and external. The purpose of this guideline is to provide information on general structure, roles and responsibilities, equipment, and deployment information relating to storm response teams. Where applicable distinctions are made between on-system and off-system teams. It is important to note that this is only a guideline - unique characteristics of individual teams or circumstances may dictate significant deviations from these guidelines,

### Team Structure

Recommended structures for on and off system teams are given below.

#### On System Storm Response Team



Note: Typical work team to consist of the following:

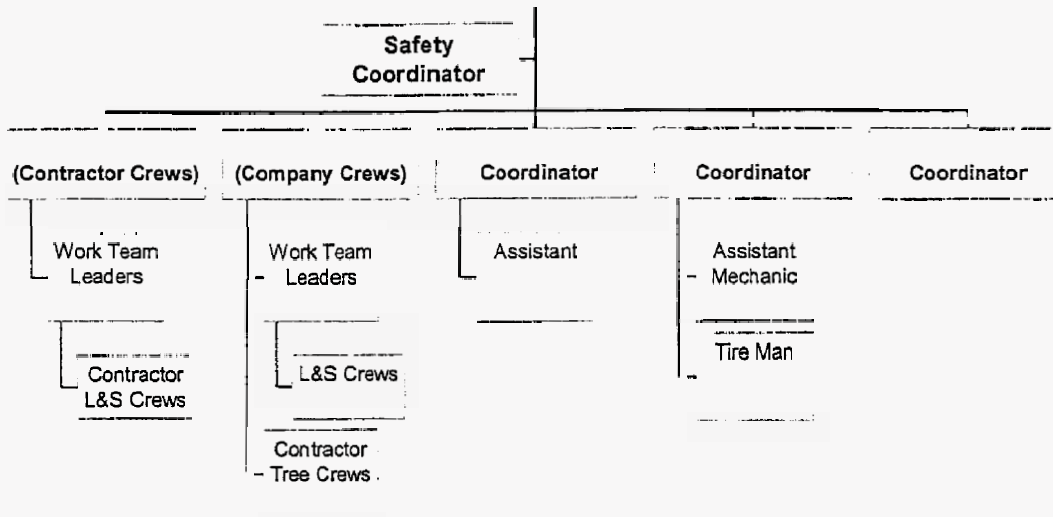
- 1 Digger Derrick (2 men)
- 1 Material Handler (2 men)
- 1 Service Bucket (2 men)
- 1 Pick-Up Truck (Work Team Leader)
- 1 Pick-Up Truck (Contractor Crew Foreman)\*
- 1 Passenger Vehicle (Scout)\*\*

\* If work team is comprised of contractor employees then contractor foreman should be included as part of team in addition to team leader who should always be a company employee.

\*\* One scout per work team may not be necessary in all cases.

## Team Structure (continued)

### Off System Storm Response Team



Organization charts depicted above reflect typical team structure for both on and off system teams. Actual team structure may vary significantly from that shown depending on personnel and/or equipment availability. In the case of on-system teams, team size should generally be limited to no more than 50 total personnel (including support personnel) in order to keep the team manageable. Some regions will furnish two separate strike teams to maintain manageable size. For off-system teams, each team size should be limited to no more than 80 total personnel.

## Roles & Responsibilities

Roles and responsibilities for each member of on and off system storm teams are depicted in the tables below. Note that each coordinator is responsible for developing implementation/ mobilization plans for their respective function.

Role	Responsibilities
Storm Team Leader	<ul style="list-style-type: none"> <li>• Responsible for the overall coordination of storm team</li> <li>• Coordinate movement of work force with System Storm Coordinator</li> <li>• Lead advance team and makes initial contact with host utility</li> <li>• Establish one point of contact with host utility</li> <li>• Update host utility and company management on work progress</li> <li>• Provide direction to storm team on restoration work</li> <li>• Lead daily safety and informational meetings</li> <li>• Establish a command center</li> </ul>
Field Coordinator	<ul style="list-style-type: none"> <li>• Prioritize and direct work assignments</li> <li>• Schedule and assign crews to assigned work areas</li> <li>• Act as communication link</li> <li>• Report restoration status to Storm Team Leader</li> <li>• Assess crew needs daily</li> <li>• Keep accurate crew inventories</li> <li>• Provide direction for work team leaders</li> </ul>
Work Team Leaders	<ul style="list-style-type: none"> <li>• Direct individual units on daily restoration efforts</li> <li>• Provide daily update of work progress to Field Coordinator</li> <li>• Lead individual team to and from destination</li> <li>• Keep crew informed of work assignments and work progress</li> <li>• Coordinate crew needs to Field Coordinator</li> </ul>
Logistics Coordinator & Assistant	<ul style="list-style-type: none"> <li>• Travel ahead of the Storm Response team to make advance arrangements (Food, Lodging, Staging , etc.)</li> <li>• Arrange special transportation</li> <li>• Provide maps of the area</li> <li>• Coordinate creature comforts with host utility</li> <li>•</li> </ul>

Vehicle Maintenance Coordinator & Assistant	<ul style="list-style-type: none"> <li>• Support the Storm Team with maintenance and repairs of vehicles and equipment</li> <li>• Maintain communication with Field Coordinator on daily fleet needs</li> <li>• Acquire and maintain an inventory of frequently used repair items</li> <li>• Secure a list of appropriate parts vendors from host utility</li> <li>• Coordinate maintenance as to not adversely affect crew restoration efforts</li> <li>• Ensure each vehicle has snow chains (if it is a winter storm response)</li> </ul>
Scout	<ul style="list-style-type: none"> <li>• Acquire facility and area maps of assigned work area</li> <li>• Continually assess assigned work area</li> <li>• Provide Team Leader and Field Coordinator information needed on necessary equipment and materials</li> <li>• Assist Field Coordinator with work planning and priorities</li> <li>• <u>Update Field Coordinator on work progress</u></li> </ul>
Telecommunications Coordinator	<ul style="list-style-type: none"> <li>• Ensure necessary telecommunications links are established and maintained</li> <li>• Maintain and repair mobile radios</li> <li>• Repair , replace, and acquire cellular phones and pagers</li> <li>• Set up phones, data lines, base radio , etc. for command center</li> <li>• Coordinate with host utility any needs to establish communications</li> </ul>
Safety Coordinator	<ul style="list-style-type: none"> <li>• Maintain communication link with Storm Team in all areas of safety</li> <li>• Liaison with host utility safety reps.</li> <li>• Assist with daily safety meetings</li> <li>• Acquire any needed safety equipment</li> <li>• Assist with any medical emergencies</li> <li>• Continually monitor storm team crews and address all safety concerns</li> </ul>
Tire Man (duties may be combined with Vehicle Maintenance Coordinator and Assistant)	<ul style="list-style-type: none"> <li>• Replace all flat tires</li> <li>• <b>Inspect all fleet vehicles and equipment tires daily for potential problems</b></li> <li>• <b>Maintain proper inventory of tires</b></li> <li>• <b>Work with Vehicle Maint. Coordinator as directed</b></li> </ul>

## Clothing

Whenever storm teams travel out of town consideration should be given to having adequate clothing on hand to accommodate an extended stay away from home. Beyond this the only other special clothing related consideration concerns cold weather. Weather related disasters may occur in cold weather climates in the form of ice storms or blizzards. Special clothing is necessary when working in cold weather climates so special consideration needs to be given to whether storm teams are capable of providing assistance in these conditions. Most of our service territory does not normally experience extremely cold weather that necessitates equipping crews with special cold weather gear. As such, to equip crews for cold weather climates on short notice can be very expensive. Host utilities should be aware of this expense up front as part of their request for assistance.

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A checklist of cold weather gear to consider when providing assistance in harsh winter environments is as follows:

- |                         |                       |                     |
|-------------------------|-----------------------|---------------------|
| ◇ Ski Masks             | ◇ Wool Glove Liners   | ◇ Insulated Boots   |
| ◇ Insulated Socks       | ◇ Gloves              | ◇ Zero Hoods        |
| ◇ Parakas (Std. Attire) | ◇ Insulated Coveralls | ◇ Thermal Underwear |
| ◇ Ice cleats            | ◇                     | ◇                   |

## Mobilization

By their nature storm teams must be capable of mobilizing quickly on very short notice. Once mobilized plans should be in place to coordinate travel *to* and arrival *at* the ultimate destination to minimize non-productive time. Key strategies to ensure smooth mobilization are mobilization plans, rosters, advance teams, and drills. Each of these strategies is discussed in more detail below:

### Mobilization Plans

As a maximum, we would normally consider sending approximately 40% of resources off system to assist another utility. This is a general rule of thumb and would be impacted by several considerations, including current and future weather conditions. Once it is determined that a team will mobilize a meeting of all coordinators and other key personnel as determined by the storm team leader should be held either in person or via conference call. Key information to communicate at this meeting is as follows:

- **Location where team** is to travel
- **Host utility (when applicable)** to whom support is to be provided
- Mobilization schedule
- **Tentative travel plans** i.e. route, major stops, fueling vehicles, meals, etc.)
- **Key contacts (names and phone numbers)**
- **Special needs/requirements** eg. Cold weather gear, special equipment, etc.

Consideration should be given to the size of the travel teams while they are on the road. A large convoy of vehicles is not manageable for making stops, so teams should be assigned packs to travel in. The packs that are ready first can then hit the road earlier. Mechanics can generally travel at the rear of the packs to assist anyone who has a flat tire or other problem.

Rosters

Once mobilization commences a key activity is development of the team roster. The blank roster form to be used is shown in Planning – Exhibit#14 – Blank Storm Team Roster. Once these storm team rosters have been filled a copy should be sent to the System Storm Coordinator via email.





Carolina Power & Light Co. - Storm Team List

Crew ID#:

<u>SENDING LOCATION:</u>	<u>DATE:</u>	<u>DEPART TIME:</u>	<u>ETA:</u>	<u>Release Time:</u>	<u>DESTINATION:</u>		
Western Region	8/25/1998	8/25/98 1pm	8/25/98 9:00 PM		Raleigh Staging Area		
<u>CREW INFORMATION</u>				<u>VEHICLE INFO</u>		<u>LODGING</u>	
<u>EMPLOYEE NAME</u> (F) after name if female	<u>CLASSIFICATION</u>	<u>CELL PHONE</u> <u>NUMBER</u>	<u>PAGER</u> <u>NUMBER</u>	<u>VEHICLE</u> <u>TYPE</u>	<u>VEH</u> <u>Number</u>	<u>HOTEL</u>	<u>ROOM</u> <u>Number</u>
Crew No 1							
Ernie Saye	Senior L&S	[REDACTED]		Pick-up	4743		
Lewis Arthur	1/C L&S	[REDACTED]		Digger Derrick	9707		
Al Case	1/C L&S	[REDACTED]					
Stewart Hamlin	1/C L&S	[REDACTED]		Service Bucket	3318		
Ronald Cole	1/C L&S	[REDACTED]					
Crew No 2							
Luther Ball	Senior L&S	[REDACTED]		Pick-up	4530		
Ed Davis	1/C L&S	[REDACTED]		Material Handler	4530		
Tony Gregg	1/C L&S	[REDACTED]					
Greg Davis	1/C L&S	[REDACTED]		Material Handler	5137		
Lanny Smith	2/C L&S	[REDACTED]					
Orville Arwood	1/C L&S	[REDACTED]		Digger Derrick	9708		
Tommy Roberts	1/C L&S	[REDACTED]					

**Carolina Power & Light Co. - Storm Team List**

**Crew ID#:**

<u>SENDING LOCATION:</u>	<u>DATE:</u>	<u>DEPART TIME:</u>	<u>ETA:</u>	<u>Release Time:</u>	<u>DESTINATION:</u>		
Western Region	8/25/1998	8/25/98 1pm	8/25/98 9:00 PM		Raleigh Staging Area		
CREW INFORMATION				VEHICLE INFO		LODGING	
EMPLOYEE NAME (F) after name if female	CLASSIFICATION	CELL PHONE NUMBER	PAGER NUMBER	VEHICLE TYPE	VEH Number	HOTEL	ROOM Number
Crew No 3							
Dave Galloway	Senior L&S	[REDACTED]		Pick-up	4900		
Jackie West	1/C L&S	[REDACTED]		Material Handler	5126		
Tim Wright	1/C L&S	[REDACTED]					
Steve McClure	1/C L&S	[REDACTED]		Service Bucket	4646		
Rick Fisher	1/C L&S	[REDACTED]		Digger Derrick	3303		
Tommy Coleman	1/C L&S	[REDACTED]					
Crew No 4							
David Buckner	1/C L&S	[REDACTED]		Material Handler	5132		
Kenny Buckner	1/C L&S	[REDACTED]		Service Truck	4937		
Robert Brinkley	1/C L&S	[REDACTED]		Digger Derrick	9022		
Ray Pressley	1/C L&S	[REDACTED]					
Gordon Fox	1/C L&S	[REDACTED]					
Crew No 5							
Johnny R. Jones	1/C L&S	[REDACTED]		Service Bucket	4645		
Larry Miller	1/C L&S	[REDACTED]					
Jeff Fisher	1/C L&S	[REDACTED]		Material Handler	5127		
Carroll Mehaffey	1/C L&S	[REDACTED]					
Greg Jones	1/C L&S	[REDACTED]		Material Handler	5134		
Randy Hall	1/C L&S	[REDACTED]					
Olen Sawyer	1/C Electrician	[REDACTED]		Service Truck	5025		
Dwight Carter	1/C Electrician	[REDACTED]		Service Bucket	4174		



# Carolina Power & Light Co. - Storm Team List

Crew ID#:

<u>SENDING LOCATION:</u>	<u>DATE:</u>	<u>DEPART TIME:</u>	<u>ETA:</u>	<u>Release Time:</u>	<u>DESTINATION:</u>		
CREW INFORMATION				VEHICLE INFO		LODGING	
EMPLOYEE NAME (F) after name if female	CLASSIFICATION	CELL PHONE NUMBER	PAGER NUMBER	VEHICLE TYPE	VEH Number	HOTEL	ROOM Number



**Distribution Storm Plan**  
**Planning - Exhibit #15 - Storm Room Standards**

The Storm Room is the command and communication center for the Region/Ops Center/Area while the storm plan is in effect. Effective operation in the storm room is critical to efficient and speedy restoration of service. The following standards apply to storm rooms.

**Storm Room Layout**

Each storm center should have a storm room layout. The layout shows the location of the storm room, and the location of tables, telephones, computers, fax machine, printer, radio, copier, and any other fixtures. The layout should designate the location for the key functions that must operate in the room. The layout enables quick room setup.

**Telephones**

Each storm room must have sufficient phone lines to handle the expected maximum amount of the telephone traffic. Recommended minimums are eight lines for Region Storm Centers and five lines for Operations Center and Local Storm Rooms. Telephone lines should be set up in a "hunt group" so that incoming calls are automatically routed to the next available line. Storm Centers should publish only one phone number so that callers only need the one number, and calls can be answered on any of the lines in the center.

For most efficient operation, one or more people should be assigned to answer all incoming calls and transfer the calls to the right person. This role is key to making the most efficient use of the people assigned to storm room duties. Upon answering calls, the answerer should ask what the caller needs, not who, and transfer the call accordingly. This process can prevent overloading key personnel with work that can be handled by someone else. The extension number for each phone should be posted on the wall above the phone in large numbers to facilitate transferring of calls.

The objective for telephone communications should be to answer every incoming call, and not return any busy or no-answer signals. In the event of a no-answer because all lines are in use, the call should roll to voice mail. Thus the voice mailbox can provide a record of how many calls were not answered, for self-evaluation purposes. If many messages show up in the voice mailbox, it may be necessary to add more phone lines or more people to handle the telephone traffic.

**Duty Roster**

In major storm events that will last longer than 24 hours, key roles must be rotated to allow for adequate sleep while keeping the center operational around the clock. A duty roster should be maintained for the next 48 hours, or until work is completed and the storm room can be closed. The Storm Center Coordinator is responsible for ensuring the Storm Center is adequately staffed at all times.

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### **E-Mail**

Each storm room shall have at least one e-mail address for use in receiving and sending information. This address shall be announced or confirmed at the time the storm room is opened. The e-mail in-box shall be monitored 24 hours per day while the storm plan is in effect.

### **Storm Room Assignments**

To ensure efficient storm room operation, the following assignments should be made in advance and maintained as part of the storm plan.

- Storm Room setup
- Food for Storm Room workers
- Duty Roster maintenance
- Telephone answering

### **Emergency Power**

An emergency generator and UPS should ensure continuity of electric supply for critical components including the following:

- 1) Telephone system
- 2) Radio system
- 3) Lighting in Storm Room
- 4) Computer(s), printer, and network server

### **Building Specifications**

Buildings housing storm rooms ideally should be constructed to withstand wind and rain of a Category 4 hurricane. Where an existing building cannot withstand Category 4 wind (up to 155 mph) the person responsible for the building shall ensure that all personnel are removed to a safe place prior to wind speeds reaching the level that is in excess of what the building can withstand.

### **Disaster Recovery**

An alternate Storm Room location should be established in the event the primary location is rendered inoperable. This location should be documented in the storm center plan.

### **Operations and Local Storm Rooms**

In addition to the above general standards for all storm rooms, Operations and Local storm rooms have key responsibility for radio dispatching and restoration data communications with DCC. The following two pages provide guidelines for efficient setup of these operations.

The model storm center is just that - a model. Most, if not all, storm centers will not look exactly like the model storm center. In fact, the rooms depicted in the model storm center will probably not exist in one single facility for any actual storm center. The purpose of the model is to provide personnel responsible for storm planning with a general concept of how their storm center should be organized, structured, and equipped.



## **Operations and Local Storm Centers**

### **Room Characteristics, Equipment, and Personnel**

#### Radio Operator

- Staff with 2 to 3 people
- Isolated quiet area
- Lots of desk/table top area
- Feeder maps on wall or easel
- Clips for holding crew notes
- Red/green dots for switch positions
- Radio
- Network connectivity
- SCADA
- Multi-line phone
- Flip Charts and/or Dry Erase Board

#### Clerical & Administrative Support & Crew Management

- 10 to 15 person capacity
- Open area but isolated from major traffic
- Chairs & tables
- Multiple phone hook-ups
- Network Connectivity
- Copier
- FAX
- Flip Charts and/or Dry Erase Board

#### Staging & Crew Stand-by

- Open area with tables & chairs with direct access to outside doors
- Phones (1 or 2)
- Limited access to other areas

#### Assessment Desk

- Staff with 3 to 5 people
- Isolated quiet area
- Lots of desk/table top area
- Network connectivity
- Multi-line phone
- Flip Charts and/or Dry Erase Board

#### Strategy Room

- 10 to 12 person capacity
- Private w/ closing door
- Chairs & table
- Conference phone
- Regular Phone
- Network Connectivity
- Flip Charts and/or Dry Erase Board

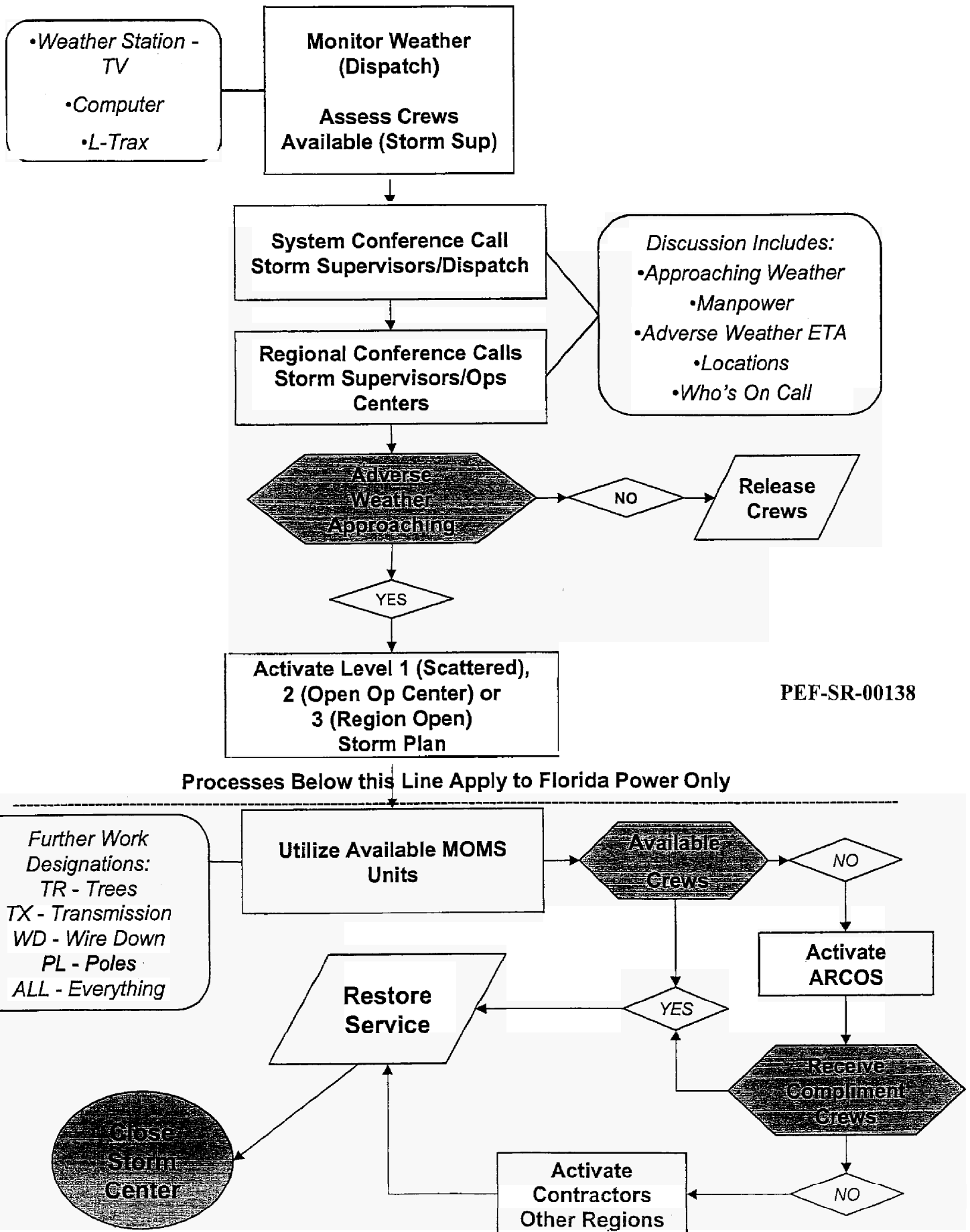
#### Break Room/Food & Refreshments

- Open space with tables & chairs
- Tables to hold food, beverages, etc

#### Crew Tracking & Processing

- 2 to 3 people
- Open area isolated from major traffic but near exterior door
- Chairs & tables
- Multiple phone hook-ups
- Network Connectivity
- Flip Charts and/or Dry Erase Board

# Daily Thunderstorm Monitoring



Document title

# Distribution Storm Plan – Sec 3 - Implementation

Document number

EMG-EDGX-00013

Applies to: Energy Delivery Group – Carolinas and Florida

Keywords: emergency; distribution storm plan; corporate emergency response plan; ERIS

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## 1.0 Table of Contents

Return to [Distribution Storm Plan - Overview \(EMG-EDGX-00010\)](#) for a Table of Contents listing of the entire Distribution Storm Plan.

### **Distribution Storm Plan - Implementation (EMG-EDGX-00013)**

- [2.0 Safety](#)
- [3.0 Pre-Hurricane Deployment Guidelines](#)
- [4.0 Feeder Breaker Operation](#)
- [5.0 Damage Assessment](#)
- [6.0 Restoration Priorities](#)
- [7.0 Off System Crew Mobilization & Tracking](#)
- [8.0 Fiber Optic System Restoration](#)
- [9.0 Tree Removal Policy](#)
- [10.0 Revenue Customer Callbacks](#)
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[Exhibit-20-Off System Crew Mobilization Guidelines](#)

[Exhibit-21-Revenue Customer Callbacks](#)

[Exhibit-22-Crew Registration Form](#)

[Exhibit-23-GIS Update Form](#)

[Exhibit-24-Pre-Hurricane Deployment Guidelines](#)

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## **2.0 Safety**

Safety is the shared responsibility of all employees. The safety of our fellow employees as well as the safety of the general public is the most important consideration when your Storm Plan is in effect, just as it is under normal operating conditions.

- Under no circumstances will safety be sacrificed for speed.
- Communication in the form of job briefings will be the cornerstone of all work to be performed. It is crucial to clearly communicate any unique operating procedures and/or distribution system characteristic to outside personnel assigned to work in your area.
- No employee shall attempt any restoration activities or set up staging areas during weather conditions that are deemed to be unsafe.
  - Zone Coordinators are responsible for electrical safety tagging within their assigned zone.
- Every effort shall be made to notify the general public of hazards that may exist.
- Work at night shall be well planned and organized.

## **3.0 Pre-Hurricane Deployment Guidelines**

The intent of these guidelines is to define the upper limits of hurricane pre-storm resource deployment (including personnel, materials and equipment) so that unnecessary risks are avoided. Exhibit-24-Pre-Hurricane Deployment Guidelines

## **4.0 Feeder Breaker Operation**

Substation feeder circuit breakers should be left with automatic reclosing in the ON position. During the storm, once an FCB does lock out in the automatic position, it should remain in the open position unless it had been identified as a critical feeder and conditions are safe to re-energize the FCB. Local operations personnel still reserve the right to place specific breakers in the non-reclosing position for special local circumstances. More details on feeder breaker operations are covered in the Operations Center Model Storm Plan.

## **5.0 Damage Assessment**

Effective Storm Plan implementation depends on an initial estimate of damage during the storm, plus a complete and accurate assessment when the storm is over. This assessment is critical to being able to supply accurate ETRs in TCA/OMS. In assessing damage, knowledgeable employees (usually Scouts for a Level 2 or 3 storm) will be dispatched to estimate the extent of the damage and spot damage locations (without stopping to make repairs).

**PEF-SR-00140**

For level 4 storms, Centralized Damage Assessment Teams are available to assist in this process. Two person Damage Assessment Teams are dispatched to assist the Operations Center when requested. To utilize these teams to their fullest, the Operations Center Storm Coordinator should have GIS maps available for the targeted feeders. The Damage Assessment teams will patrol the targeted feeders and mark every pole, span of wire and transformer that is down. Line patrolling is performed by both vehicles and helicopters. This information is invaluable in planning restoration work and determining ETRs. Once these teams have done their damage assessment assignment, they are available to remain in the Center and serve as Field Coordinators. Centralized Damage Assessment planning and implementation guidelines are further described under the Distribution Storm Plan/ Damage Assessment/Damage Assessment Guidelines May 04 file on the LAN.

**6.0**

Following a major outage, restoring service to nuclear generating plants is a main priority.



Before significant crew resources are released from an Operations Center, a thorough distribution ride out should be performed and "clean-up" repairs completed. All tree storm related work should be completed before releasing tree crews. All exceptions require the approval of the Operations Center Storm Coordinator.

**7.0 Off System Crew Mobilization and Tracking**

In the event of a hurricane or major ice storm, it is necessary to bring in off system line and tree crews to restore service in a timely manner. The successful use of off system crews requires precise communications and coordination between the various storm centers. Exhibit-20-Off-System Crew Mobilization Guidelines shall be followed. This guideline details the procedures to be followed during the mobilization, tracking and release of off system crews.

**8.0 Fiber Optic System Restoration**

Paralleling the priorities set for restoring critical electric services are requirements for restoring communications links that facilitate the restoration of electric service. The Energy Delivery Group will assist IT&T by giving reasonable priority to electric facilities serving two-way radio sites, PBX sites, fiber optics and microwave sites, etc. In addition, the Energy Delivery Group will make resources available on a priority basis to support restoring fiber optic cables which carry communications traffic for the company.

**9.0 Tree Removal Policy**

When restoring power to customers as quickly as possible after a major storm, tree crews cut trees and limbs off and away from power lines and leave the tree debris laying in place. Progress Energy does not provide tree debris removal during storm restoration. Customers needing downed trees and limbs removed from their property should contact local tree contractors. Also, Progress Energy does not remove any danger trees during storm restoration unless they pose an immediate threat to our facilities.

**10.0 Revenue Customer Callbacks**

Normal work activities will be affected when crews are supporting other areas with storm restoration. Customers may understand why their work could be delayed when they see a storm hit their own area; however, when the storm is elsewhere, our customers may not readily tolerate delays in regular work caused by moving resources to other affected areas. To minimize customer concern in these circumstances, proactively call customers when it appears that regularly scheduled work may be delayed. This requires collaborative effort between the Operations Center and the CSC. See Exhibit-21-Revenue Customer Callbacks for the procedures which should be followed.

**11.0 Contractors**

Each Storm Plan level coordinator is authorized to use contractors to repair storm damage and restore electric service, providing the contractor has a contract agreement with Progress Energy. The storm plan coordinator will use the list of contractors maintained by the Contract Support to select contractors.

For Level 1, 2 or 3 storms where contractors are being sent from one area to another, Exhibit-22-Crew Registration Form is a tool which can be used to log in and track crews. If the crew is transferred, the transfer portion of the form is to be completed by personnel at the first location, then given to the crew leader to take to the new location. When the contractor is released, the form is retained by the Storm Plan Coordinator at the last location where the contractor worked.

For Level 4 (system wide storms) the contractors are logged in at the staging areas and tracked by the System Storm Center.

Hotel or motel reservations for contract labor will be made and guaranteed by the Progress Energy. Progress Energy will pay for all meals, travel, lodging, miscellaneous expenses, and advances for company, contractor, foreign utility, and off-system contractor crews working in our service area.

In the event of a major storm, storm charge cards will be issued. The procedures for these cards are located on the LAN in the Storm Card folder. The System Logistics or Operations Center Logistics Coordinator will arrange for all creature comforts that are necessary for the welfare of personnel involved in repairing damage and restoring service. These coordinators are also responsible for picking up bills for expenses incurred, verifying them for accuracy, and forwarding them for approval and payment.

### **12.0 GIS Data Integrity**

Maintaining the data integrity of our distribution information system (referred to as DIS in the Carolinas and FRAMME in Florida) is important for our present day operational processes. The construction changes during storm restoration can have a big impact on the GIS data. These changes are more economically captured individually, and this will avoid a re-verification of an area after the storm.

Exhibit-23-GIS Update Form is designed to gather the GIS changes data during a storm. Each line crew foreman should use this form to use for logging GIS changes. These forms should be collected by the Feeder Coordinator and mailed to the local GIS contact after the storm.

### **13.0 Tracking of Road Closings During a Storm**

State DOT web site road closing information is inaccurate and/or postings lags behind. Knowledge of road closings in each region and system-wide is vital for the timely flow of resources. Flooding conditions make road closings a rapidly changing situation. Rumors can confuse the situation even further.

Our local material delivery personnel, L&S men, scouts and other field personnel develop accurate knowledge of specific road closings during their course of work. Below is the process for effectively sharing this knowledge.

#### **PROCEDURE**

1. Developing and communicating the knowledge of road closings is to be a shared responsibility between affected Region Storm Centers and System Storm Center.
2. Each affected Region Storm Center and the System Storm Center will have a person in their center acting as a single point of contact and clearing house for consolidating the road closing information.
3. Road closing information for all of the regions will be sent to the System Storm Center contact on the Crew Mobilization Team.

**AUTHORIZED COPY**

4. Additional road closing information from other supporting departmental personnel such as materials, telecommunications, transportation, transmission, etc. will be routed to the System Storm Center contact.
5. Information will be consolidated at the System Storm Center into one document titled "Road Closings".
6. This document will be posted on the storm Intranet site under Current Storm Information so it is available to every traveling member of Progress Energy.

**PEF-SR-00144**



## **DISTRIBUTION STORM PLAN – EXHIBIT #20 OFF SYSTEM CREW MOBILIZATION GUIDELINES**

### **PHASE I – MOBILIZATION OF CREWS ONTO PROGRESS ENERGY SYSTEMS**

1. System Storm Center, in conjunction with the Region Storm Centers, will determine the amount of resources needed by using the pre-resource estimate model and database. Resource adjustments may be made after damage assessment is complete.
2. System Storm Center will contact resources and ask them to report to either transitory (muster) sites (if being pre-staged) or directly to an operational staging area. Under no circumstances should Operations Centers contact or bring in off-system resources without going through the System Storm Center.
3. System Storm Center will assign a crew tracking ID to each complement of manpower.
4. System Storm Center will maintain crew tracking lists with the crew ID, company name, number of men, number of crews, destination and ETA. These will be sent to each region and to Centralized Staging & Logistics. Regions will forward the lists to their Operations Centers. Centralized Staging & Logistics will forward the lists to their Staging Coordinators.
5. The responding company will send a crew personnel list to the System Storm Center.
6. The System Storm Center will count the manpower on the crew personnel list, correct the numbers on the system crew tracking sheet, show the crew tracking ID on the crew personnel lists, scan the crew personnel list into the PC and email the crew personnel lists to the receiving region , Centralized Staging & Logistics and Business Operations.
7. The System Storm Center will monitor the crew travel progress and update the ETAs if they change. As the mobilization develops, notation will be made as to whether or not a detailed crew list has been received yet.
8. The receiving staging area will notify the System Storm Center as soon as the crew complement has arrived.
9. The receiving staging area will log in the crew, match the crews with the appropriate crew ID, compare the number of linemen received to the number on the system crew tracking lists, and notify the System Storm Center if the actual number of linemen arriving is different from the expected number.
10. The name and classification of all off-system personnel must be verified and captured at the incoming staging area for billing verification purposes. You will need to send these name lists to Business Operations when the storm is over. There are two ways to capture this. If the crew personnel list you were sent contains name details, you can have the names on this list reviewed, verified and corrected if necessary. Another method is to have the crew foreman fill out a copy of form Exhibit #14 – Storm Team Roster to capture the information

## **PHASE II – TRACKING OF CREWS WHILE ON SYSTEM**

1. *When a crew complement is moved from one Operations Center to another within the region, the System Storm Center shall be notified. The crew lists issued by the System Storm Center will track each crew by work location and will be updated as necessary.*

Note: ETA shown on system crew tracking list is the time the crews arrived at their first location on system. This is needed to track costs and length of time the crews have been at work. When crews are relocated from one area to another, the ETA of their arrival at the new work location will be shown in the comments.

2. *If a large crew complement needs to be split up and moved to different locations within the region, the Region Storm Center shall notify the System Storm Center. The crew complements will be split up on the tracking sheet. They can then be tracked and released separately.*
3. *If more crews are needed in the region, the Region Storm Center shall notify the System Storm Center of the amount of resources needed. The System Storm Center will look at all available options and meet the resource need as soon as possible.*
4. *When a resource is no longer needed in the region and is available for reassignment, the Region Storm Center shall notify the System Storm Center. The System Storm Center will notify the region if it needs the crew complement moved to another region or whether to release the crew.*
5. No crews shall be moved from one region to another or released off system unless directed by the System Storm Center.

## **PHASE III – RELEASE OF CREWS TO RETURN HOME**

1. The System Storm Center will notify the Region Storm Center when crew complements can be released off-system upon completion of work.
2. The Region Storm Center should try to give the System Storm Center advance notice when they plan to release a large crew complement.
3. Upon release of the crew complement, the Operations Center shall immediately notify the crew and the Region Storm Center. The Region Storm Center should notify the System Storm Center immediately that the crew has been released. The System Storm Center will then notify the crew's home office about the release.
4. If the corporate office of a responding company must have their crews return home, the System Storm Center will notify the Region Storm Center the time that the crew complement is to be released. The Region Storm Center will arrange for the release of the crew complement by the requested time.

## **PHASE IV – HOLDOVER OF OFF-SYSTEM CREWS FOR CLEAN-UP WORK**

1. Region Storm Center should identify their resource needs and notify the System Storm Center.
2. The System Storm Center will determine which crews are available for clean-up work.
3. The System Storm Center will then determine which crews will be held over and notify the Region Storm Center.
4. If necessary, the System Storm Center will also arrange for additional resources to come in and do clean-up work to meet Region needs.

## Distribution Storm Plan –Exhibit #21 – Revenue Customer Callbacks

Normal work activities will be affected when crews are supporting other areas with storm restoration. Customers may understand why their work could be delayed when they see a storm hit their own area; however, when the storm is elsewhere, our customers may not readily tolerate delays in regular work caused by moving resources to other affected areas. To minimize customer concern in these circumstances, proactively call customers when it appears that regularly scheduled work may be delayed. This requires collaborative effort between the Operations Center and the CSC.

- *The following procedure provides instruction for unit storm centers or operation areas to utilize a customer callback service provided by the CSC :*
  - A single point of contact from each regional storm center will be designated to interface with the Manager of Call Services, who will designate a supervisor to work with the regional coordinator. The CSC supervisor will make an assessment on the feasibility of supporting call backs within the requested time frame. If it is feasible the CSC supervisor will notify the regional contact. The regional contact will gather and provide all applicable information, as well as develop scripting. A process owner should be named to review all information that will be shared with customers **before being sent to the CSC.**
  - As soon as the region storm center determines that callbacks are needed, each area will compile their list of names and phone numbers to be emailed to the regional point of contact.
  - A master list will be compiled by the regional contact and sent to the CSC along with a script.
  - The CSC supervisor will initiate proactive calls within three hours after the Region initiates the process by sending the master list.
  - Each operations area will provide a contact name and agree to speak to the customer if the customer is not satisfied during this call, specifically asks a question, or wishes to speak to someone else.
  - The cost of the callbacks for each area will be charged to that area, using the storm account number. The cost reflects the prorated salary of the CSC supervisor and CSRs.
  - If during the event, incoming call volume increases and affects the CSC's ability to complete the callbacks in the committed time frame the regional will be advised immediately.
  - Each area will agree to follow-up with the customer if all the facts are unknown at the time of the proactive call. This will be promised in the script.
  - It is critical to initiate the procedure as soon as possible to gain the maximum benefit to proactive callbacks.
  - The status of Proactive Call Backs should be included as a standing agenda item on the Storm Update Conference Calls

**DISTRIBUTION STORM PLAN - EXHIBIT #22 - CREW REGISTRATION FORM**

\_\_\_\_\_ (Region, Operations Area, Local) Storm Plan

Location \_\_\_\_\_

Departure from home headquarters: Date: \_\_\_\_\_ Time: \_\_\_\_\_ am/pm

Arrived at destination: Date: \_\_\_\_\_ Time: \_\_\_\_\_ am/pm

Hours previously worked without rest: \_\_\_\_\_ Travel hours: \_\_\_\_\_ Hours of work available before rest: \_\_\_\_\_

Contractor/CP&L crew: \_\_\_\_\_

Home office address: \_\_\_\_\_

Foreman/Supervisor: \_\_\_\_\_

Home Headquarters: \_\_\_\_\_

**Crew members & classification**

**Number & type of vehicles**

Other tools/equipment/remarks: \_\_\_\_\_

**Work assignment**

Area/feeder/grid: \_\_\_\_\_

CP&L person-in-charge: \_\_\_\_\_

Signed: \_\_\_\_\_

Foreman/Supervisor

Local Coordinator

**Crew transfer/release authorization**

\_\_\_\_\_ Crew is transferred \_\_\_\_\_ effective at \_\_\_\_\_ am/pm on \_\_\_\_\_  
Location Address

Crew has a storm work history of \_\_\_\_\_ hours at this location without rest.

Report to \_\_\_\_\_ at \_\_\_\_\_  
Local Coordinator Address

\_\_\_\_\_ Crew is released to \_\_\_\_\_ effective at \_\_\_\_\_ am/pm on \_\_\_\_\_  
Location Date

Crew has a storm work history of \_\_\_\_\_ hours at this location without rest.

Remarks: Other tools/equipment/remarks: \_\_\_\_\_

Accepted by: \_\_\_\_\_  
Crew foreman/supervisor

Authorized by: \_\_\_\_\_  
Local coordinator

**DISTRIBUTION STORM PLAN - EXHIBIT #23 - GIS UPDATE FORM**  
 For Carolinas, Send to DIS, OHS 9A2

Name: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Crew #: \_\_\_\_\_

Work Location: \_\_\_\_\_  
 Date: \_\_\_\_\_

Locid (GIS #)	Pole Ht. & Class	Transformer Size

CONDUCTOR CHANGES			
Beginning Locid	Ending Locid	Conductor Removed	Conductor Installed

Comments:

Note 1: Include ALL pole changeouts. **Note 3:** Include conductor only if size and/or material changed.  
 Note 2: Include transformer size only if new transformer is different size.

**PROGRESS ENERGY DISTRIBUTION STORM PLAN  
PRE-HURRICANE DEPLOYMENT GUIDELINES  
May 2003**

**Scope:** Safety of Energy Delivery employees, contractors or mutual assistance partners shall never be compromised to obtain quicker restoration times. Also, storm restoration materials and equipment should be guarded from unnecessary storm damage that would render it useless. The intent of these guidelines is to define the upper limits of hurricane pre-storm resource deployment (including personnel, materials and equipment) so that unnecessary risks are avoided.

**Note:** The winds referenced in this guideline are sustained winds. See the second page for hurricane categories and descriptions.

- **Mandatory evacuation areas:** Employees should observe any evacuation instructions issued by local or state agencies. Historically, only low lying flood-prone areas or locations subject to storm surge have been evacuated. All motor vehicles used for service restoration should be removed from these areas if feasible.
- **Areas projected for Category 3 or higher winds (111 mph or higher):** No additional personnel or motor vehicular resources should be pre-deployed into this area. Only durable materials such as poles may be pre-deployed if they can be properly secured.
- **Areas projected for Category 1 or 2 winds (74 to 110 mph):** Limited resources may be pre-deployed to these areas under the following guidelines:
  - Contractor line crews:* A contractor line crew (5 to 7 men) for each major substation may be pre-deployed. This will facilitate clearing downed poles from roads so that emergency vehicles can have access.
  - Staging & Logistics personnel:* The team leader and their alternate for each staging area may be pre-deployed. This will facilitate the preparation of the staging areas and prevent crew deployments to inoperable staging areas.
  - NP Siren Restoration Teams:* Teams used for nuclear plant siren restoration may be pre-positioned to facilitate service restoration.
  - Materials:* Only durable materials such as poles and those materials that can be stored in suitable shelter may be pre-deployed.
- **Areas projected for winds of tropical force strength (40 to 73 mph):** Crews and material resources may be pre-deployed to these areas. Resources should be deployed before the height of the storm to minimize driving in the storm.

## Hurricane Categories (Saffir-Simpson Hurricane Scale)

Category	Central Pressure (inches Hg)	Winds (MPH)	Surge (feet)	Damage
1	28.94" or more	74 - 95	4 - 5'	Minimal
2	28.50 - 28.91"	96 - 110	6 - 8'	Moderate
3	27.91 - 28.47"	111 - 130	9 - 12'	
4	27.17 - 27.88"	131 - 155	13 - 18'	Extreme
5	27.16" or less	156 or more	18.1 or more	Catastrophic

### Saffir-Simpson Hurricane Scale Defined

The Saffir-Simpson Hurricane Scale occasionally is used in Public Hurricane releases to classify hurricanes according their potential for generating property damage and flooding in coastal areas. The following are the five classifications assigned to hurricanes and a discussion of each:

- **Category One:** A Category One Hurricane produces winds of 74 to 95 MPH and/or a storm surge 4 to 5 feet above normal. No real damage to buildings is likely. some damage may be expected to unanchored mobile homes, shrubbery, and trees. Some coastal road flooding and minor pier damage may be expected.
- **Category Two:** A Category Two Hurricane produces winds of 96 to 110 MPH and/or a storm surge 6 to 8 feet above normal. Buildings will receive some roof, door, and window damage. Considerable damage to vegetation, mobile homes, and piers will occur. Coastal and low-lying escape routes likely will flood 2 to 4 hours before arrival of the hurricane center. Small craft in unprotected anchorage will lose moorings.
- **Category Three:** A Category Three Hurricane generates winds of 111 to 130 MPH and/or a storm surge 9 to 12 feet above normal. Structural damage to residences and utility buildings will occur and mobile homes frequently are destroyed. Flooding near the coast destroys small structures and larger structures are damaged by floating debris. Terrain lower than 5 feet above sea level is flooded 8 or more miles inland.
- **Category Four:** A Category Four Hurricane produces winds of 131 to 155 MPH and/or a storm surge 13 to 18 feet above normal. Extensive outside wall failure with complete roof failure on small residences will occur. Major erosion of beaches and major damage to the lower floors of buildings near the shore is likely. Terrain continuously lower than 10 feet above sea level may be flooded and evacuation of residential areas as far inland as 6 miles may be required.
- **Category Five:** A Category Five Hurricane produces winds greater than 155 MPH and/or a storm surge greater than 18 feet above normal. Complete roof failure will occur on many residences and industrial buildings and some complete destruction of small utility buildings can be expected. Major damage is likely to lower floors of structures located less than 15 feet above sea level and within 500 yards of the shoreline. Evacuation of residential areas on low ground within 10 miles of the shoreline may be required.

Document title

# Distribution Storm Plan – Sec 4 - Post Storm Functions

Document number

EMG-EDGX-00014

Applies to: Energy Delivery Group – Carolinas and Florida

Keywords: emergency; distribution storm plan; corporate emergency response plan; ERIS

## 1.0 Table of Contents

Return to [Distribution Storm Plan - Overview \(EMG-EDGX-00010\)](#) for a Table of Contents listing of the entire Distribution Storm Plan.

### **Distribution Storm Plan - After Storm Functions (EMG-EDGX-00014)**

[2.0 Crews For Clean-up Work](#)

[3.0 Post-storm Recovery Plan](#)

[4.0 Extended Pay Procedures](#)

[5.0 Major Storm Approval Form](#)

[6.0 Lessons Learned Process](#)

[Exhibit-30-Post-storm Recovery Action Plan](#)

[Exhibit-31-Major Storm Approval Form](#)

## 2.0 Crews For Clean-up Work

After a level 4 storm crews are often needed for clean-up work. This clean-up work consists to straightening leaning poles, resagging conductors, re-installing street lights, and correcting any work that was of a temporary nature. The best resource for this is off-system contract crews that can be held over.

The System Storm Center will contact the home office of all off-system contractors and determine which ones can be held over and how many weeks they will be available. This information will then be given to the impacted Operations Centers along with the rate schedules of these contractors. The Operations Centers can determine which of these crew resources they would like to have held over for clean-up work. The factors that will influence their choice are the rates, the number of contractors in the crew complement, the quality of their work, and the needs of the Operations Center. Crews that are held over will continue to be tracked and reported daily by the System Storm Center until they are released.

**PEF-SR-00152**



### **3.0 Post-Storm Recovery Plan**

Once restoration of service has been accomplished following a major storm, the following critical issues should receive prompt attention.

- Opening points should be identified and corrected. This will ensure a proper level of safety and will restore the integrity of the GIS and outage management systems.
- Primary phasing and transformer sizes should be verified and corrected to maintain the integrity of the GIS and outage management systems. Missing phase tags and fuse size tags should be replaced.
- Danger trees and other follow-up ROW maintenance should be identified and addressed as soon as possible.
- Pending customer revenue work should be evaluated and rescheduled.
- Missing and malfunctioning street and area lights should be identified, and repairs and replacements should be completed as soon as possible.
- GIS numbers that are missing in significant numbers in the same general vicinity should be replaced. Isolated incidents of missing GIS numbers should not cause major problems because adjacent GIS numbers can be referenced. Significant changes in the location of, or type of distribution facilities should be captured and updated in the GIS system. The GIS updating can be done by either the GIS unit or by field personnel at regional GIS workstations.

Exhibit #30 – Post-storm Recovery Plan contains an action plan of the recovery plan process. Please refer to this plan and use it as a guide in developing your recovery plans.

Each Operations Center Storm Coordinator is responsible for developing a post-storm recovery plan for their area.

### **4.0 Extended Pay Procedures**

The corporate extended pay policy can be applied to major storm restoration work. If applicable, these procedures will be initiated and implemented by Business Operations.

### **5.0 Major Storm Approval Form**

In order to exclude major storm outage from the Continuity of Service records, Exhibit-31-Major Storm Approval Form must be completed and submitted. The Major Storm Approval form can be applied on a line & service area, operations area, region or system basis.

**6.0 Lessons Learned Process**

Each storm plan coordinator will conduct a lessons learned process with their storm team and ask each member to critique the storm's planning and service restoration processes.

The evaluation process should include the following:

- Things that went well - success
- Things that need improvement - opportunities
- Lessons learned
- Follow-up action plans

Each Operations Center Coordinator will send their list of improvement items to the Region Storm Coordinator. The Region Storm Coordinator will compile the regional list of items and forward to the System Storm Coordinator. The System Storm Coordinator will determine which items should be pursued to effect any system wide changes. An actin plan for improvement will be developed.

**Exhibit #30 - Distribution Storm Plan  
Post-Storm Recovery  
Action Plan**

Item to be Addressed	How Identified	Who	Status/Results
<p>1. Incorrect opening points, incorrect phasing and transformer sizes, missing phase tags, missing fuse size tags, significant numbers of missing GIS numbers, significant changes in the location or type of distribution facilities and danger trees and other ROW maintenance work.</p>	<p>These types of problems are generally confined to locations where significant damage occurs.</p>	<ul style="list-style-type: none"> <li>• L&amp;S units highlight significant damage locations on GIS maps.</li> <li>• Two-person teams inspect the identified locations; replace DIS numbers; replace switch numbers; note significant DIS changes; note incorrect opening points, incorrect phasing and ROW maintenance needs.</li> <li>• Corrective work that requires line crews will be done by local company and contractor crews during the winter months when there is a lull in revenue work.</li> <li>• ROW maintenance work should be assigned to ROW crews as soon as possible.</li> <li>• GIS Unit or field personnel correct invalid information in GIS.</li> </ul>	<ul style="list-style-type: none"> <li>• Opening points corrected</li> <li>• Phasing problems corrected</li> <li>• GIS numbers, phase tags, fuse size tags, and switch numbers installed</li> <li>• Invalid GIS information corrected by GIS or field personnel</li> <li>• Other identified corrective work to be completed</li> </ul>
<p>2. Delayed revenue work</p>	<p>Work scheduling backlog</p>	<p>Utilize employees with distribution knowledge and work order-writing skills. These employees can come from other depts. or regions. Extended pay may need to be authorized for local and outside personnel.</p>	<p>Determine resource needs by estimating amount of work to be completed and deciding on a realistic due date to have all work completed.</p>
<p>3. Area and street lights not functioning</p>	<p>Reported by customers</p>	<ul style="list-style-type: none"> <li>• Contractor crews to complete repairs within two weeks of notification by customer</li> <li>• CSC personnel to make customer follow-up calls</li> </ul>	<p>All lights reported by customers to be repaired within two weeks of notification by customer</p>
<p>4. Street lights that are missing, broken, or not working properly</p>	<ul style="list-style-type: none"> <li>• Two-person teams will use street light maps to record inspection findings.</li> <li>• Request the public to help identify lights and report them to a 1-800 number at the CSC</li> </ul>	<ul style="list-style-type: none"> <li>• Two-person inspection teams will consist of a driver and a person with significant distribution work experience. Personnel from outside of affected region may be requested.</li> <li>• Company and/or contractor crews to perform identified repairs will be sought from off-system through the System Storm Center</li> </ul>	<p>Determine resource needs by estimating amount of damage and deciding on a realistic due date to have all repairs made.</p>

DISTRIBUTION STORM PLAN - EXHIBIT #31

**MAJOR STORM APPROVAL FORM**

**Major Storm Definition**

A major storm is defined as 10% or more of the customers out of service and the outages have lasted longer than 24 hours. The amount of restoration time can be adjusted to account for outside construction forces applied to the restoration effort. The major storm definition can be used on a regional, operations area, or local basis.

A customer experiencing another unrelated outage, after having service restored, can be counted again in the calculation of customer minutes out.

**Major Storm Approval**

This form is stored on the LAN in the Distribution Storm Plan public folder. It can be altered after using the 'Save As' command. After filling out the lower portion of this form route it as shown on the approvals below. The E-Mail header will be the approval documentation.

**Approvals & Process Routing**

- Local Storm Coordinator ( Route to Operations Center Coordinator)
- Operations Area Storm Coordinator (Route to Region Coordinator)
- Region Storm Coordinator (Route to System Coordinator)
- System Storm Coordinator (Final approval & route to Distribution Planning & Distribution Dispatch)
- Distribution Planning (Send Distribution Dispatch a list of outages to be excluded. Adjust breaker operations records after breaker data received from region.)
- Distribution Dispatch Operations (Adjust TCA data to reflect major storm as outage cause)

**Major Storm Approval Form**

Dates or name of storm \_\_\_\_\_

Location of major storm area \_\_\_\_\_

Number of customers in area \_\_\_\_\_

Number of customers out of service \_\_\_\_\_

Time first customer outage started \_\_\_\_\_

Time last customer outage ended \_\_\_\_\_

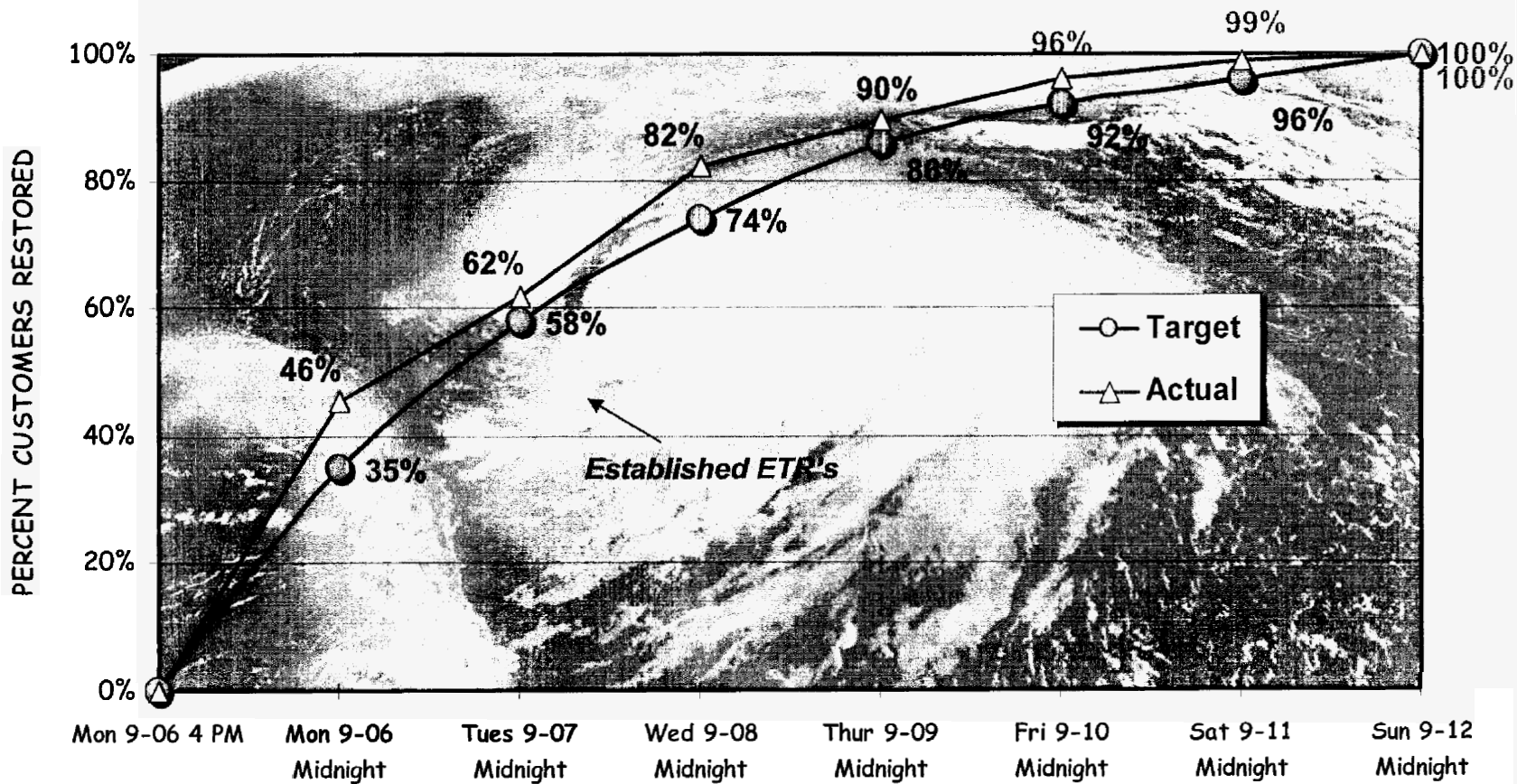
Basis for adjusting restoration time ( show calculations below)

**\*\*\*\*\*Adjusting Outage Time for Outside Construction Help\*\*\*\*\***

This time can be adjusted to account for outside construction forces applied to the restoration. This is accomplished by multiplying the restoration time by the total construction force man-hours applied to restoration (includes area company and contract construction crews). For example, if restoration time is 18 hours, the five area crews worked an average of 16 hours each (80 crews hours) and three crews from another area worked an average of 10 hours each (30 crew hours). The ADJUSTED RESTORATION TIME would be 18 hours (80+30)/80=24.75 hours. (Note: Man hours or crews can be used in these calculations).

PEF-SR-00156

### Hurricane Frances Restoration Percent of Customers Restored By Day Monday 9/06 to Sun 9/12





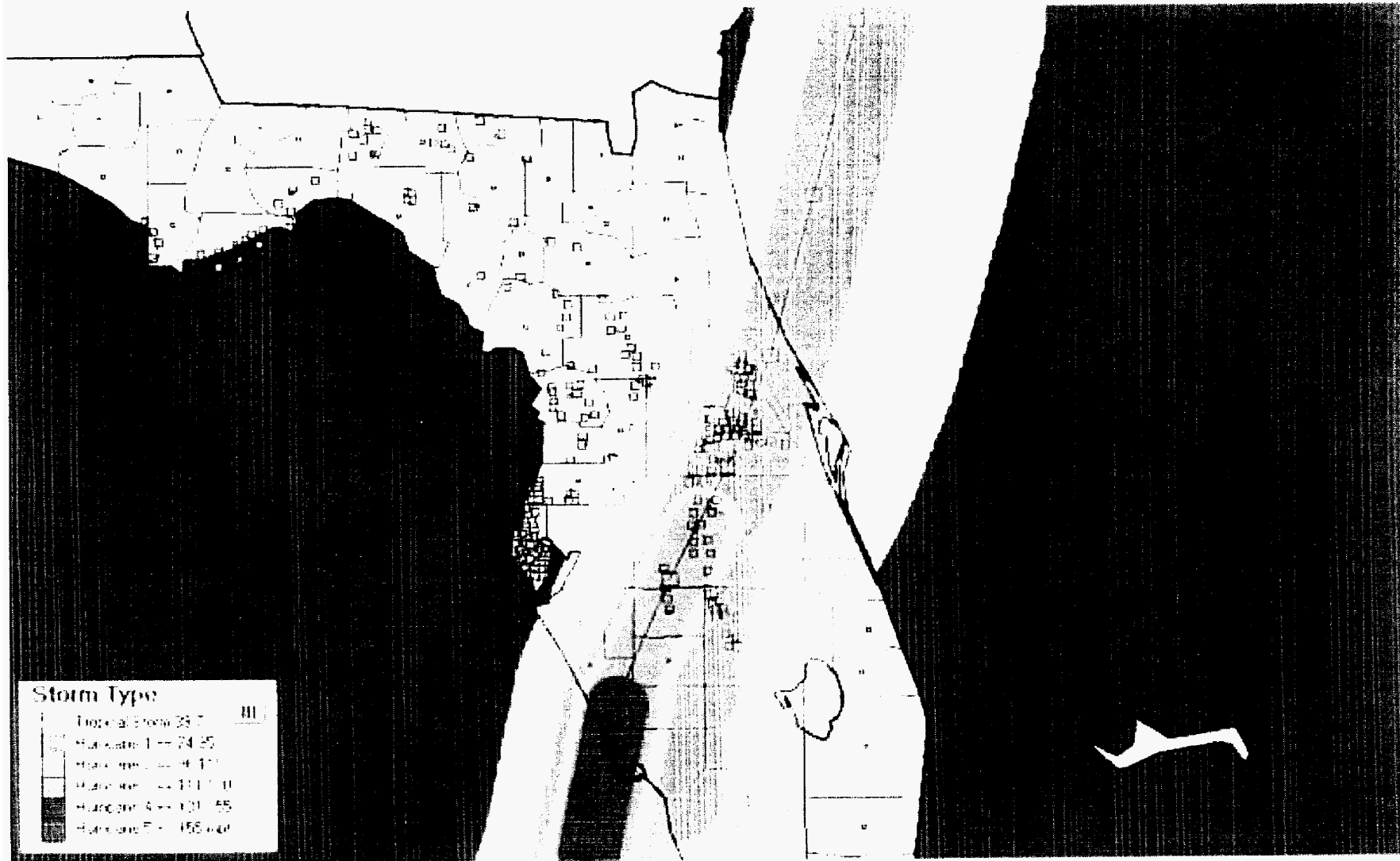
# Hurricane Jeanne Storm Restoration Goals

September 27, 2004

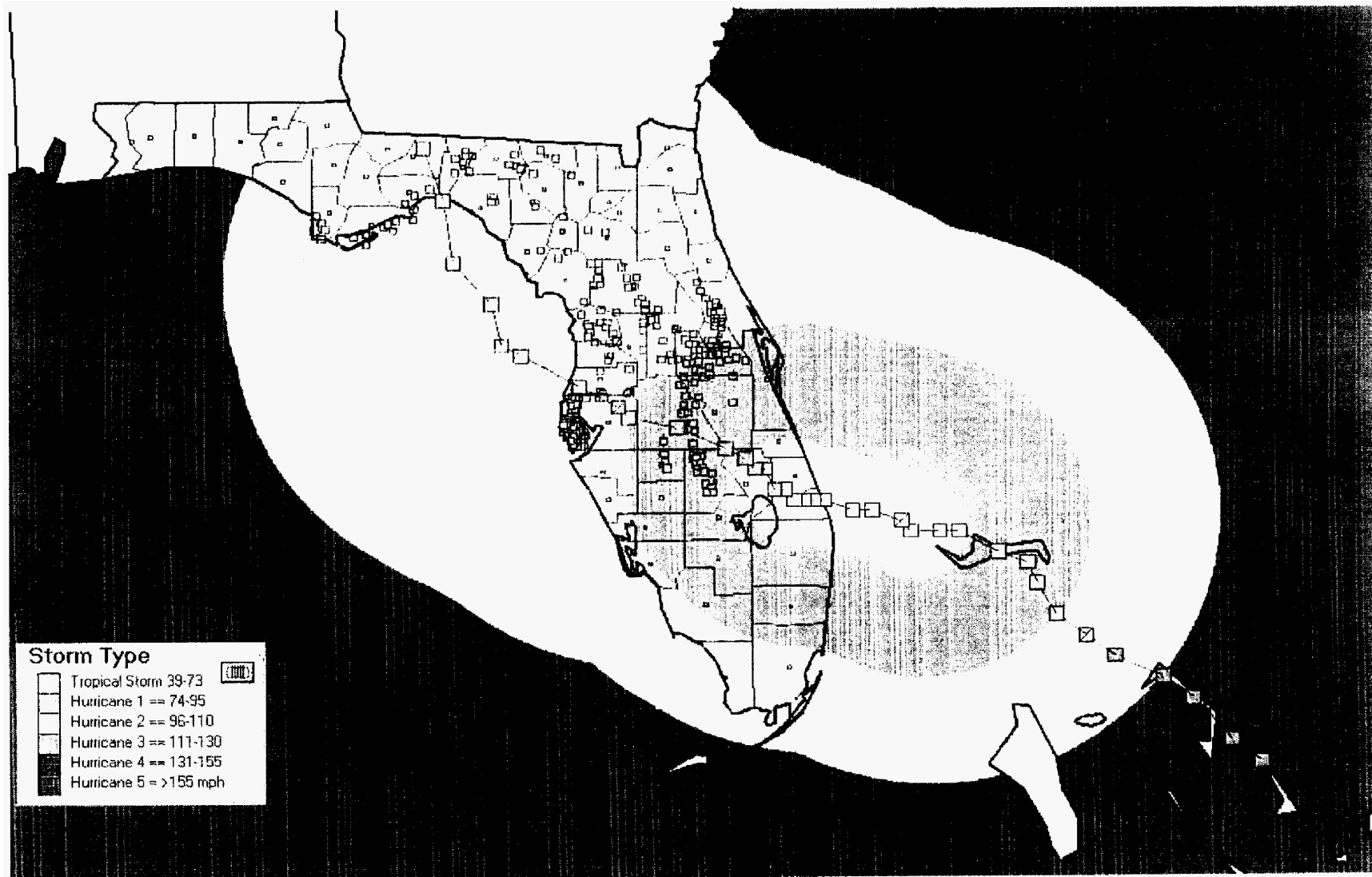
## Goals/Actuals

- **Safety**
  - Controllable vehicle accidents – 0/2
  - Personal injuries – 0/1
  
- **Customer**
  - Create ETR's by county (6 pm) - excluding Monticello  
100%/100%
  
- **Operational**
  - Isolate & Restore- 60%/95%
  - Statistical Assessment- 100%/100%
  
- **Resources**
  - Additional resource commitments-  
Line 200 personnel 200/1006  
Tree 200 personnel 200/234
  
  - Ready to Work (Mon) Percentage- 90%/92%

# Hurricane Charley

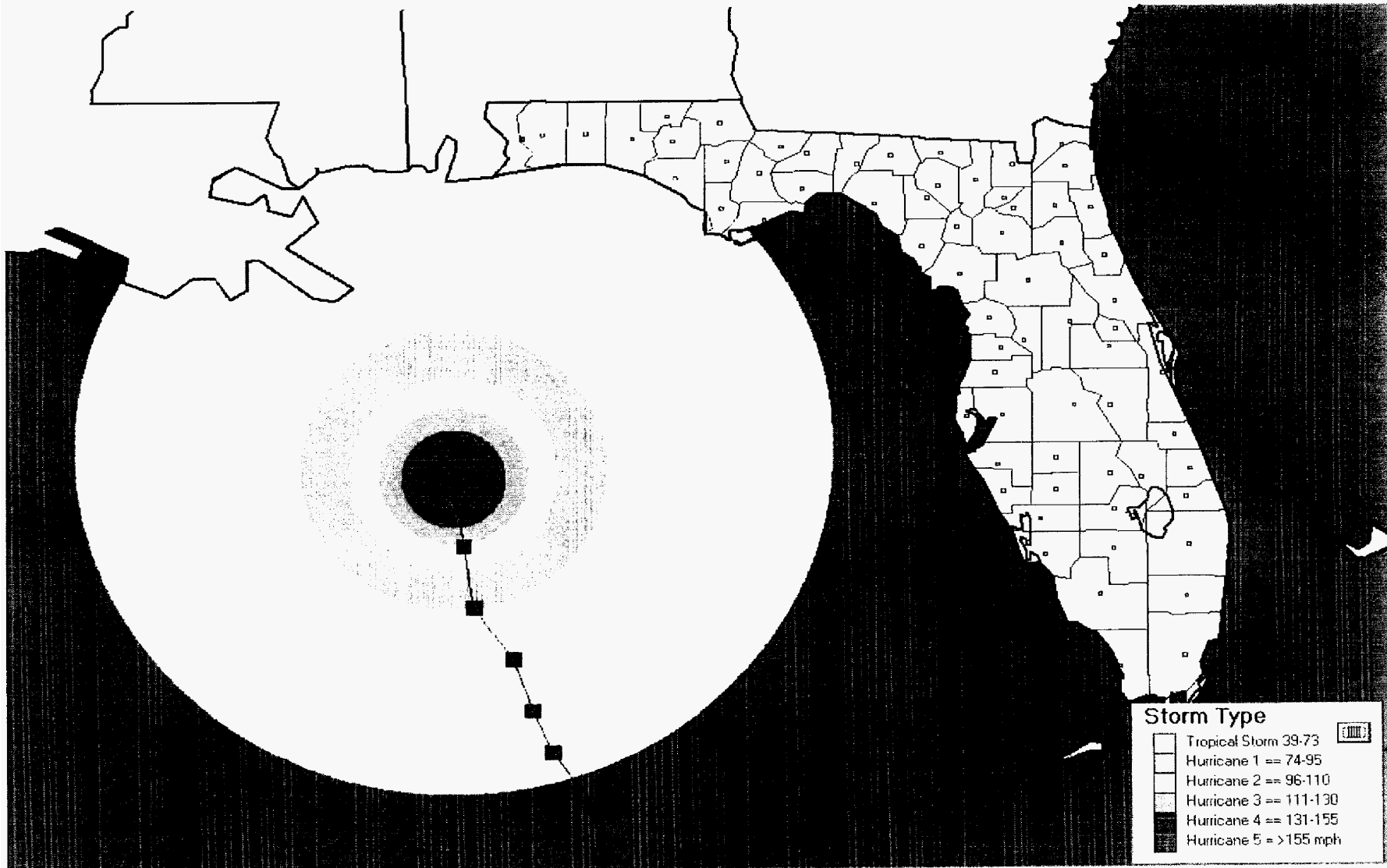


# Hurricane Frances





# Hurricane Ivan



DOCKET NO. 041272

WITNESS: DAVID McDONALD

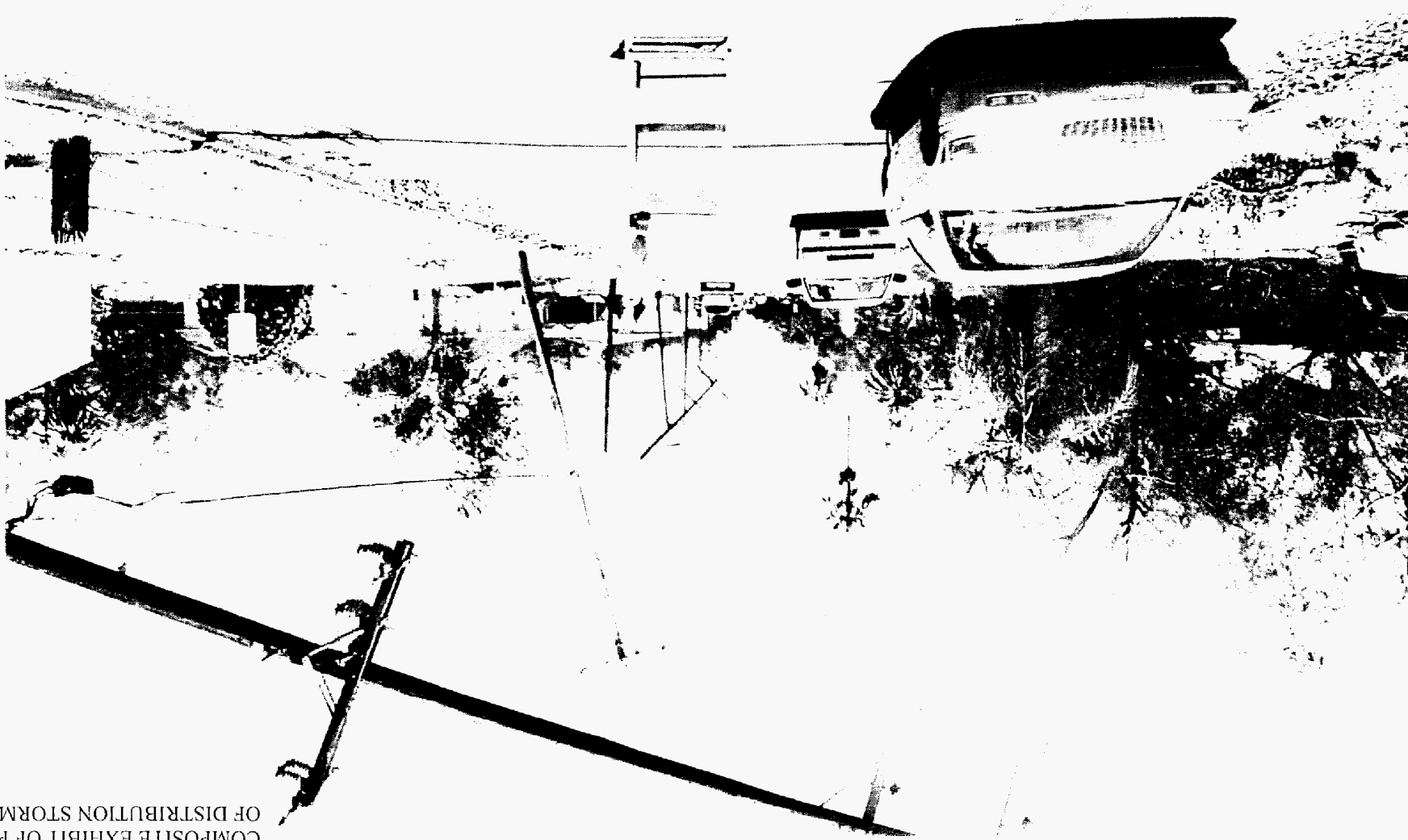
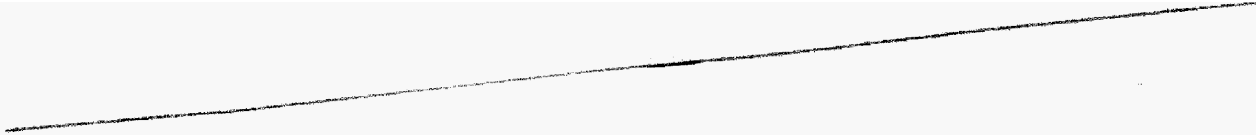
EXHIBIT \_\_\_\_\_ (DM-7)

PAGE 26

WIND FIELD MAP OF HURRICANE  
JEANNE'S IMPACT

# Hurricane Jeanne





OF DISTRIBUTION STORM DAMAGE  
COMPOSITE EXHIBIT OF PICTURES

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EXHIBIT (DM-8)

WITNESS: DAVID McDONALD

DOCKET NO. 041272



